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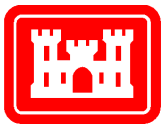

US Army Corps
of Engineers®
Engineer Research and
Development Center

# The Environmental Assessment and Management (TEAM) Guide

## *Alabama Supplement*
## *Revised July 2000*

Environmental assessments help determine compliance with current environmental regulations. The U.S. Air Force, U.S. Army, Defense Logistics Agency (DLA), and Corps of Engineers (Civil Works) have adopted environmental compliance programs that identify compliance problems before they are cited as violations by the U.S. Environmental Protection Agency.

Since 1984, the U.S. Army Construction Engineering Research Laboratory, in cooperation with numerous Department of Defense (DOD) components, has developed environmental compliance assessment checklist manuals. The Environmental Assessment and Management (TEAM) Guide was developed for use by all DOD components. Currently there are five participating DOD components: the Air Force, Air National Guard, Army, Civil Works, and DLA. These agencies have agreed to share the development and maintenance of this Guide.

The Guide combines Code of Federal Regulations and management practices into a series of checklists that show legal requirements and the specific operations or items to review. TEAM Guide is supplemented by DOD component-specific manuals detailing DOD component regulations and policies. The Alabama Supplement was developed to be used in conjunction with the TEAM Guide, using existing Alabama state environmental legislation and regulations as well as suggested management practices.

Approved for public release; distribution is unlimited.

## FOREWORD

This is USACERL Special Report 95/53. The report is based on the information available on Enflex Federal and State Regulations of May 2000.

The research was performed for the Air National Guard under Military Interdepartmental Purchase Request (MIPR) number OMAF57/3400/357/A/9830147/PO, technical monitor Chuck Smith; the Army Environmental Center under MIPR 0C48R0006, technical monitor Matthew Andrews; the National Guard Bureau under MIPR 0CCER6EL11, technical monitor Phil Dao; the Air Force Center for Environmental Excellence under MIPR FQ7624-00-08010, technical monitor Scott Newquist; the U.S. Army Corps of Engineers under FAD3123-X-2402-JAN-980803369, technical monitor James Wolcott; the U.S. Army Reserve Center under MIPR 00CCWEL009, technical monitor Dave Jennings; and the U.S. Postal Service under MIPR number 102590-99-Z-093, technical monitor Paul Fennewald.

The research was performed by the Environmental Processes Branch (CN-E), Installations Division (CN), of the U.S. Army Construction Engineering Research Laboratory (CERL). The CERL Principal Investigator was Carolyn O'Rourke. Dr. Ilker Adiguzel is Chief, CN-E, and Dr. John T. Bandy is Chief, CN.

Dr. Alan Moore is Acting Director of CERL.

**NOTICE**

This manual is intended as general guidance for personnel at Department of Defense (DOD) installations/CW facilities. It is not, nor is it intended to be, a complete treatise on environmental laws and regulations. Neither the U.S. Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information contained herein. For any specific questions about, or interpretations of, the legal references herein, consult appropriate legal counsel.

## ALABAMA SUPPLEMENT

This Alabama U.S. TEAM Supplement contains the protocols necessary for determining compliance with Alabama environmental regulations. This manual is a supplement to the U.S. TEAM Guide; the Supplement does not replace the Guide.

These Alabama agencies issue regulations and have responsibility in the areas indicated.

- Coastal Area Management Program - manages all land, air, and water uses that have a direct and significant impact on coastal areas. The U.S. Army Corps of Engineers carries out its dredge and fill permitting program in conjunction with the Alabama Department of Environmental Management (ADEM).

- ADEM - oversees the air, waste, and water quality programs that administer most of the states environmental programs. The Office of the Director operates a Permit Coordination Center which coordinates the permitting procedure by examining multi-media concerns.

    - Air Division - oversees air quality requirements. Alabama has the authority to administer all of the Federal air pollution control programs.
    - Land Division - handles solid waste and hazardous waste. Infectious waste management requires that all generators have written management.
    - Water Division - handles industrial, municipal, water supply, groundwater, coastal management, and wetlands. The Division has jurisdiction over industrial and municipal water pollution permitting and monitoring, groundwater quality, and projects such as water quality studies. The Water Division also manages licenses for water-facility construction and training operators.
    - Underground Storage Tank Notification Agency - administers the underground storage tank program.

- Department of Agriculture and Industries, Division of Agricultural Chemistry - manages the state's pesticide programs.

- Emergency Management Agency - must be contacted immediately at 205/280-2200 or 800/843-0696 upon discovery of a release into the environment of any chemical covered by Title III of the *Superfund Amendments and Reauthorization Act* (SARA). ADEM must also be notified at 205/271-7700.

- Historic Commission - oversees the exploration of all aboriginal sites and all historic sites.

- Public Health Department - handles the management of infectious waste within hospitals.

## ACRONYMS

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| AQMA | air quality management area |
| ASTM | American Society for Testing and Materials |
| AWWA | American Water Works Association |
| BACT | best available control technology |
| BOD | biochemical oxygen demand |
| BTEX | benzene, toluene, elthylbenzene, xylene |
| CAR | control area responsible party |
| CAS | Chemical Abstract Service |
| CEM | continuous emission monitoring |
| CERCLA | *Comprehensive Environmental Response, Compensation, and Liability Act* |
| CFC | chlorofluorocarbons |
| CWA | *Clean Water Act* |
| dB | decibel |
| dBA | decibels using A-weighting network |
| dBC | decibels using C-weighting network |
| DEQ | Department of Environmental Quality |
| ESA | *Endangered Species Act* |
| FIFRA | *Federal Insecticide, Fungicide, and Rodenticide Act* |
| GVWR | gross vehicle weight rating |
| HEPA Filter | high efficiency particulate air filter |
| HWM | hazardous waste management |
| IARC | International Agency for Research on Cancer |
| ICRU | International Commission on Radiological Units and Measurements |
| IUPAC | International Union of Pure and Applied Chemistry |
| LAER | lowest achievable emission rate |
| Ldn | day-night airport noise level |
| Leq | equivalent noise level |
| LPG | Liquefied Petroleum Gas |
| MC | medium curing |
| MCL | maximum contaminant level |
| MFL | million fibers per liter |
| MSDS | material safety data sheet |
| MSW | municipal-type solid waste |
| MSWLF | municipal solid waste landfill |
| MWC | municipal waste combustor |
| NBS | National Bureau of Standards |
| NEPA | *National Environmental Policy Act* |
| NFPA | National Fire Protection Association |
| NHPA | *National Historic Preservation Act* |
| NPDES | National Pollutant Discharge Elimination System |
| NTNCWS | nontransient noncommunity water system |
| OSHA | Occupational Safety and Health Administration |
| PAH | polycyclic aromatic hydrocarbons |
| PCB | polychlorinated biphenyl |
| PEL | permissible exposure limit |
| POTW | publicly owned treatment works |
| PUC | Public Utility Commission of Oregon |
| RACT | reasonably available control technology |

## ACRONYMS

| | |
|---|---|
| RC | rapid curing |
| RCRA | *Resource Conservation and Recovery Act* |
| RDF | refuse-derived fuel |
| REL | recommended exposure level |
| RGF | recirculating gravel filter |
| RVP | Reid vapor pressure |
| SAE | Society of Automotive Engineers |
| SARA | *Superfund Amendments and Reauthorization Act* |
| SC | slow curing |
| SDWA | *Safe Drinking Water Act* |
| SIC | Standard Industrial Classification |
| SMCL | secondary maximum contaminant level |
| SPCC | spill prevention countermeasure and control |
| SPL | sound pressure level |
| SWDA | *Solid Waste Disposal Act* |
| TLV | threshold limit value |
| TNTC | too numerous to count |
| TPH | total petroleum hydrocarbons |
| TRI | toxic release inventory |
| TSCA | *Toxic Substance Control Act* |
| TSD | treatment, storage, and disposal |
| TSDF | treatment, storage, and disposal facility |
| TSP | total suspended particulate |
| TSS | total suspended solids |
| TTHM | total trihalomethane |
| UL | Underwriters Laboratory |
| UFC | Uniform Fire Code |
| USEPA | United States Environmental Protection Agency |
| UST | underground storage tank |
| VOC | volatile organic compound |
| VOL | volatile organic liquid |
| WPCF | Water Pollution Control Facilities |

## COMMONLY USED ABBREVIATIONS

| | | | |
|---|---|---|---|
| bbl | barrel | mg | milligram |
| Btu | British thermal unit | mi | mile |
| C | Celsius | min | minute |
| cfs | cubic feet per second | MJ | megajoule |
| cm | centimeter | mL | milliliter |
| $cm^2$ | square centimeter | mm | millimeter |
| dscf | dry standard cubic foot | mo | month |
| dscm | dry standard cubic meter | mrem | millirem |
| F | Fahrenheit | MW | megawatt |
| ft | foot | ng | nanogram |
| $ft^2$ | square feet | NTU | nephelometric turbidity unit |
| $ft^3$ | cubic feet | oz | ounce |
| g | gram | pCi | picoCurie |
| gal | gallon | ppm | part per million |
| gJ | gigajoule | ppmv | part per million by volume |
| gr | grain | ppmw | part per million by weight |
| h | hour | psi | pound per square inch |
| ha | hectare | psia | pounds per square inch absolute |
| hp | horsepower | psig | pounds per square inch gauge |
| in. | inch | qt | quart |
| J | Joule | s | second |
| kg | kilogram | scf | standard cubic foot |
| km | kilometer | scm | standard cubic meter |
| kPa | kilopascals | sdcf | standard dry cubic foot |
| L | liter | sdcm | standard dry cubic meter |
| lb | pound | TU | turbidity unit |
| m | meter | V | volt |
| $m^3$ | cubic meter | yd | yard |
| MBtu | million British thermal units | $yd^2$ | square yard |
| meq | milligram equivalent | yr | year |
| CO | carbon monoxide | $NO_2$ | nitrogen dioxide |
| $CO_2$ | carbon dioxide | $NO_x$ | nitrogen oxides |
| Hg | mercury | $SO_2$ | sulfur dioxide |

## METRIC CONVERSION TABLE

The following conversion table may be used throughout this manual to make approximate conversions between U.S. units and metric units.

| | | |
|---|---|---|
| 1 in. | = | 2.54 cm or 25.4 mm |
| 1 ft | = | 0.3048 m |
| 1 $ft^2$ | = | 0.093 $m^2$ |
| 1 $ft^3$ | = | 0.028 $m^3$ |
| 1 psi | = | 6.895 kPa |
| 1 lb | = | 0.454 kg |
| 1 mi | = | 1.61 km |
| 1 gal | = | 3.78 L |
| °F | = | (°C + 17.78) x 1.8 |
| °C | = | 0.55 (°F - 32) |
| 1 yd | = | 0.9144 m |
| 1 Btu | = | 4.184 kJ |
| 1 acre | = | 4046.9 $m^2$ |
| 1 acre | = | 0.405 hectare |

## Comment Form

**Comments and questions regarding the Alabama Supplement can be addressed to:**

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**fax 217-373-3430**

**Please include the following information with your comment:**

**User Name:**
**Affiliation (installation, command, etc.):**
**email:**
**Phone:**
**FAX:**

| Page # | Checklist item # | Line # | Comments |
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| | | | |

**SECTION 1**

**AIR EMISSIONS MANAGEMENT**

**Alabama Supplement, July 2000**

This section covers the state requirements for Air Emissions Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

## Incorporated Federal Regulations

The following regulations are incorporated into the Alabama Department of Environmental Management (ADEM) Administrative (Admin.) Code:

- National Primary Ambient Air Quality Standards and National Secondary Ambient Air Quality Standards, Title 40 Code of Federal Regulations (CFR), Chapter 50 (ADEM Admin. Code R. (Rule) 335-3-1-.03).

- Standards of Performance for New Stationary Sources (40 CFR 60 and Appendices) designated in Rules 335-3-10-.02 and -.03 are incorporated by reference as they exist in 40 CFR 60 (1999), and 64 FR 37196 and 38241 [07/09/99, 07/15/99, amendments to Appendix A], as amended by the word or phrase substitutions given in Rule 335-3-10-.04. References for specific documents containing the complete text of subject regulations are given in Appendix C to these Regulations. Authorities which are not delegable to the state are also listed in Appendix C (ADEM Admin. Code R. 335-3-10-.01(1)) [Revised August 1998; Revised July 2000].

- National Emission Standards for Hazardous Air Pollutants, the Environmental Protection Agency Regulations, and the Appendices applicable thereto, governing Hazardous Air Pollutants, 40 CFR, Part 61 and Appendices, designated in Rules 335-3-11-.02 and 335-3-11-.03 and 40 CFR Part 63, and Appendices designated in Rules 335-3-11-.06 and 335-3-11-.07 are incorporated by reference as they exist in 40 CFR 61 (1998) and 64 FR 7458 [02/12/99, amendments to Subparts A, L, M, and N], and 40 CFR Part 63 (1999) and 64 FR 37683 [07/13/99, amendments to Subpart T], 64 FR 38950 [07/20/99, amendments to Subparts DD, OO, PP, QQ, RR, and VV], as amended by the word or phrase substitutions given in Rule 335-3-11-.03. References for specific documents containing the complete text of subject regulations are given in Appendix C to these Regulations. Authorities which are not delegable to the state are also listed in Appendix C (ADEM Admin. Code R. 335-3-11-.01) [Revised June 1999; Revised July 2000].

- The Acid Rain Program -- Permits Regulation (40 CFR, Part 72 and Appendices), are incorporated by reference as they exist in 40 CFR Part 72, (July 1, 1999), except for the provisions found in 40 CFR §72.12 and 40 CFR §§72.70 through 72.74, which are excluded (ADEM Admin. Code R. 335-3-18-.01). The Environmental Protection Agency Regulations, and the Appendices applicable thereto, governing the Acid Rain Nitrogen Oxides Emission Reduction Program (40 CFR, Part 76 and Appendices) are incorporated by reference as they exist in 40 CFR Part 76, (1 July 1997), except for the references to 40 CFR 78 which are excluded (ADEM Admin. Code R. 335-3-18-.02) [Added June 1999].

## Definitions

- *Act* - the Clean Air Act, as amended (42 U.S.C. 1857 et seq.) (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Actual Emissions* - the actual rate of emissions of a pollutant from a source as determined by the following:
    1. In general, actual emissions as of any given date shall equal the average rate in tons per year at which the source actually emitted the pollutant during a two-year period which precedes the given date and which is representative of normal source operation. The use of a different time shall be allowed upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the source's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.
    2. The reviewing authority may presume that source-specific allowable emissions for the source are equivalent to the actual emissions of the source.
    3. For any source which has not begun normal operations on the given date, actual emissions shall equal the potential to emit of the source on that date (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Administrator* - the Administrator of the Environmental Protection Agency (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Affected Source* - means the stationary source or group of stationary sources which, when fabricated (on site), erected, or installed meets the definition of "construct a major source" or the definition of "reconstruct a major source" contained in this paragraph (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Air Pollution* - the presence in the outdoor atmosphere of one or more air contaminants in such quantities and duration as are, or tend to be, injurious to human health or welfare, animal or plant life, or property, or would interfere with the enjoyment of life or property throughout the state and in territories of the state as affected (ADEM Admin. Code R. 335-3-1.-02).

- *Air Sticker* - a sticker to be affixed to a gasoline tank truck, representing issuance of an air permit and that the gasoline tank truck has been demonstrated during its most recent annual vapor leak testing to be leak-free (ADEM Admin. Code R. 335-3-6-.20(1)(a)).

- *Allowable Emissions* - the emission rate calculated using the maximum rated capacity of the source (unless the source is subject to enforceable permit conditions which limit the operating rate, or hours of operation, or both) and the most stringent of the following:
    1. Applicable New Source Performance Standards set forth in 40 CFR 60,
    2. Applicable National Emission Standards for Hazardous Air Pollutants set forth in 40 CFR 61,
    3. Applicable State Implementation Plan emission limitation, or
    4. The emission rate specified as an enforceable permit condition (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Application Area* - the area where the coating is applied by spraying, dipping, or flowcoating techniques (ADEM Admin. Code R. 335-3-6-.11(3)(a)).

- *Asphalt* - a dark brown to black cementitious material in which the predominating constituents are bitumens that occur in nature as such or that are obtained as residue in refining petroleum (ADEM Admin. Code R. 335-3-6-.13(1)(a)).

- *Available Information* - for purposes of identifying control technology options for the affected source, information contained in the following information sources as of the date of approval of the MACT determination by the Department:
    1. A relevant proposed regulation, including all supporting information;
    2. Background information documents for a draft or proposed regulation;
    3. Data and information available from the Control Technology Center developed pursuant to Section 113 of the Act;

4. Data and information contained in the Aerometric Informational Retrieval System including information in the MACT data base;
5. Any additional information that can be expeditiously provided by the Director; and
6. For the purpose of determinations by the Department, any additional information provided by the applicant or others, and any additional information considered available by the Department (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Batch HMIWI* - an HMIWI that is designed such that neither waste charging nor ash removal can occur during combustion (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Best Available Control Technology (BACT)* - an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under the *Clean Air Act* that would be emitted from any proposed major stationary source or major modification that the Director, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. The application of BACT must not result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR 60 and 61. If the Director determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof may be prescribed instead to satisfy the requirement for the application of BACT. Such standard must, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice, or operation and must provide for compliance by means which achieve equivalent results (ADEM Admin. Code R. 335-3-14-.04(2)(l)).

- *Biologicals* - preparations made from living organisms and their products, including vaccines, cultures, etc., intended for use in diagnosing, immunizing, or treating humans or animals or in research pertaining thereto (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Blood Products* - any product derived from human blood, including but not limited to, blood plasma, platelets, red or white blood corpuscles, and other derived licensed products, such as interferon, etc. (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Body Fluids* - liquid emanating or derived from humans and limited to blood; dialysate; amniotic, cerebrospinal, synovial, pleural, peritoneal, and pericardial fluids; and semen and vaginal secretions (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Bottom Filling* - the filling of a tank truck or stationary storage tank through an opening that is flush with the tank bottom (ADEM Admin. Code R. 335-3-6-.05(1)(a)).

- *Bypass Stack* - a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Capacity* - the manufacturer's guaranteed maximum burn rate in pounds per hour or such other rate as may be determined by the Director in accordance with good engineering practice. Capacity must be based primarily upon the BTU value of the waste to be burned. In cases of conflict, the determination made by the Director governs (ADEM Admin. Code R. 335-3-3-.04(1)(a)).

- *Capture System* - the equipment, including hoods, ducts, fans, etc., used to contain, capture, or transport a pollutant to a control device (ADEM Admin. Code R. 335-3-1.-02).

- *Carrier* - any distributor who transports or stores or causes the transportation or storage of gasoline or diesel fuel without taking title to or otherwise having any ownership of the gasoline or diesel fuel, and without altering either the quality or quantity of the gasoline or diesel fuel (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Cartridge Filter* - perforated canisters containing filtration paper and/or activated carbon that are used in a pressurized system to remove solid particles and fugitive dyes from soil-laden solvent (ADEM Admin. Code R. 335-3-6-.45).

- *Chemotherapeutic Waste* - waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Coating* - a protective, decorative, or functional film applied in a thin layer to a surface substrate (ADEM Admin. Code R. 335-3-1.-02).

- *Coating Line* - one or more apparatus or operations that may include any number or combination of coating applicators, flash-off areas, and ovens wherein a surface coating is applied, dried, and/or cured (ADEM Admin. Code R. 335-3-1.-02).

- *Co-fired Combustor* - a unit combusting hospital waste and/or medical/infectious waste with other fuels or wastes (e.g., coal, municipal solid waste) and subject to an enforceable requirement limiting the unit to combusting a fuel feed stream, 10 percent or less of the weight of which is comprised, in aggregate, of hospital waste and medical/infectious waste as measured on a calendar quarter basis. For purposes of this definition, pathological waste, chemotherapeutic waste, and low-level radioactive waste are considered "other" wastes when calculating the percentage of hospital waste and medical/infectious waste combusted (40 CFR 60.51c).

- *Cold Cleaning* - the batch process of cleaning and removing soils from metal surfaces by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not added in this definition (ADEM Admin. Code R. 335-3-6-.12(1)(s)).

- *Commenced* - an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a binding agreement or contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification (ADEM Admin. Code R. 335-3-1.-02).

- *Condensate* - hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions (ADEM Admin. Code R. 335-3-6-.04(1)(a)).

- *Construction* - fabrication, erection, or installation of an affected facility (ADEM Admin. Code R. 335-3-1.-02).

- *Construction* - any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of a source) which would result in a change in actual emissions (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Construct a Major Source* -
    1. To fabricate, erect, or install at any greenfield site a stationary source or group of stationary sources which is located within a contiguous area and under common control and which emits or has the potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAPs, or
    2. To fabricate, erect, or install at any developed site a new process or production unit which in and of itself emits or has the potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAPs, unless the process or production unit satisfies criteria (i) through (vi) below:

a. All HAP emitted by the process or production unit that would otherwise be controlled under the requirements of this Rule will be controlled by emission control equipment which was previously installed at the same site as the process or production unit;
b. The Department has determined within a period of 5 years prior to the fabrication, erection, or installation of the process or production unit that the existing emission control equipment represented best available control technology (BACT), or lowest achievable emission rate (LAER) under Chapter 335-3-14; or
c. The Department determines that the control of HAP emissions provided by the existing equipment will be equivalent to that level of control currently achieved by other well-controlled similar sources (i.e., equivalent to the level of control that would be provided by a current BACT or LAER determination);
d. The Department determines that the percent control efficiency for emissions of HAP from all sources to be controlled by the existing control equipment will be equivalent to the percent control efficiency provided by the control equipment prior to the inclusion of the new process or production unit;
e. The Department has provided notice and an opportunity for public comment concerning its determination that criteria in subparagraphs 2.(i), 2.(ii), and 2.(iii) of this definition apply and concerning the continued adequacy of any prior LAER or BACT determination;
f. If any commenter has asserted that a prior LAER or BACT determination is no longer adequate, the Department has determined that the level of control required by that prior determination remains adequate; and
g. Any emission limitations, work practice requirements, or other terms and conditions upon which the above determinations by the Department are predicated will be construed by the Department as applicable requirements under Section 504(a) and either have been incorporated into any existing Major Source Operating Permit for the affected facility or will be incorporated into such permit upon issuance (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Continuous HMIWI* - an HMIWI that is designed to allow waste charging and ash removal during combustion (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Control Device* - any device that has the function of controlling the emissions from a process, fuel-burning, or refuse-burning device and thus reduces the creation of or the emission of air contaminants into the atmosphere, or both (ADEM Admin. Code R. 335-3-1.-02).

- *Control Regulation* - a legally enforceable emission control strategy (ADEM Admin. Code R. 335-3-1.-02).

- *Control Strategy* - a collection of various emission standards selected for the different categories of sources (ADEM Admin. Code R. 335-3-1.-02).

- *Control Technology* - measures, processes, methods, systems, or techniques to limit the emission of hazardous air pollutants through process changes, substitution of materials or other modifications including, but not limited to, measures that:
  1. Reduce the quantity of, or eliminate emissions of, such pollutants through process changes, substitution of materials or other modifications;
  2. Enclose systems or processes to eliminate emissions;
  3. Collect, capture or treat such pollutants when released from a process, stack, storage or fugitive emissions point;
  4. Are design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in 42 U.S.C. 7412(h); or
  5. Are a combination of subparagraphs 1. - 4. of this definition (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Covered Area* - each of the geographic areas specified in § 80.70 in which only reformulated gasoline may be sold or dispensed to ultimate consumers (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Cutback Asphalt* - asphalt cement that has been liquefied by blending with petroleum solvents (diluents) and, upon exposure to atmospheric conditions, the diluents evaporate, leaving the asphalt cement to perform its function (ADEM Admin. Code R. 335-3-6-.13(1)(b)).

- *Department* - the Alabama Department of Environmental Management (ADEM Admin. Code R. 335-3-1.-02).

- *Department* - the Department as defined in this Division (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Diesel Fuel* - any fuel sold in any State and suitable for use in diesel motor vehicles and diesel motor vehicle engines, and which is commonly or commercially known or sold as diesel fuel (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Dioxins/Furans* - the combined emissions of tetra- through octa-chlorinated dibenzo-para-dioxins and dibenzofurans, as measured by EPA Reference Method 23 (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Director* - the Director of the Department of Environmental Management (ADEM Admin. Code R. 335-3-1.-02).

- *Distributor* - any person who transports or stores or causes the transportation or storage of gasoline or diesel fuel at any point between any gasoline or diesel fuel refinery or importer's facility and any retail outlet or wholesale purchaser-consumer's facility (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Dry Cleaning Facility* - any facility engaged in the cleaning of fabrics in an essentially nonaqueous solvent by means of one or more washes in solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. The facility includes but is not limited to any washer, dryer, filter and purification systems, waste disposal systems, holding tanks, pumps, and attendant piping and valves (ADEM Admin. Code R. 335-3-6-.19(1)(a).

- *Dry Scrubber* - an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gases in the HMIWI exhaust stream forming a dry powder material (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Emission* - a release into the outdoor atmosphere of air contaminants (ADEM Admin. Code R. 335-3-1.-02).

- *Emission Standard* - a regulation setting forth an allowable rate of emissions, level of opacity, or prescribing equipment or fuel specifications that result in control of air pollution emissions (ADEM Admin. Code R. 335-3-12-.01(a)).

- *Emissions Unit* - any part of a stationary source which emits or would have the potential to emit any pollutant subject to regulation under the CAA (ADEM Admin. Code R. 335-3-14-.04) [Added August 1998].

- *Emulsified Asphalt* - asphalt cement that has been liquefied by blending it with water and an emulsifying agent and, upon exposure to atmospheric conditions, the water and emulsifying agent evaporate, leaving the asphalt cement to perform its function (ADEM Admin. Code R. 335-3-6-.34).

- *Enforceable* - all limitations and conditions which are enforceable, including those requirements developed pursuant to 40 CFR 60 and 61, requirements within the State Implementation Plan and any permit requirements

established pursuant to 40 CFR §51.18, 40 CFR §52.21 or this Chapter (ADEM Admin. Code R. 335-3-14-.04) [Added August 1998].

- *Existing Source* - any source in operation or on which construction has commenced on the date of initial adoption of an applicable rule or regulation; except that any existing source that has undergone modification after the date of initial adoption of an applicable rule or regulation, must be reclassified and considered a new source (ADEM Admin. Code R. 335-3-1.-02).

- *External Floating Roof* - a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck that rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell (ADEM Admin. Code R. 335-3-6-.04(1)(d)).

- *Fabric Filter or Baghouse* - an add-on air pollution control system that removes particulate matter (PM) and nonvaporous metals emissions by passing flue gas through filter bags (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Flashoff Area* - the space between the application area and the oven (ADEM Admin. Code R. 335-3-1.-02).

- *Flexographic Printing* - the application of words, designs, and pictures to a substrate by means of a roll printing technique in which both the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastometric materials (ADEM Admin. Code R. 335-3-6-.22(1)(c)).

- *Fossil Fuel-Fired Steam Generator* - a furnace or boiler used in the process of burning fossil fuel for the primary purpose of producing steam by heat transfer (ADEM Admin. Code R. 335-3-12-.01(e)).

- *Fugitive Dust* - solid airborne particulate matter emitted from any source other than a flue or stack (ADEM Admin. Code R. 335-3-1.-02).

- *Fugitive Emissions* - those emissions which could not reasonably pass through a stack, chimney, vent, roof monitor, or other functionally equivalent opening (ADEM Admin. Code R. 335-3-14-.04) [Added August 1998].

- *Gasoline* - a petroleum distillate having a Reid vapor pressure of 27.6 KPA (4 psia) or greater and used as a fuel for internal combustion engines (ADEM Admin. Code R. 335-3-1.-02).

- *Gasoline* - any fuel sold in any State for use in motor vehicles and motor vehicle engines, and commonly or commercially known or sold as gasoline (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Gasoline Dispensing Facility* - any outlet where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks (ADEM Admin. Code R. 335-3-6-.07(b)).

- *Greenfield Site* - a contiguous area under common control that is an undeveloped site (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Hazardous Air Pollutant* - any of those chemical substances listed in Appendix 1-4 (Appendix G of ADEM Admin. Code R. 335-3).

- *Hazardous Air Pollutant or HAP* - any of the substances listed in Appendix G of this Division (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *High-air Phase* - the stage of the batch operating cycle when the primary chamber reaches and maintains maximum operating temperatures (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Hospital* - any facility which has an organized medical staff, maintains at least six inpatient beds, and where the primary function of the institution is to provide diagnostic and therapeutic patient services and continuous nursing care primarily to human inpatients who are not related and who stay on average in excess of 24 h per admission. This definition does not include facilities maintained for the sole purpose of providing nursing or convalescent care to human patients who generally are not acutely ill but who require continuing medical supervision (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Hospital/Medical/Infectious Waste Incinerator or HMIWI or HMIWI Unit* - any device that combusts any amount of hospital waste and/or medical/infectious waste (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Hospital/Medical/Infectious Waste Incinerator Operator or HMIWI Operator* - any person who operates, controls, or supervises the day-to-day operation of an HMIWI (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Hospital Waste* - discards generated at a hospital, except unused items returned to the manufacturer. The definition of hospital waste does not include human corpses, remains, and anatomical parts that are intended for interment or cremation (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Hydrocarbon* - any organic compound of carbon an hydrogen only (ADEM Admin. Code R. 335-3-1.-02).

- *Importer* - a person who imports gasoline or gasoline blending stocks or components, or diesel fuel from a foreign country into the United States (including the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands) (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Incinerator* - any equipment, device, or contrivance used for the destruction, by burning, of solid, semisolid, liquid, or gaseous combustible wastes (ADEM Admin. Code R. 335-3-1.-02).

- *Infectious Agent* - any organism (such as a virus or bacteria) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Insignificant Activity* - (ADEM Admin. Code R. 335-3-16.01(o)):
    1. Any air emissions or air emissions unit at a plant that has the potential to emit less than 5 tons/yr of any criteria pollutant or less than 1000 lb/yr of any pollutant listed in Appendix 1-4.
    2. Any change in the activity or level or operation of an air emissions unit that has the potential to increase emissions of any criteria pollutant by less than 5 tons/yr or any pollutant listed in Appendix 1-4 by less than 1000 lb/yr. The Director may determine that certain types or classes of units may be considered insignificant at higher emission levels, or that, due to the nature of the pollutant(s) emitted, a unit may be considered significant at a lower emission rate. The Director will maintain lists of air emissions or air emission units which are considered to be insignificant without a determination of emission levels by the permittee.

- *Intermittent HMIWI* - an HMIWI that is designed to allow waste charging, but not ash removal, during combustion (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Large HMIWI* (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000]:
    1. except as provided in 2:
        a. an HMIWI whose maximum design waste burning capacity is more than 500 lb/h
        b. a continuous or intermittent HMIWI whose maximum charge rate is more than 500 lb/h

c. a batch HMIWI whose maximum charge rate is more than 4000 lb/day.

2. the following are not large HMIWI:

a. a continuous or intermittent HMIWI whose maximum charge rate is less than or equal to 500 lb/h

b. a batch HMIWI whose maximum charge rate is less than or equal to 4000 lb/day.

- *Lockout Feed System* - an automatic waste charging system designed to minimize the introduction of excess air and to prevent disruption of the combustion process as waste is charged. The system must be designed to prevent charging of waste until the final combustion chamber temperature is established and holding the required minimum temperature. The charging of waste into the incinerator must automatically cease if the final combustion chamber temperature drops below the required minimum temperature for any continuous 10-min period. The system must be designed so that the maximum rated burning capacity must not be exceeded (ADEM Admin. Code R. 335-3-3-.04(1)(f)).

- *Lowest Achievable Emission Rate (LAER)* - for any source, that rate of emissions based on whichever of the following is more stringent:
  1. The most stringent emission limitation which is contained in the implementation plan of any state for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or
  2. The most stringent emission limitation which is achieved in practice or can reasonably be expected to occur in practice by such class or category of sources taking into consideration the pollutant which must be controlled.
  3. This term, applied to a modification, means the lowest achievable emission rate for the new or modified source within the facility. In no event shall the application of this term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Major Facility* -
  1.
     a. Any source or facility for which the potential emission rate is equal to or greater than 100 tons per year of any pollutant subject to regulation under the Federal Clean Air Act (CAA); or
     b. Any physical change that would occur at a facility not qualifying under subparagraph (c)1.(i) above as a major facility, if the change would constitute a major facility by itself
  2. Furthermore, a major facility that is major for volatile organic compounds and/or nitrogen oxides also shall be considered major for the pollutant ozone (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Major Modification* - any physical change in, change in the method of operation of, or addition to a major facility which would result in a significant net emissions increase at the facility of any pollutant subject to regulation under the CAA:
  1. A physical change or a change in method of operation shall not include:
     a. Routine maintenance, repair, and replacement;
     b. Use of an alternative fuel or raw material by reason of an order in effect under Sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act;
     c. Use of an alternative fuel by reason of an order or rule under Section 125 of the CAA;
     d. Change in ownership of a source;
     e. Use of refuse derived fuel generated from municipal solid waste.
  2. A change in the method of operation, unless limited by previous permit conditions, shall not include:
     a. An increase in the production rate, if such increase does not exceed the operating design capacity of the source;
     b. An increase in the hours of operation;

c. Use of an alternative fuel or raw material, if on December 21, 1976, the source was capable of accommodating such fuel or material (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Major Stationary Source* -
  1. Any of the following stationary sources [see subparagraph (e) of this paragraph] of air pollutants which emits, or has the potential to emit [see subparagraph (d) of this paragraph], 100 tons per year or more of any pollutant subject to regulation under the CAA, as amended, 42 U.S.C. 7401, et seq.:
     a. carbon black plants (furnace process);
     b. charcoal production plants;
     c. chemical process plants;
     d. coal cleaning plants (with thermal dryers);
     e. coke oven batteries;
     f. fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input;
     g. fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input;
     h. fuel conversion plants;
     i. glass fiber processing plants; and
     j. hydrofluoric, sulfuric and nitric acid plants;
     k. iron and steel mill plants;
     l. kraft pulp mills;
     m. lime plants;
     n. municipal incinerators capable of charging more than 250 tons of refuse per day;
     o. petroleum refineries;
     p. petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
     q. phosphate rock processing plants;
     r. portland cement plants;
     s. primary aluminum ore reduction plants;
     t. primary copper smelters;
     u. primary lead smelters;
     v. primary zinc smelters;
     w. secondary metal production plants;
     x. sintering plants;
     y. sulfuric and nitric acid plants;
     z. sulfur recovery plants;
     aa. taconite ore processing plants;
  2. Notwithstanding the stationary source size specified in subparagraph (a)1.(i) of this paragraph, any stationary source which emits, or has the potential to emit, 250 tons per year or more of any air pollutant subject to regulation under the CAA; or
  3. Any physical change that would occur at a stationary source not otherwise qualifying under this Rule as a major stationary source, if the changes would constitute a major stationary source by itself.
  4. A stationary source that is considered major for VOC shall be considered major for ozone (ADEM Admin. Code R. 335-3-14-.04) [Added August 1998].

- *Malfunction* - any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions. During periods of malfunction the operator shall operate within established parameters as much as possible, and monitoring of all applicable operating parameters shall continue until all waste has been combusted or until the malfunction ceases, whichever comes first (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Maximum Achievable Control Technology (MACT) Emission Limitation for New Sources* - the emission limitation which is not less stringent than the emission limitation achieved in practice by the best controlled similar source, and which reflects the maximum degree of reduction in emissions that the Department, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable by the constructed or reconstructed major source (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Maximum Charge Rate* (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000]:
  1. for continuous and intermittent HMIWI, 110 percent of the lowest 3-h average charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limits
  2. for batch HMIWI, 110 percent of the lowest daily charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limits.

- *Maximum Design Waste Burning Capacity* (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000]:
  1. for intermittent and continuous HMIWI
     $C = P_v \times 15{,}000/8500$
     where,
     C = HMIWI capacity, lb/h
     $P_v$ = primary chamber volume, $ft^3$
     15,000 = primary chamber heat release rate factor, $Btu/ft^3/h$
     8500 = standard waste heating value, Btu/lb
  2. for batch HMIWI
     $C = P_v \times 4.5/8$
     where,
     C = HMIWI capacity, lb/h
     $P_v$ = primary chamber volume, $ft^3$
     4.5 = waste density, $lb/ft^3$
     8 = typical hours of operation of a batch HMIWI, hours.

- *Maximum Fabric Filter Inlet Temperature* - 110 percent of the lowest 3-h average temperature at the inlet to the fabric filter (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the dioxin/furan emission limit (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Maximum Flue Gas Temperature* - 110 percent of the lowest 3-h average temperature at the outlet from the wet scrubber (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the mercury (Hg) emission limit (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Medical/Infectious Waste* - any waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals that is listed in paragraphs (1) through (7) of this definition. The definition of medical/infectious waste does not include hazardous waste identified or listed under the regulations in part 261 of this chapter; household waste, as defined in Section 261.4(b)(1) of this chapter; ash from incineration of medical/infectious waste, once the incineration process has been completed; human corpses, remains, and anatomical parts that are intended for interment or cremation; and domestic sewage materials identified in Section 261.4(a)(1) of this chapter (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000]:
  1. Cultures and stocks of infectious agents and associated biologicals, including: cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures.

2. Human pathological waste, including tissues, organs, and body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers.
3. Human blood and blood products including:
    a. Liquid waste human blood
    b. Products of blood
    c. Items saturated and/or dripping with human blood
    d. Items that were saturated and/or dripping with human blood that are now caked with dried human blood; including serum, plasma, and other blood components, and their containers, which were used or intended for use in either patient care, testing and laboratory analysis, or the development of pharmaceuticals. Intravenous bags are also included in this category.
4. Sharps that have been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, including hypodermic needles, syringes (with or without the attached needle), pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, and culture dishes (regardless of the presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips.
5. Animal waste including contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biologicals, or testing of pharmaceuticals.
6. Isolation wastes including biological waste and discarded materials contaminated with blood, excretions, exudates, or secretions from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases.
7. Unused sharps including the following unused, discarded sharps: hypodermic needles, suture needles, syringes, and scalpel blades.

- *Medium HMIWI* (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000]:
    1. Except as provided in paragraph (2):
        a. an HMIWI whose maximum design waste burning capacity is more than 200 lb/h but less than or equal to 500 lb/h
        b. a continuous or intermittent HMIWI whose maximum charge rate is more than 200 lb/h but less than or equal to 500 lb/h
        c. a batch HMIWI whose maximum charge rate is more that 1600 lb/day but less than or equal to 4000 lb/day.
    2. The following are not medium HMIWI:
        a. a continuous or intermittent HMIWI whose maximum charge rate is less than or equal to 200 lb/h or more than 500 lb/h
        b. a batch HMIWI whose maximum charge rate is more than 4000 lb/day or less than or equal to 1600 lb/day.

- *Methanol* - any fuel sold for use in motor vehicles and commonly known or commercially sold as methanol or MXX, where XX is the percent methanol (CH(3)OH) by volume (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Minimum Dioxin/Furan Sorbent Flow Rate* - 90 percent of the highest 3-h average dioxin/furan sorbent flow rate (taken, at a minimum, once every hour) measured during the most recent performance test demonstrating compliance with the dioxin/furan emission limit (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Minimum Hg Sorbent Flow Rate* - 90 percent of the highest 3-h average Hg sorbent flow rate (taken, at a minimum, once every hour) measured during the most recent performance test demonstrating compliance with the Hg emission limit (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Minimum Hydrogen Chloride (HCl) Sorbent Flow Rate* - 90 percent of the highest 3-h average HCl sorbent flow rate (taken, at a minimum, once every hour) measured during the most recent performance test demonstrating compliance with the HCl emission limit (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Minimum Horsepower or Amperage* - 90 percent of the highest 3-h average horsepower or amperage to the wet scrubber (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the applicable emission limits (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Minimum Pressure Drop Across the Wet Scrubber* - 90 percent of the highest 3-h average pressure drop across the wet scrubber PM control device (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the PM emission limit (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Minimum Scrubber Liquor Flow Rate* - 90 percent of the highest 3-h average liquor flow rate at the inlet to the wet scrubber (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with all applicable emission limits (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Minimum Scrubber Liquor pH* - 90 percent of the highest 3-h average liquor pH at the inlet to the wet scrubber (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance the HCl emission limit (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Minimum Secondary Chamber Temperature* - 90 percent of the highest 3-h average secondary chamber temperature (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the PM, CO, or dioxin/furan emission limits (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Modification* - any physical change in, or change in the method of operation of, an affected source that increases the amount of any air contaminant emitted by such source or that results in the emission of any air contaminant not previously emitted by the source, except that:
    1. routine maintenance, repair, and replacement will not be considered physical changes
    2. the following will not be considered a change in the method of operation:
        a. an increase in the production rate
        b. an increase in hours of operation
        c. use of an alternative fuel or raw material (ADEM Admin. Code R. 335-3-1.-02).

- *Modification or Modified HMIWI* - any change to an HMIWI unit after the effective date of these standards such that (40 CFR 60.51c):
    1. The cumulative costs of the modifications, over the life of the unit, exceed 50 per centum of the original cost of the construction and installation of the unit (not including the cost of any land purchased in connection with such construction or installation) updated to current costs, or
    2. The change involves a physical change in or change in the method of operation of the unit which increases the amount of any air pollutant emitted by the unit for which standards have been established under section 129 or section 111.

- *Natural Gas* - a fuel whose primary constituent is methane (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Net Emissions Increase* -
    1. The amount by which the sum of the following exceeds zero:
        a. Any increase in actual emissions from a particular physical change or change in the method of operation, and
        b. Any other increases and decreases in actual emissions that are contemporaneous with the particular change and are otherwise creditable

2. An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between:
    a. The date 5 yr before construction on the particular change commences, and
    b. The date that the increase from the particular change occurs.
3. An increase or decrease in actual emissions is creditable only if:
    a. It has not been relied on in issuing a permit to the facility which is in effect when the increase in actual emissions from the particular change occurs, and
    b. It occurs after the effective date of this Rule.
4. An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
5. A decrease in actual emissions is creditable only to the extent that:
    a. The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;
    b. It is enforceable at and after the time that actual construction on the particular change begins;
    c. It has not been relied on in issuing any permit under the State Implementation Plan or in demonstrating attainment or reasonable further progress; and
    d. It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.
6. An increase that results from a physical change occurs when the source on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *New Source* - any source built or installed on or after the date of initial adoption of an applicable rule or regulation, and any source existing at said stated time that later undergoes modification. Any source moved to another premise involving a change of location after the date of initial adoption of an applicable rule or regulation must be considered a new source (ADEM Admin. Code R. 335-3-1.-02).

- *Open Burning* - the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the ambient air without passing through an adequate stack, duct, or chimney (ADEM Admin. Code R. 335-3-1.-02).

- *Operating Day* - a 24-h period between 12:00 midnight and the following midnight during which any amount of hospital waste or medical/infectious waste is combusted at any time in the HMIWI (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Operation* - the period during which waste is combusted in the incinerator, excluding periods of startup or shutdown (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Organic Material* - a chemical compound of carbon excluding CO, $CO_2$, carbonic acid, metallic carbides or carbonates, and ammonium carbonate (ADEM Admin. Code R. 335-3-1.-02).

- *Oven* - a chamber within which heat is used to bake, cure, polymerize, and/or dry a surface coating (ADEM Admin. Code R. 335-3-1.-02).

- *Oxygenate* - any substance which, when added to gasoline, increases the oxygen content of that gasoline. Lawful use of any of the substances or any combination of these substances requires that they be "substantially similar" under section 211(f)(1) of the Clean Air Act, or be permitted under a waiver granted by the Administrator under the authority of section 211(f)(4) of the Clean Air Act (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Particulate Matter* - finely divided material, except uncombined water, that is a liquid or solid at the conditions of the applicable test method (ADEM Admin. Code R. 335-3-1.-02.

- *Potential to Emit* - the maximum capacity to emit a pollutant under physical and operational design conditions. Any physical or operational limitation on the capacity to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as a part of the design only if the limitation or the effect it would have on emissions is enforceable. Secondary emissions are not calculated in determining the potential to emit (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Pathological Waste* - waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable) (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Primary Chamber* - the chamber in an HMIWI that receives waste material, in which the waste is ignited, and from which ash is removed (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Process or Production Unit* - any collection of structures and/or equipment, that processes, assembles, applies, or otherwise uses material inputs to produce or store an intermediate or final product. A single facility may contain more than one process or production unit (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Pyrolysis* - the endothermic gasification of hospital waste and/or medical/infectious waste using external energy (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].
- *Reconstruct a Major Source* - the replacement of components at an existing process or production unit that in and of itself emits or has the potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAPs, whenever:
    1. The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable process or production unit; and
    2. It is technically and economically feasible for the reconstructed major source to meet the applicable maximum achievable control technology emission limitation for new sources established under this Rule (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Refinery* - a plant at which gasoline or diesel fuel is produced (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Reformulated Gasoline* - any gasoline whose formulation has been certified under § 80.40, which meets each of the standards and requirements prescribed under § 80.41, and which contains less than the maximum concentration of the marker specified in § 80.82 that is allowed for reformulated gasoline under § 80.82 (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Refuse* - matter consisting of garbage, rubbish, ashes, street debris, dead animals, abandoned vehicles, industrial wastes, demolition wastes, construction wastes, special wastes, or sewage treatment residue (ADEM Admin. Code R. 335-3-1.-02).

- *Reid Vapor Pressure* - a vapor pressure specification for volatile crude oil and volatile nonviscous petroleum liquids except liquid petroleum gases as determined by the American Society for Testing and Materials. The pressure approximates the absolute vapor pressure of the liquid (ADEM Admin. Code R. 335-3-1.-02).

- *Research and Development Activities* - activities conducted at a research or laboratory facility whose primary purpose is to conduct research and development into new processes and products, where such source is operated

under the close supervision of technically trained personnel and is not engaged in the manufacture of products for sale or exchange for commercial profit, except in a de minimis manner (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Retail Outlet* - any establishment at which gasoline, diesel fuel, methanol, natural gas or liquefied petroleum gas is sold or offered for sale for use in motor vehicles (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Retailer* - any person who owns, leases, operates, controls, or supervises a retail outlet (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Refiner* - any person who owns, leases, operates, controls, or supervises a refinery (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Reseller* - any person who purchases gasoline or diesel fuel identified by the corporate, trade, or brand name of a refiner from such refiner or a distributor and resells or transfers it to retailers or wholesale purchaser-consumers displaying the refiner's brand, and whose assets or facilities are not substantially owned, leased, or controlled by such refiner (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *Secondary Chamber* - a component of the HMIWI that receives combustion gases from the primary chamber and in which the combustion process is completed (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Secondary Emissions* - emissions which would occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For the purpose of this Rule, secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions may include, but are not limited to:
  1. Emissions from ships or trains coming to or from the new or modified stationary source; and
  2. Emissions from any off-site support facility which would not otherwise be constructed or increase its emissions as a result of the construction or operation of the major stationary source or major modification (ADEM Admin. Code R. 335-3-14-.04) [Added August 1998].

- *Significant* - in reference to a net emissions increase or the potential of a source or facility to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

| Pollutant | Emissions Rate (tons per year) |
|---|---|
| Carbon monoxide | 100 |
| Nitrogen oxides | 40 |
| Sulfur dioxide | 40 |
| Ozone (volatile organic compounds) | 40 |
| Lead | 0.6 |

- *Significant Impact* -:
  1. For PM(10) and sulfur dioxide, the following significant levels would be exceeded in the portion of the designated nonattainment area where the ambient air quality standards are actually violated.

| Pollutant | Annual | 24-Hour | 3-Hour |
|---|---|---|---|
| PM(10) | 1 $\mu g/m^3$ | 5 $\mu g/m^3$ | |
| Sulfur Dioxide | 1 $\mu g/m^3$ | 5 $\mu g/m^3$ | 25 $\mu g/m^3$ |

2. For volatile organic compounds, any source locating outside the boundaries of a nonattainment area shall not be considered to have a significant impact on the nonattainment area (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Similar Source* - a stationary source or process that has comparable emissions and is structurally similar in design and capacity to a constructed or reconstructed major source such that the source could be controlled using the same control technology (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Small HMIWI* (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000]:
  1. Except as provided in paragraph (2):
     a. an HMIWI whose maximum design waste burning capacity is less than or equal to 200 lb/h
     b. a continuous or intermittent HMIWI whose maximum charge rate is less than or equal to 200 lb/h
     c. a batch HMIWI whose maximum charge rate is less than 1600 lb/day.
  2. The following are not small HMIWI:
     a. a continuous or intermittent HMIWI whose maximum charge rate is more than 200 lb/h
     b. a batch HMIWI whose maximum charge rate is more than 1600 lb/day.

- *Solvent* - organic materials that are liquid at standard conditions and are used as dissolvers, viscosity reducers, or cleaning agents (ADEM Admin. Code R. 335-3-1.-02).

- *Solvent Recovery Dryer* - a class of dry cleaning dryers that employs a condenser to liquefy and recover solvent vapors evaporated in a closed-loop, recirculating stream of heated air (ADEM Admin. Code R. 335-3-6-.45(1)(f)).

- *Source* - any building, structure, facility, installation, article, machine, equipment, device, or other contrivance that emits or may emit any air contaminant. Any activity which utilizes abrasives or chemicals for cleaning or any other purpose (such as cleaning the exterior of buildings) which emits air contaminants must be considered a source (ADEM Admin. Code R. 335-3-1.-02).

- *Source* - any building structure, installation, article, machine, equipment, device or other contrivance which emits or may emit any air contaminant. A facility is composed of one or more pollutant-emitting sources (ADEM Admin. Code R. 335-3-14-.06(2)) [Added August 1998].

- *Standard Conditions* - a temperature of 20 °C (68 °F) and pressure of 760 mm Hg (29.92 in. Hg) (ADEM Admin. Code R. 335-3-1.-02).

- *Standard Conditions* - a temperature of 20 $^{o}$C and a pressure of 101.3 kPa (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Startup* - the period of time between the activation of the system and the first charge to the unit. For batch HMIWI, startup means the period of time between activation of the system and ignition of the waste (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Stationary Source* - any building, structure, facility, or installation that emits or may emit any air pollutant subject to regulation under the *Clean Air Act* and/or listed in Appendix 1-4 (ADEM Admin. Code R. 335-3-14-.04(2)(e) & 335-3-15-.01).

- *Submerged Fill Pipe* - any fill pipe, the discharge opening of which is entirely submerged when the liquid level is 6 in. above the bottom of the tank; or when applied to a tank which is loaded from the side, must mean any fill pipe, that the tip of the discharge opening is not over 18 in. from the bottom of the tank (ADEM Admin. Code R. 335-3-1.-02).

- *Sulfuric Acid Plant* - any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of $SO_2$ or other sulfur compounds (ADEM Admin. Code R. 335-3-12-.01(d)).

- *Tank Truck* - a truck and/or trailer used to transport or cause the transportation of gasoline or diesel fuel, that meets the definition of motor vehicle in section 216(2) of the Act (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

- *True Vapor Pressure* - the equilibrium partial pressure exerted by a stored petroleum liquid at the temperature equal to the highest calendar-month average of the liquid storage temperature as determined in accordance with methods described in the American Petroleum Institute Bulletin 2517, *Evaporation Loss from External Floating Roof Tanks*, 1962, Second Edition, February 1980 (ADEM Admin. Code R. 335-3-1.-02).

- *Used Oil* - means any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities (ADEM Admin. Code R. 335-14-17-.01) [Added August 1998].

- *Vapor Collection System* - a vapor transport system that uses direct displacement by the liquid loaded to force vapors from the tank into a vapor control system (ADEM Admin. Code R. 335-3-1.-02).

- *Vapor Recovery System* - a system that prevents release to the atmosphere of at least 90 percent by weight of organic compounds in the vapor displaced from a tank during the transfer of gasoline (ADEM Admin. Code R. 335-3-1.-02).

- *Volatile Organic Compounds (VOC)* - any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. This includes any such organic compound other than the following:
    1. Methane
    2. Ethane
    3. Methyl Chloroform (1,1,1-Trichloroethane)
    4. Methylene Chloride (Dichloromethane)
    5. CFC-11 (Trichlorofluoromethane)
    6. CFC-12 (Dichlorodifluoromethane)
    7. HCFC-22 (Chlorodifluoromethane)
    8. HFC-23 (Trifluoromethane)
    9. CFC-114 (1,2-dichloro-1,1,2,2-Tetrafluoroethane)
    10. CFC-115 (Chloropentafluoroethane)
    11. HCFC-123 (1,1,1-Trifluoro-2,2-dichloroethane)
    12. HCFC-124 (2-Chloro-1,1,1,2-tetrafluoroethane)
    13. HFC-125 (Pentafluoroethane)
    14. HFC-134 (1,1,2,2-Tetrafluoroethane)
    15. HFC-134a (1,1,1,2-Tetrafluoroethane)
    16. HCFC-141b (1,1-Dichloro-1-fluoroethane)
    17. HCFC-142b (1-Chloro-1,1-difluoroethane)
    18. HFC-143a (1,1,1-Trifluoroethane)
    19. HFC-152a (1,1-Difluoroethane)
    20. CFC-113 (1,1,2-Trichloro-1,2,2-Trifluoroethane)
    21. Parachlorobenzotrifluoride (PCBTF)
    22. Cyclic, branched, or linear completely methylated siloxanes
    23. Acetone

24. Perchloroethylene (tetrachloroethylene)
25. HCFC-225ca (3,3-dichloro-1,1,1,2,2-pentafluoropropane)
26. HCFC-225cb (1,3-dichloro-1,1,2,2,3-pentafluoropropane)
27. HFC 43-10mee (1,1,1,2,3,4,4,5,5,5-decafluoropentane)
28. HFC-32 (Difluoromethane)
29. HFC-161 (Ethylfluoride)
30. HFC-236fa (1,1,1,3,3,3-Hexafluoropropane)
31. HFC-245ca (1,1,2,2,3-Pentafluoropropane)
32. HFC-245ea (1,1,2,3,3-Pentafluoropropane)
33. HFC-245eb (1,1,1,2,3-Pentafluoropropane)
34. HFC-245fa (1,1,1,3,3-Pentafluoropropane)
35. HFC-236ea (1,1,1,2,3,3-Hexafluoropropane)
36. HFC-365mfc (1,1,1,3,3-Pentafluorobutane)
37. HCFC-31 (Chlorofluoromethane)
38. HCFC-123a (1,2-Dichloro-1,1,2-trifluoroethane)
39. HCFC-151a (1-Chloro-1-fluaoroethane)
40. C(4)F(9)OCH(3) (1,1,1,2,2,3,3,4,4-Nonafluoro-4-methoxybutane)
41. (CF(3))(2)CFCF(2)OCH(3) (2-(Difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane)
42. C(4)F(9)OC(2)H(5) (1-Ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane)
43. (CF(3))(2)CFCF(2)OC(2)H(5) (2-(Ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane)
44. Methyl Acetate, and
45. Perfluorocarbon compounds which fall into these four classes:
    a. Cyclic, branched, or linear, completely fluorinated alkanes
    b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations
    c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations and
    d. Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

The heretofore mentioned excluded organic compounds have been determined to have negligible photochemical reactivity by the EPA Administrator. For purposes of determining compliance with emission limits under Chapter 335-3-6, VOC shall be measured by the approved test methods contained in Chapter 335-3-6. Where such a method also inadvertently measures the heretofore mentioned negligibly photochemical reactive organic compounds with the reactive organic compounds, an owner or operator may exclude these negligibly reactive compounds when determining compliance with an emission limit using EPA-approved test methods and procedures (ADEM Admin. Code R. 335-3-1.-02) [Added June 1999].

- *Wet Scrubber* - an add-on air pollution control device that utilizes an alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases (ADEM Admin. Code R. 335-3-3-.04(1)) [Added July 2000].

- *Wholesale Purchaser-Consumer* - any organization that is an ultimate consumer of gasoline, diesel fuel, methanol, natural gas or liquefied petroleum gas and which purchases or obtains gasoline, diesel fuel, natural gas or liquefied petroleum gas from a supplier for use in motor vehicles and, in the case of gasoline, diesel fuel, methanol or liquefied petroleum gas, receives delivery of that product into a storage tank of at least 550-gallon capacity substantially under the control of that organization (ADEM Admin. Code R. 335-3-20-.01) [Added August 1998].

**AIR EMISSIONS MANAGEMENT**
**GUIDANCE FOR ALABAMA CHECKLIST USERS**

| | **REFER TO CHECKLIST ITEMS:** |
|---|---|
| Missing Checklist Items | AE.2.1.AL |
| General | AE.5.1.AL. |
| Permits/Notifications/Exemptions | AE.6.1.AL. |
| Management/Administrative | AE.7.1.AL. |
| Operations | AE.8.1.AL. |
| Emissions Limits | AE.9.1.AL. |
| Steam Generators | AE.10.1.AL. |
| Fuel Burning Equipment | |
| Existing Equipment | AE.15.1.AL. through AE.15.3.AL. |
| New Equipment | AE.15.4.AL. and AE.15.5.AL. |
| Sulfur Dioxide Fuel Combustion | AE.15.6.AL. |
| Miscellaneous Incinerators | AE.25.1.AL. and AE.25.2.AL. |
| Medical Waste Incinerators | |
| General | |
| Existing HMIWIs | AE.30.1.AL. through AE.30.7.AL. |
| Monitoring | |
| Existing HMIWIs | AE.32.1.AL. through AE.32.4.AL. |
| Reporting/Recordkeeping Requirements | |
| Existing HMIWIs | AE.34.1.AL. through AE.34.4.AL. |
| Printing Presses and Graphic Arts | (see AE.160, County/City-Specific Requirements) |
| Fugitive Emissions | AE.65.1.AL. |
| Dry Cleaning Operations | |
| Petroleum Solvent | (see AE.160, County/City-Specific Requirements) |
| Perchloroethylene | (see AE.160, County/City-Specific Requirements) |
| Acid Production Units | |
| Nitric Acid Plants | AE.80.1.AL. |
| Sulfuric Acid Plants | AE.80.2.AL. through AE.80.5.AL. |
| Coating Operations | AE.100.1.AL. and AE.100.2.AL.<br>(see also AE.160, County/City-Specific Requirements) |
| Degreasing Operations | AE.115.1.AL. through AE.115.3.AL.<br>(see also AE.160, County/City-Specific Requirements) |
| Miscellaneous VOC | (see AE.160, County/City-Specific Requirements) |
| Open Burning | AE.130.1.AL. |
| Vehicle Emissions | AE.135.1AL through AE.135.6.AL |
| Asphalt Paving Materials/Operations | (see AE.160, County/City-Specific Requirements) |
| Other Emissions/Sources | |
| Existing Process Industries | AE.155.1.AL. and AE.155.2.AL. |
| New Process Industries | AE.155.3.AL. |
| Other Process Industries | AE.155.4.AL. |
| Xylene Oxidation Processes | AE.155.5.AL. |
| County/City-Specific Requirements | |
| VOC Water Separators | AE.160.1.AL. |
| Mobile County: Pumps and Compressors | AE.160.3.AL. |
| Mobile, Russell, Madison, and Morgan Counties: Cutback Asphalt | AE.160.4.AL. |
| Etowah, Mobile, and Russell Counties: | AE.160.5.AL. |

**AIR EMISSIONS MANAGEMENT**
**GUIDANCE FOR ALABAMA CHECKLIST USERS**

| | **REFER TO CHECKLIST ITEMS:** |
|---|---|
| Coating Operations | |
| Etowah, Mobile, and Russell Counties: | AE.160.6.AL. |
| Perchloroethylene Dry Cleaning | |
| Etowah, Mobile, and Russell Counties: | AE.160.8.AL. |
| Graphic Arts | |
| Jefferson County: VOC Water Separators | AE.160.9.AL. |
| Jefferson County: Coating Operations | AE.160.11.AL. through AE.160.14.AL. (see also AE.100, Coating Operations) |
| Jefferson County: Degreasing Operations | AE.160.15.AL. through AE.160.17.AL. (see also AE.115, Degreasing Operations) |
| Jefferson County: Cutback and Emulsified Asphalt | AE.160.18.AL. |
| Jefferson County: Perchloroethylene Dry Cleaning | AE.160.19.AL. |
| Jefferson County: Graphic Arts | AE.160.21.AL. |
| Jefferson County: Large Petroleum Dry Cleaners | AE.160.22.AL. |
| Jefferson County: Seasonal Afterburner Shutdown | AE.160.23.AL. and AE.160.24.AL |

**AIR EMISSIONS MANAGEMENT**
**GUIDANCE FOR ALABAMA APPENDIX USERS**

| **REFER TO APPENDIX NUMBERS:** | **REFER TO APPENDIX TITLES:** |
|---|---|
| 1-1 | Limits of Particulate Matter Emissions from Fuel Burning Equipment in Class I and II Counties Based on Heat Input |
| 1-2 | Exemptions from the Open Burning Prohibition |
| 1-3 | Limits of Particulate Matter Emissions from Process Industries in Class I and II Counties Based on Process Weight Rate |
| 1-4 | Clean Air Act Amendments of 1990--List of Hazardous Air Pollutants |
| 1-5 | Emission Limits for HMIWIs |
| 1-6 | Operating Parameters for HMIWIs To Be Monitored and Minimum Measurement and Recording Frequencies |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **AE.2**<br>**MISSING CHECKLIST ITEMS**<br><br>**AE.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **AE.5.**<br>**GENERAL** | |
| **AE.5.1.AL.** Alabama air pollution control standards must not be circumvented (ADEM Admin. Code R. 335-3-1-.10) [Moved in structural reorganization of AE.5 October 1999]. | Verify that no device nor means is used that, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes any emission of air contaminant which would otherwise violate Alabama air pollution control standards. |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **AE.6. PERMITS/ NOTIFICATIONS/ EXEMPTIONS** | |
| **AE.6.1.AL.** Air permit, synthetic minor operating permit, and major source operating permit requirements must be met (ADEM Admin. Code R. 335-3-14-.01(1)(b), (d), (k)(1), (2), and (3), 335-3-15-.02, and 335-3-16-.02) [Moved in structural reorganization of AE.5 October 1999]. | Verify that the facility has one of the following permits for sources of air pollution:<br>- air permit<br>- synthetic minor operating permit<br>- major source operating permit.<br><br>Verify that the facility receives a permit from the Department prior to operating any equipment that may cause, increase, eliminate, reduce, or control the emission of air contaminants.<br><br>Verify that the facility meets the terms and conditions of all permits issued by the Department.<br><br>Verify that the facility either keeps under file or displays at all times any permit at the site of any permitted source of air pollution.<br><br>Verify that the facility meets the testing and sampling requirements specified in any permit.<br><br>Verify that the facility does not transfer any permit from one location to another, from one piece of equipment to another, or from the facility to another entity.<br><br>Verify that the facility complies with the directives and requirements of any local pollution control program to which the state has delegated authority. |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **AE.7. MANAGEMENT/ ADMINISTRATIVE** | |
| **AE.7.1.AL.** Air pollution control equipment must meet maintenance and malfunction recordkeeping requirements (ADEM Admin. Code R. 335-3-1-.07) [Moved in structural reorganization of AE.5 October 1999]. | Verify that any shutdown of air pollution control equipment scheduled in order to do maintenance is reported to the Director at least 24 h prior to the scheduled shutdown.<br><br>Verify that any malfunction of any emission source, air pollution control equipment, or related facility, causing a violation of Alabama air pollution control standards, is reported to the Director within 24 h of the malfunction.<br><br>Verify that the Director has been notified when malfunctioning equipment has been repaired and has resumed operation. |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **AE.8.**<br>**OPERATIONS** | |
| **AE.8.1.AL.** Federal facilities must comply with the Director's memorandums concerning air pollution emergencies (ADEM Admin. Code R. 335-3-2-.02) [Moved in structural reorganization of AE.5 October 1999]. | Verify that the Federal facility is in compliance with the Director's memorandums whenever any of the following episodes is declared:<br><br>- episode watch<br>- alert<br>- warning<br>- emergency. |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **AE.9.**<br>**EMISSIONS LIMITS** | |
| **AE.9.1.AL.** Stationary sources must meet visible emission limitations (ADEM Admin. Code R. 335-3-4-.01 and 335-3-4-.08(3)(b)) [Moved in structural reorganization of AE.5 October 1999]. | (NOTE: The following stationary sources are exempt from the limitations on visible emissions:<br>- combustion sources in single-family and duplex dwellings where sources are used for heating or other domestic purposes<br>- where the presence of uncombined water is the only reason for failure of an emission to meet visible emissions requirements.)<br><br>Verify that stationary sources do not emit into the atmosphere any air contaminant with an opacity greater than 20 percent (or its equivalent), based on a 6-min average.<br><br>(NOTE: The following are exceptions to the 20 percent opacity limitation:<br>- during one 6-min period in any 60-min period, an emission with an opacity less than or equal to 40 percent<br>- exceptions approved by the Director.) |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **AE.10.<br>STEAM GENERATORS** | |
| **AE.10.1.AL.** Fossil fuel-fired steam generators constructed after 17 August 1971 must meet reporting and monitoring requirements (ADEM Admin. Code R. 335-3-12-.02(1) and (3); 335-3-12-.03) [Revised August 1998]. | Verify that fossil fuel-fired steam generators constructed after 17 August 1971 meet either the Federal reporting requirements (see 40 CFR 51, Appendix P, Divisions 4 and 5) or alternative reporting requirements specified by the Director.<br><br>Verify that fossil fuel-fired steam generators, with an annual average capacity factor greater than 30 percent and constructed after 17 August 1971 meet the following monitoring requirements:<br><br>- a continuous monitoring system to measure opacity is installed, operated, and maintained on any steam generator of greater than 250 MBtu/h heat input<br>- a continuous monitoring system to measure $SO_2$ is installed, operated, and maintained on any steam generator of greater than 250 MBtu/h heat input using equipment to desulfurize flue gas<br>- a continuous monitoring system to measure the percent of oxygen or $CO_2$ in stack gases is installed, operated, and maintained on any steam generator requiring measurements of oxygen or $CO_2$ in the flue gas in order to convert $SO_2$ continuous emission monitoring data into units of the emission standard.<br><br>(NOTE: Steam generators of greater than 250 MBtu heat input are exempt from the requirement to install a continuous monitoring system for opacity, if either of the following criteria is met:<br>- gaseous fuel is the only fuel burned<br>- oil or a mixture of gas and oil are the only fuels burned and the sources are able to comply with applicable particulate matter and opacity requirements without using particulate matter collection equipment, and where the source has never been found, through administrative or judicial proceedings, to be in violation of any visible emission standard.)<br><br>Verify that any monitoring system malfunction lasting for more than 48 h is reported in writing to the Director as expeditiously [not defined] as possible.<br><br>Verify that the facility meets any directives issued by the Director in response to a report of a malfunctioning monitoring system.<br><br>Verify that the Director is notified when malfunctioning monitoring system equipment is returned to service. |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **AE.15.<br>FUEL BURNING EQUIPMENT** | |
| **Existing Equipment** | (NOTE: Existing fuel burning equipment is equipment in operation or whose construction commenced prior to 18 January 1972.) |
| **AE.15.1.AL.** Existing fuel burning equipment in Class I Counties must meet particulate matter emission requirements (ADEM Admin. Code R. 335-3-4-.03(1) and Appendix A). | (NOTE: Class I Counties include the following Alabama counties: Autauga, Calhoun, Coffee, Colbert, Covington, Cullman, Dale, Etowah, Houston, Jackson, Jefferson, Lauderdale, Lee, Madison, Mobile, Montgomery, Morgan Pike, Russell, Saint Clair, Shelby, Talladega, Tuscaloosa, Walker.)<br><br>Verify that fuel burning equipment in Class I Counties does not exceed the limits specified in Appendix 1-1. |
| **AE.15.2.AL.** Existing fuel burning equipment in Class II Counties must meet particulate matter emission requirements (ADEM Admin. Code R. 335-3-4-.03(2) and Appendix A). | (NOTE: Class II Counties include all Alabama counties except the following: Autauga, Calhoun, Coffee, Colbert, Covington, Cullman, Dale, Etowah, Houston, Jackson, Jefferson, Lauderdale, Lee, Madison, Mobile, Montgomery, Morgan Pike, Russell, Saint Clair, Shelby, Talladega, Tuscaloosa, Walker.)<br><br>Verify that fuel burning equipment in Class II Counties does not exceed the particulate matter limitations specified in Appendix 1-1. |
| **AE.15.3.AL.** Existing wood waste boilers and other indirect heat exchangers must meet particulate matter emission requirements (ADEM Admin. Code R. 335-3-4-.08). | Verify that existing wood waste boilers and other indirect heat exchangers using 30 percent or more wood waste or wood byproducts as fuel do not emit more than 0.30 gr/dscf (adjusted to 50 percent excess air) of particulate matter.<br><br>Verify that, for any existing wood waste boiler which must be modified in order to meet the 0.30 gr/dscf emissions limitation, the following limits for particulate matter are not exceeded:<br><br>- 0.17 gr/dscf, adjusted to 50 percent excess air for combination gas and wood waste boilers<br>- 0.20 gr/dscf, adjusted to 50 percent excess air for combination oil and wood waste boilers<br>- 0.23 gr/dscf, adjusted to 50 percent excess air for combination coal and wood waste boilers |

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| | - 0.20 gr/dscf, adjusted to 50 percent excess air for boilers using wood waste only. |
| **New Equipment** | (NOTE: New fuel burning equipment is equipment whose construction commenced on or after 18 January 1972.) |
| **AE.15.4.AL.** New fuel burning equipment must meet particulate matter emission requirements (ADEM Admin. Code R. 335-3-4-.03(4)). | Verify that all new fuel burning equipment does not exceed the particulate matter limitations specified in Appendix 1-1. |
| **AE.15.5.AL.** New combustion sources must meet $NO_X$ emission requirements (ADEM Admin. Code R. 335-3-8-.01). | Verify that the facility does not exceed the following limitations for emissions of $NO_x$:<br>- for new gas-fired boilers with a capacity of 250 MBtu/h or more, 0.20 lb/MBtu of heat input per hour<br>- for new oil-fired boilers with a capacity of 250 MBtu/h or more, 0.30 lb/MBtu of heat input per hour<br>- for new coal-fired boilers with a capacity of 250 MBtu/h or more, 0.7 lb/MBtu of heat input per hour.<br><br>(NOTE: For new combustion sources, the total heat input from all similar fuel combustion units at a plant or on the same premises is used to determine the maximum allowable emission of $NO_X$ that passes through a stack(s).) |
| **Sulfur Dioxide Fuel Combustion** | (NOTE: $SO_2$ category I counties include the following: Jackson, Jefferson, and Mobile. $SO_2$ category II counties include the following: Autauga, Baldwin, Barbour, Bibb, Blount, Bullock, Butler, Calhoun, Chambers, Cherokee, Chilton, Choctaw, Clarke, Clay, Cleburne, Coffee, Colbert, Conecuh, Coosa, Covington, Crenshaw, Cullman, Dale, Dallas, DeKalb, Elmore, Escambia, Etowah, Fayette, Franklin, Geneva, Greene, Hale, Henry, Houston, Lamar, Lauderdale, Lawrence, Lee, Limestone, Lowndes, Macon, Madison, Marengo, Marion, Marshall, Monroe, Morgan, Montgomery, Perry, Pickens, Pike, Randolph, Russell, Saint Clair, Shelby, Sumter, Talladega, Tallapoosa, Tuscaloosa, Walker, Washington, Wilcox, Winston.) |
| **AE.15.6.AL.** Fuel burning | Verify that fuel burning facilities in $SO_2$ category I counties do not emit $SO_x$ |

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| facilities must meet specific requirements for $SO_2$ fuel combustion (ADEM Admin. Code R. 335-3-5-.01(1)(a) through (e), and Appendix B). | (measured as $SO_2$) in excess of 1.8 lb/MBtu heat input.<br><br>Verify that fuel burning facilities in $SO_2$ category II counties do not emit $SO_x$ (measured as $SO_2$) in excess of 4.0 lb/MBtu heat input.<br><br>Verify that electric utility steam generating installations having a total rated capacity greater than 5000 MBTU/hr in Jackson County do not emit $SO_x$ (measured as $SO_2$) in excess of 1.2 lb/MBtu heat input.<br><br>Verify that electric utility steam generating installations having a total rated capacity greater than 1000 MBtu/h which commenced operation prior to 1960 in Colbert County do not emit $SO_x$ (measured as $SO_2$) in excess of 2.2 lb/MBtu heat input.<br><br>Verify that electric utility steam generating installations having a total rated capacity greater than 5000 MBtu/h in Shelby County do not emit $SO_x$ (measured as $SO_2$) in excess of 3.8 lb/MBtu heat input. |

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| **AE.25.<br>MISCELLANEOUS INCINERATORS** | |
| **AE.25.1.AL.** Incinerators designed to burn materials other than wood, peanut, and/or cotton ginning waste and medical waste must meet specific requirements (ADEM Admin. Code R. 335-3-3-.02). | Verify that incinerators do not emit objectionable odors.<br><br>Verify that incinerators charging 50 tons/day or less do not exceed 0.20 lb particulate matter in the exhaust gas per 100 lb of refuse charged.<br><br>Verify that incinerators charging more than 50 tons/day do not exceed 0.10 lb particulate matter in the exhaust gas per 100 lb of refuse charged.<br><br>Verify that emission tests are conducted at the maximum burning capacity of the incinerators.<br><br>Verify that the rate of materials incinerated does not exceed the burning capacity of the incinerators as determined by either the manufacturer or designer's guaranteed maximum rate or an alternative rate specified by the Director.<br><br>(NOTE: The total of the capacities of all furnaces within one system is considered as the incinerator capacity.) |
| **AE.25.2.AL.** Incinerators of wood, peanut, and cotton ginning must meet waste requirements (ADEM Admin. Code R. 335-3-3-.03). | Verify that exhaust gases exceeding 0.40 lb/100 lb of materials charged are not emitted into the open air from any wood, peanut, and/or cotton ginning waste incinerator.<br><br>Verify that emission tests are conducted at maximum burning capacity of the incinerator.<br><br>Verify that the burning capacity of any wood, peanut, and/or cotton ginning waste incinerator does not exceed the manufacturer or designer's guaranteed maximum rate or an alternative rate specified by the Director.<br><br>Verify that any wood, peanut, and/or cotton ginning waste incinerator is properly [not defined] designed, equipped, and maintained for its maximum burning capacity.<br><br>Verify that any wood, peanut, and/or cotton ginning waste incinerator is equipped with a temperature recorder that operates continuously with the incinerator.<br><br>Verify that temperature records are maintained for the Director to inspect. |

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| | Verify that wood, peanut, and cotton ginning waste incinerators meet one of the following:<br><br>- is equipped with an underfire forced air system, electronically controlled to ensure that optimum temperature range for the complete combustion of the amount and type of material waste being charged into the incinerator, and a variable damper<br>- consists of an all-metal shell with refractory lining, circular furnace, and a built-in cinder catching system for either reburning or other disposition. All primary combustion air must be supplied under pressure through nozzle openings located around the periphery of the lower furnace; over-fire air must be provided under pressure through ports which are directed downward and tangentially in the same direction as the primary air; cinder collection must be accomplished by the provision of openings through the shell located above the furnace section.<br><br>Verify that wood, peanut, and cotton ginning waste incinerators meet the following equipment requirements:<br><br>- is properly designed, equipped, and maintained for its maximum rated burning capacity<br>- is equipped with an underfire forced air system, an over-fire air recirculation secondary combustion system, and variable control damper, all of which are electronically controlled to ensure the optimum temperature range for the complete combustion of the amount and type of material waste being charged into the incinerator<br>- is equipped with a temperature recorder which is operated continuously with the incinerator. |

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| **MEDICAL WASTE INCINERATORS**<br><br>**AE.30. GENERAL** | (NOTE: Alabama replaced its medical waste incinerator regulations in June, 1999, with new regulations that reflect Federal requirements. All of the checklist items in this section are new, and all of the previous checklist items are deleted without further comment.) |
| **Existing HMIWIs** | (NOTE: The requirements of this subsection apply to each individual hospital/medical/infectious waste incinerator (HMIWI) for which construction was commenced on or before 20 June 1996.These requirements do not apply to the following (ADEM Admin. Code R. 335-3-3-.04(2)):<br>- a combustor during periods when only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste is burned, provided the owner or operator of the combustor:<br>- notifies the Administrator of an exemption claim; and<br>- keeps records on a calendar quarter basis of the periods of time when only pathological waste, low-level radioactive waste and/or chemotherapeutic waste is burned<br>- any co-fired combustor if the owner or operator:<br>- notifies the Administrator of an exemption claim<br>- provides an estimate of the relative amounts of hospital waste, medical/ infectious waste, and other fuels and wastes to be combusted; and<br>- keeps records on a calendar quarter basis of the weight of hospital waste and medical/infectious waste combusted, and the weight of all other fuels and wastes combusted at the co-fired combustor<br>- any combustor required to have a permit under section 3005 of the *Solid Waste Disposal Act* (SWDA)<br>- any combustor which meets the applicability requirements under ADEM Admin. Code R. 335-3-10-.02(3)(a)-(b) (subparts Cb, Ea, or Eb of 40 CFR 60) (standards or guidelines for certain municipal waste combustors)<br>- any pyrolysis unit (see definitions)<br>- cement kilns firing hospital waste and/or medical/infectious waste<br>- physical or operational changes made to an existing HMIWI solely for the purpose of complying with emission guidelines of this subsection are not considered a modification and do not result in an existing HMIWI becoming subject new source performance standards under ADEM Admin. Code R. 335-3-10-.02(c)) and 40 CFR 60, Subpart Ec.)<br><br>(NOTE: HMIWIs will operate pursuant to a permit issued under ADEM Admin. Code R. 335-3-16 by 15 September 2000.) |
| **AE.30.1.AL.** Hospital/ | Verify that, on or after the date on which the initial performance test is completed |

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| medical/infectious waste incinerators (HMIWIs) which started construction after 20 June 1996 must meet specific emissions limitations (ADEM Admin. Code R. 335-3-3-.04(3)) [Added July 2000]. | or is required to be completed, whichever date comes first, no owner or operator of an HMIWI discharges into the atmosphere:<br><br>- from that HMIWI, any gases that contain stack emissions in excess of the limits presented in Appendix 1-5, Table 1, or Table 2 for small rural HMIWIs<br>- from the stack of that HMIWI, any gases that exhibit greater than 10 percent opacity (6-min block average).<br><br>(NOTE: The emission limits apply at all times except during periods of startup, shutdown, or malfunction, provided that no hospital waste or medical/infectious waste is charged to the HMIWI during startup, shutdown, or malfunction.)<br><br>(NOTE: "Small rural HMIWIs" include any small HMIWIs located more than 50 miles from the boundary of the nearest Standard Metropolitan Statistical Area (SMSA) and which burns less than 2000 lb/week of hospital waste and medical/infectious waste. (The quantity limit does not apply during performance tests.)) |
| **AE.30.2.AL.** HMIWIs equipped with a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and a wet scrubber must comply with specific operating parameters (ADEM Admin. Code R. 335-3-3-.04(7)(d), (h), (i) and (j)) [Added July 2000]. | Verify that facilities equipped with the following control systems operate within the parameters in Appendix 1-6:<br><br>- a dry scrubber followed by a fabric filter<br>- a wet scrubber<br>- a dry scrubber followed by a fabric filter and a wet scrubber.<br><br>(NOTE: Operating parameter limits do not apply during performance tests.)<br><br>(NOTE: A facility may conduct a repeat performance test within 30 days of violation of applicable operating parameters to demonstrate that the facility is not in violation of the applicable emission limit.)<br><br>Verify that, if the facility is using an air pollution control device other than a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and a wet scrubber, the facility petitions the Administrator for additional site-specific operating parameters to be established during the initial performance test and continuously monitored thereafter.<br><br>(NOTE: The initial performance test cannot be conducted until after the petition has been approved by the Administrator.)<br><br>(NOTE: A facility may conduct a repeat performance test at any time to establish new values for the operating parameters. The Department may request a repeat performance test at any time as well.) |

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| **AE.30.3.AL.** HMIWIs equipped with a dry scrubber followed by a fabric filter are required to meet additional operating parameters (ADEM Admin. Code R. 335-3-3-.04(7)(e) and (h)) [Added July 2000]. | Verify that the HMIWI is not operated above the maximum charge rate and below the minimum secondary chamber temperature simultaneously.<br><br>(NOTE: See Appendix 1-6 for operating parameters.)<br><br>Verify that the HMIWI is not operated above the maximum fabric filter inlet temperature and below the minimum dioxin/furan sorbent flow rate simultaneously.<br><br>Verify that the HMIWI is not operated above the maximum charge rate and below the minimum HCl sorbent flow rate simultaneously.<br><br>Verify that the facility does not use the bypass stack except during startup, shutdown, or malfunction.<br><br>(NOTE: A HMIWI may conduct a repeat performance test within 30 days of violation of applicable operating parameters to demonstrate that the facility is not in violation of the applicable emission limit.) |
| **AE.30.4.AL.** HMIWIs equipped with a wet scrubber are required to meet additional operating parameters (ADEM Admin. Code R. 335-3-3-.04(7)(f) and (h)) [Added July 2000]. | Verify that the HMIWI is not operated above the maximum charge rate and below the minimum pressure drop across the wet scrubber or below the minimum horsepower or amperage to the system simultaneously.<br><br>(NOTE: See Appendix 1-6 for operating parameters.)<br><br>Verify that the HMIWI is not operated above the maximum charge rate and below the minimum secondary chamber temperature simultaneously.<br><br>Verify that the HMIWI is not operated above the maximum charge rate, below the minimum secondary chamber temperature, and below the minimum scrubber liquor flow rate simultaneously.<br><br>Verify that the HMIWI is not operated above the maximum charge rate and below the minimum scrubber liquor pH simultaneously.<br><br>Verify that the HMIWI is not operated above the maximum flue gas temperature and above the maximum charge rate simultaneously.<br><br>Verify that the facility does not use the bypass stack except during startup, shutdown, or malfunction.<br><br>(NOTE: A facility may conduct a repeat performance test within 30 days of violation of applicable operating parameters to demonstrate that the facility is not |

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| | in violation of the applicable emission limit.) |
| **AE.30.5.AL.** HMIWIs equipped with a dry scrubber followed by a fabric filter and a wet scrubber are required to meet additional operating parameters (ADEM Admin. Code R. 335-3-3-.04(7)(g) and (h)) [Added July 2000]. | Verify that the HMIWI does not operate above the maximum charge rate and below the minimum secondary chamber temperature simultaneously.<br><br>(NOTE: See Appendix 1-6 for operating parameters.)<br><br>Verify that the HMIWI does not operate above the maximum fabric filter inlet temperature, above the maximum charge rate, and below the minimum dioxin/furan sorbent flow rate simultaneously.<br><br>Verify that the HMIWI does not operate above the maximum charge rate and below the maximum scrubber liquor pH simultaneously.<br><br>Verify that the HMIWI does not operate above the maximum charge rate and below the minimum Hg sorbent flow rate simultaneously.<br><br>Verify that the facility does not use the bypass stack except during startup, shutdown, or malfunction.<br><br>(NOTE: A facility may conduct a repeat performance test within 30 days of violation of applicable operating parameters to demonstrate that the facility is not in violation of the applicable emission limit.) |
| **AE.30.6.AL.** HMIWI operators are required to be trained, qualified, and available (ADEM Admin. Code R. 335-3-3-.04(4)(a) through (h)) [Added July 2000]. | (NOTE: The requirements of this checklist item must be met no later than 15 September 2000.)<br><br>Verify that a trained and qualified HMIWI operator is accessible, either at the facility or available within 1 h, at all times that the HMIWI is being operated.<br><br>(NOTE: The trained and qualified HMIWI operator may operate the HMIWI directly or be the direct supervisor of one or more HMIWI operators.)<br><br>Verify that HMIWI operators were trained at a state-approved program or by completing the following requirements:<br><br>- 24 h of training on the following subjects:<br>  - environmental concerns, including pathogen destruction and types of emissions<br>  - basic combustion principles, including products of combustion<br>  - operation of the type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures<br>  - combustion controls and monitoring |

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| | - operation of air pollution control equipment and factors affecting performance (if applicable)<br>- methods to monitor pollutants (continuous emission monitoring systems and monitoring of HMIWI and air pollution control device operating parameters) and equipment calibration procedures (where applicable)- inspection and maintenance of the HMIWI, air pollution control devices, and continuous emission monitoring systems<br>- actions to correct malfunctions or conditions that may lead to malfunction<br>- bottom and fly ash characteristics and handling procedures<br>- applicable Federal, state, and local regulations<br>- work safety procedures<br>- pre-startup inspections<br>- recordkeeping requirements<br>- an examination designed and administered by the instructor<br>- reference material distributed to the attendees covering the course topics.<br><br>Verify that HMIWI operators have obtained qualification by:<br><br>- completion of a training course described above, and<br>- either 6-mo experience as an HMIWI operator, 6-mo experience as a direct supervisor of an HMIWI operator, or completion of at least two burn cycles under the observation of two qualified HMIWI operators.<br><br>(NOTE: Qualification is valid from the date on which the examination is passed or the completion of the required experience, whichever is later.)<br><br>Verify that HMIWI operators have maintained qualification by completing and passing an annual review or refresher course of at least 4 h covering, at a minimum, the following:<br><br>- update of regulations<br>- incinerator operation, including startup and shutdown procedures<br>- inspection and maintenance<br>- responses to malfunctions or conditions that may lead to malfunction<br>- discussion of operating problems encountered by attendees.<br><br>(NOTE: A lapsed qualification shall be renewed by one of the following methods:<br>- for a lapse of less than 3 yr, the HMIWI operator shall complete and pass a standard annual refresher course as described above<br>- for a lapse of 3 yr or more, the HMIWI operator shall complete and pass a training course as described above. ) |
| **AE.30.7.AL.** HMIWIs must prepare a waste management | Verify that the HMIWI has prepared a waste management plan. |

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| plan (ADEM Admin. Code R. 335-3-3-.04(5)) [Added July 2000]. | Verify that the waste management plan identifies both the feasibility and the approach to separate certain components of solid waste from the health care waste stream in order to reduce the amount of toxic emissions from incinerated waste.<br><br>(NOTE: A waste management plan may include, but is not limited to:<br>- elements such as:<br>- paper<br>- cardboard<br>- plastics<br>- glass<br>- battery<br>- metal recycling<br>- purchasing recycled or recyclable products.)<br><br>(NOTE: A waste management plan may include different goals or approaches for different areas or departments of the facility and need not include new waste management goals for every waste stream.)<br><br>(NOTE: A waste management plan should identify, where possible, reasonably available additional waste management measures, taking into account the effectiveness of waste management measures already in place, the costs of additional measures, the emission reductions expected to be achieved, and any other environmental or energy impacts they might have.)<br><br>Verify that the American Hospital Association's publication entitled "An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities" was considered in the development of the waste management plan. |

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| **MEDICAL WASTE INCINERATORS**<br><br>**AE.32.<br>Monitoring** | |
| **Existing HMIWIs** | (NOTE: The requirements of this subsection apply to each individual hospital/medical/infectious waste incinerator (HMIWI) for which construction was commenced on or before 20 June 1996.These requirements do not apply to the following (ADEM Admin. Code R. 335-3-3-.04(2)):<br>- a combustor during periods when only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste is burned, provided the owner or operator of the combustor:<br>- notifies the Administrator of an exemption claim; and<br>- keeps records on a calendar quarter basis of the periods of time when only pathological waste, low-level radioactive waste and/or chemotherapeutic waste is burned<br>- any co-fired combustor if the owner or operator:<br>- notifies the Administrator of an exemption claim<br>- provides an estimate of the relative amounts of hospital waste, medical/ infectious waste, and other fuels and wastes to be combusted; and<br>- keeps records on a calendar quarter basis of the weight of hospital waste and medical/infectious waste combusted, and the weight of all other fuels and wastes combusted at the co-fired combustor<br>- any combustor required to have a permit under section 3005 of the *Solid Waste Disposal Act* (SWDA)<br>- any combustor which meets the applicability requirements under ADEM Admin. Code R. 335-3-10-.02(3)(a)-(b) (subparts Cb, Ea, or Eb of 40 CFR 60) (standards or guidelines for certain municipal waste combustors)<br>- any pyrolysis unit (see definitions)<br>- cement kilns firing hospital waste and/or medical/infectious waste<br>- physical or operational changes made to an existing HMIWI solely for the purpose of complying with emission guidelines of this subsection are not considered a modification and do not result in an existing HMIWI becoming subject new source performance standards under ADEM Admin. Code R. 335-3-10-.02(c)) and 40 CFR 60, Subpart Ec.)<br><br>(NOTE: HMIWIs will operate pursuant to a permit issued under ADEM Admin. Code R. 335-3-16 by 15 September 2000.) |
| **AE.32.1.AL.** HMIWIs must conduct performance testing | Verify that an initial performance test was conducted using approved testing methodology. |

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| in accordance with specific provisions to determine compliance with emission limits (ADEM Admin. Code R. 335-3-3-.04(7)(c)) [Added July 2000]. | methodology.<br><br>(NOTE: The use of the bypass stack during any performance test shall invalidate that performance test.)<br><br>Verify that, following the date on which the initial performance test was completed or was required to be completed, whichever date comes first, the facility determines compliance with:<br><br>- the opacity limit by conducting an annual performance test (no more than 12 mo following the previous performance test) using appropriate procedures and test methods<br>- the PM, CO, and HCl emission limits by conducting an annual performance test (no more than 12 mo following the previous performance test) using appropriate procedures and test methods<br><br>(NOTE: If all three performance tests over a 3-yr period indicate compliance with the emission limit for a pollutant (PM, CO, or HCl), the facility may forego a performance test for that pollutant for the subsequent 2 yr.)<br><br>(NOTE: At a minimum, a performance test for PM, CO, and HCl shall be conducted every third year (no more than 36 mo following the previous performance test.) If a performance test conducted every third year indicates compliance with the emission limit for a pollutant (PM, CO, or HCl), the facility may forego a performance test for that pollutant for an additional 2 yr.)<br><br>(NOTE: If any performance test indicates noncompliance with the respective emission limit, a performance test for that pollutant shall be conducted annually until all annual performance tests over a 3-yr period indicate compliance with the emission limit.)<br><br>Verify that facilities using a CEMS to demonstrate compliance with any of the emission limits:<br><br>- determine compliance with the appropriate emission limit(s) using a 12-h rolling average, calculated each hour as the average of the previous 12 operating hours (not including startup, shutdown, or malfunction)<br>- operate all CEMS in accordance with the applicable procedures under appendices B and F of 40 CFR Part 60. |
| **AE.32.2.AL.** HMIWIs must install, calibrate, maintain, and operate monitoring devices or establish methods to monitor operating | Verify that calibration of the monitoring devices is completed to manufacturer's specifications.<br><br>Verify that, where a device is not installed, calibrated, maintained, and operated, a method has been established for monitoring the applicable operating parameters. |

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| parameters at applicable frequencies at all times except during periods of startup and shutdown (ADEM Admin. Code R. 335-3-3-.04(8)(a) through (d)) [Added July 2000]. | method has been established for monitoring the applicable operating parameters.<br><br>Verify that the monitoring devices or methods used measure and record values for all operating parameters listed in Appendix 1-6 at the frequencies indicated at all times except during startup and shutdown.<br><br>Verify that the facility is using (and appropriately calibrating, maintaining, and operating) a monitoring device or method to measure the use of the bypass stack including:<br><br>- date<br>- time<br>- duration.<br><br>Verify that, if site-specific operating parameters were developed by the Administrator, the facility is using the equipment necessary to monitor these parameters.<br><br>Verify that the facility is obtaining monitoring data at all times during HMIWI operation, except during periods of:<br><br>- monitoring equipment malfunction<br>- calibration<br>- repair.<br><br>(NOTE: At a minimum, valid monitoring data must be obtained for 75 percent of the operating hours per day and for 90 percent of the operating days per calendar quarter that the HMIWI is combusting hospital waste and/or medical/infectious waste.) |
| **AE.32.3.AL.** Small rural HMIWIs must install, calibrate, maintain, and operate monitoring devices to monitor operating parameters at applicable frequencies (ADEM Admin. Code R. 335-3-3-.04(8)(e)) [Added July 2000]. | (NOTE: These requirements apply to any small HMIWI subject to the emission limits in Table 2 of Appendix 1-5.)<br><br>Verify that small rural HMIWIs install, calibrate (to manufacturers' specifications), maintain, and operate a device for measuring and recording the temperature of the secondary chamber on a continuous basis, the output of which is recorded, at a minimum, once every minute throughout operation.<br><br>Verify that small rural HMIWIs install, calibrate (to manufacturers' specifications), maintain, and operate a device which automatically measures and records the date, time, and weight of each charge fed into the HMIWI.<br><br>Verify that small HMIWIs obtain monitoring data at all times during HMIWI operation except during periods of monitoring equipment malfunction, calibration, |

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| | or repair.<br><br>(NOTE: At a minimum, valid monitoring data will be obtained for 75 percent of the operating hour per day and for 90 percent of the operating hour per calendar quarter that the designated facility is combusting hospital waste and/or medical/infectious waste.) |
| **AE.32.4.AL.** Small rural HMIWIs must comply with specific inspection guidelines (ADEM Admin. Code R. 335-3-3-.04(6)) [Added July 2000]. | Verify that, no later than 15 September 2000 and annually thereafter (no more than 12 mo following the previous annual equipment inspection) an equipment inspection is performed where the small rural HMIWI:<br><br>- inspects all burners, pilot assemblies, and pilot sensing devices for proper operation, and cleans pilot flame sensor, as necessary<br>- ensures proper adjustment of primary and secondary chamber combustion air, and adjust as necessary<br>- inspects hinges and door latches, and lubricates as necessary<br>- inspects dampers, fans, and blowers for proper operation<br>- inspects HMIWI door and door gaskets for proper sealing<br>- inspects motors for proper operation<br>- inspects primary chamber refractory lining, and cleans and repairs/replaces lining as necessary<br>- inspects incinerator shell for corrosion and/or hot spots<br>- inspects secondary/tertiary chamber and stack, cleans as necessary<br>- inspects mechanical loader, including limit switches, for proper operation, if applicable<br>- visually inspects waste bed (grates), and repairs/seals, as appropriate<br>- for the burn cycle that follows the inspection, documents that the incinerator is operating properly and makes any necessary adjustments<br>- inspects air pollution control devices(s) for proper operation, if applicable<br>- inspects waste heat boiler systems to ensure proper operation, if applicable<br>- inspects bypass stack components<br>- ensures proper calibration of thermocouples, sorbent feed systems, and any other monitoring equipment<br>- generally observes that the equipment is maintained in good operating condition.<br><br>Verify that, within 10 operating days following an equipment inspection, all necessary repairs are completed (unless the owner or operator obtains written approval from the Department establishing a date whereby all necessary repairs of the designated facility will be completed). |

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| **MEDICAL WASTE INCINERATORS**<br><br>**AE.34**<br><br>**Reporting/Recordkeeping Requirements** | |
| **Existing HMIWIs** | (NOTE: The requirements of this subsection apply to each individual hospital/medical/infectious waste incinerator (HMIWI) for which construction was commenced on or before 20 June 1996.These requirements do not apply to the following (ADEM Admin. Code R. 335-3-3-.04(2)):<br>- a combustor during periods when only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste is burned, provided the owner or operator of the combustor:<br>  - notifies the Administrator of an exemption claim; and<br>  - keeps records on a calendar quarter basis of the periods of time when only pathological waste, low-level radioactive waste and/or chemotherapeutic waste is burned<br>- any co-fired combustor if the owner or operator:<br>  - notifies the Administrator of an exemption claim<br>  - provides an estimate of the relative amounts of hospital waste, medical/ infectious waste, and other fuels and wastes to be combusted; and<br>  - keeps records on a calendar quarter basis of the weight of hospital waste and medical/infectious waste combusted, and the weight of all other fuels and wastes combusted at the co-fired combustor<br>- any combustor required to have a permit under section 3005 of the *Solid Waste Disposal Act* (SWDA)<br>- any combustor which meets the applicability requirements under ADEM Admin. Code R. 335-3-10-.02(3)(a)-(b) (subparts Cb, Ea, or Eb of 40 CFR 60) (standards or guidelines for certain municipal waste combustors)<br>- any pyrolysis unit (see definitions)<br>- cement kilns firing hospital waste and/or medical/infectious waste<br>- physical or operational changes made to an existing HMIWI solely for the purpose of complying with emission guidelines of this subsection are not considered a modification and do not result in an existing HMIWI becoming subject new source performance standards under ADEM Admin. Code R. 335-3-10-.02(c)) and 40 CFR 60, Subpart Ec.)<br><br>(NOTE: HMIWIs will operate pursuant to a permit issued under ADEM Admin. Code R. 335-3-16 by 15 September 2000.) |

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| **AE.34.1.AL.** HMIWIs must submit specified information to the appropriate authorities (ADEM Admin. Code R. 335-3-3-.04(9)(b) through (e)) [Added July 2000]. | Verify that the facility submitted the following information no later than 60 days following the initial performance test with all reports signed by the facilities manager:<br><br>- the initial performance test data as recorded<br>- the values for the site-specific operating parameters<br>- the waste management plan.<br><br>Verify that the facility submitted an annual report 1 yr following the above submission and that subsequent reports are submitted no more than 12 mo following the previous report (under a Title V operating permit, these submissions are semi-annual).<br><br>Verify that the annual report is signed by the facilities manager and includes:<br><br>- the values for the site-specific operating parameters<br>- the highest maximum operating parameter and the lowest minimum operating parameter, as applicable, for each operating parameter recorded for the calendar year being reported<br>- the highest maximum operating parameter and the lowest minimum operating parameter, as applicable for each site-specific operating parameter for the calendar year preceding the year being reported, in order to provide the EPA Administrator with a summary of the performance of the HMIWI over a 2-yr period<br>- any information, recorded for the calendar year being reported, related to:<br>  - identification of calendar days for which data on emission rates or operating parameters as described above have not been obtained, with an identification of the emission rates or operating parameters not measured, reasons for not obtaining the data, and a description of corrective actions taken<br>  - identification of calendar days, times, and durations of malfunctions with description of the malfunction and the corrective action taken<br>  - identification of calendar days for which data on emission rates or operating parameters as described above exceeded the applicable limits, with a description of the exceedances, reasons for such exceedances, and a description of corrective actions taken<br>- any information, recorded for the calendar year preceding the year being reported, in order to provide the EPA Administrator with a summary of the performance of the HMIWI over a 2-yr period, related to:<br>  - identification of calendar days for which data on emission rates or operating parameters as described above have not been obtained, with an identification of the emission rates or operating parameters not measured, reasons for not obtaining the data, and a description of corrective actions taken |

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| | - identification of calendar days, times, and durations of malfunctions with a description of the malfunction and the corrective action taken<br>- identification of calendar days for which data on emission rates or operating parameters as described above exceeded the applicable limits, with a description of the exceedances, reasons for such exceedances, and a description of corrective actions taken<br>- if a performance test was conducted during the reporting period, the results of that test<br>- if no exceedances or malfunctions were reported for the calendar year being reported, a statement that no exceedances occurred during the reporting period.<br>- any use of the bypass stack, the duration, reason for malfunction, and corrective action taken.<br><br>Verify that the facility submits semiannual reports no later than 60 days following the reporting period containing any recorded information regarding:<br><br>- identification of calendar days for which data on emission rates or operating parameters as described above have not been obtained, with an identification of the emission rates or operating parameters not measured, reasons for not obtaining the data, and a description of corrective actions taken<br>- identification of calendar days, times and durations of malfunctions, a description of the malfunction, and the corrective action taken<br>- identification of calendar days for which data on emission rates or operating parameters as described above exceeded the applicable limits, with a description of the exceedances, reasons for such exceedances, and a description of corrective actions taken.<br><br>(NOTE: The first semiannual reporting period ends 6 mo following the submission of information as required above. Subsequent reports will submitted no later than 6 calendar months following the previous report. All reports will be signed by the facilities manager.)<br><br>Verify that all records specified above are maintained onsite in either paper copy or computer-readable format, unless an alternative format is approved by the Administrator. |
| **AE.34.2.AL.** HMIWIs must maintain specific documentation at the facility (ADEM Admin. Code R. 335-3-3-.04(4)(i) and (j)) [Added July 2000]. | Verify that the following documentation is maintained at the HMIWI:<br><br>- summary of the applicable standards<br>- description of basic combustion theory applicable to an HMIWI<br>- procedures for receiving, handling, and charging waste<br>- HMIWI startup, shutdown, and malfunction procedures<br>- procedures for maintaining proper combustion air supply levels |

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| | - procedures for operating the HMIWI and associated air pollution control systems within the standards established under this subpart<br>- procedures for responding to periodic malfunction or conditions that may lead to malfunction<br>- procedures for monitoring HMIWI emissions<br>- reporting and recordkeeping procedures<br>- procedures for handling ash.<br><br>Verify that a program has been established that requires all HMIWI operators to review annually the information in all required documentation.<br><br>(NOTE: The initial review of the information in all required documentation shall be conducted by 16 September 1998 or prior to assumption of responsibilities affecting HMIWI operation, whichever date is later.)<br><br>Verify that subsequent reviews of the information in all required documentation is conducted annually.<br><br>Verify that all required documentation is kept in a readily accessible location for all HMIWI operators.<br><br>(NOTE: All required documentation, as well as all training records, shall be available for inspection by the EPA or its delegated enforcement agent upon request.) |
| **AE.34.3.AL.** HMIWIs must maintain specified information for a period of at least 5 yr (ADEM Admin. Code R. 335-3-3-.04(9)(a)) [Added July 2000]. | (NOTE: Required records should be maintained onsite in either a paper copy or a computer-readable format.)<br><br>Verify that the facility maintains the following information (as applicable) for a period of at least 5 yr:<br><br>- calendar date of each record<br>- records of the following data:<br>  - concentrations of any pollutant listed in Appendix 1-5 or measurements of opacity as determined by the CEMS<br>  - results of fugitive emissions tests<br>  - HMIWI charge dates, times, and weights and hourly charge rates<br>  - fabric filter inlet temperatures during each minute of operation<br>  - amount and type of dioxin/furan sorbent used during each hour of operation<br>  - amount and type of Hg sorbent used during each hour of operation<br>  - amount and type of HCl sorbent used during each hour of operation<br>  - secondary chamber temperatures recorded during each minute of operation<br>  - liquor flow rate to the wet scrubber inlet during each minute of |

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| | operation<br>- horsepower or amperage to the wet scrubber during each minute of operation<br>- pressure drop across the wet scrubber system during each minute of operation<br>- temperature at the outlet from the wet scrubber during each minute of operation<br>- pH at the inlet to the wet scrubber during each minute of operation<br>- records indicating use of the bypass stack, including dates, times, and durations<br>- for site-specific operating parameters, all operating parameter data collected<br>- identification of calendar days for which data on emission rates or operating parameters have not been obtained, with an identification of the emission rates or operating parameters not measured, reasons for not obtaining the data, and a description of corrective actions taken<br>- identification of calendar days, times, and durations of malfunctions with a description of the malfunction and the corrective action taken<br>- identification of calendar days for which data on emission rates or operating parameters exceeded the applicable limits, with a description of the exceedances, reasons for such exceedances, and a description of corrective actions taken.<br>- the results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating parameters<br>- all documentation produced as a result of the siting requirements<br>- records showing the names of HMIWI operators who completed the review of information (see checklist item AE.34.1.AL.), including the date of the initial review and all subsequent annual reviews<br>- records showing the names of HMIWI operators who have completed training, including documentation of training and dates of training<br>- records showing the names of the HMIWI operators who have met the criteria for qualification and the dates of their qualification<br>- records of calibration of any monitoring devices. |
| **AE.34.4.AL.** Small rural HMIWIs must meet specific recordkeeping requirements (ADEM Admin. Code R. 335-3-3-.04(9)(f)) [Added July 2000]. | (NOTE: These requirements apply to any small HMIWI subject to the emission limits in Table 2 of Appendix 1-5.)<br><br>Verify that small rural HMIWIs maintain records of the annual equipment inspections, any required maintenance, and any repairs not completed within 10 days of an inspection or the timeframe established by the Department.<br><br>Verify that small rural HMIWIs submit an annual report containing the information listed in the previous paragraph no later than 60 days following the |

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| | year in which data were collected.<br><br>Verify that subsequent reports are sent no later than 12 calendar months following the previous report (once the unit is subject to permitting requirements in Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act, the owner or operator must submit these reports semiannually).<br><br>Verify that the report is signed by the facility manager. |

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| **AE.55.**<br>**GASOLINE/FUELS** | |
| **AE.55.1.AL.** Gasoline distributed in Shelby and Jefferson Counties must meet specific formulation requirements (ADEM Admin. Code R. 335-3-20-.02) [Added July 2000]. | Verify that gasoline that does not meet the limits specified in this checklist item is not stored, transported, supplied, transferred or otherwise handled, sold, or dispensed (unless the gasoline is segregated and clearly documented as not for sale or supply to an ultimate consumer) in Jefferson and Shelby Counties.<br><br>(NOTE: Compliance with this Chapter is met if producers and importers choose to supply federal Phase II Reformulated gasoline.)<br><br>Verify that during the period from June 1 to September 15 of any calendar year, the Reid vapor pressure of the gasoline sold in Jefferson and Shelby counties does not exceed 7.0 psi.<br><br>(NOTE: An ethanol blend is considered in compliance if its measured Reid vapor pressure does not exceed 8.0 psi, and the gasoline contains denatured, anhydrous ethanol in a concentration of least 9 percent and no more than 10 percent (by volume) of the gasoline. Each invoice, loading ticket, bill of lading, delivery ticket and any other document that accompanies a shipment of gasoline containing ethanol will contain a legible and conspicuous statement that the gasoline being shipped contains ethanol and the percentage concentration of ethanol.) |

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| **AE.65.<br>FUGITIVE EMISSIONS** | |
| **AE.65.1.AL.** Fugitive dust and fugitive emissions must be controlled (ADEM Admin. Code R. 335-3-4-.02) [Revised July 2000]. | Verify that materials are not handled, transported, or stored without taking reasonable precautions to prevent particulate matter from becoming airborne.<br><br>Verify that no building, its appurtenances, or roads are used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.<br><br>(NOTE: Such reasonable precautions include, but are not limited to:<br><br>- the use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land<br>- the application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stock piles, and other surfaces which create airborne dust problems<br>- installation and use of hoods, fans, and fabric filters (or other suitable control devices) to enclose and vent the handling of dusty materials.)<br><br>Verify that adequate containment methods are employed during sandblasting or other similar operations.<br><br>Verify that there is no discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate.<br><br>(NOTE: When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escapes from a building or equipment in such a manner and amount as to cause a nuisance or to violate any rule or regulation, the Director may order that the building or equipment in which processing, handling, and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.) |

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| **AE.80.<br>ACID PRODUCTION UNITS** | |
| **Nitric Acid Plants** | |
| **AE.80.1.AL.** Nitric acid manufacturing plants must meet specific requirements (ADEM Admin. Code R. 335-3-8-.02). | Verify that any nitric acid manufacturing plant with a design capacity greater than 150 tons/day of 100 percent acid does not emit $NO_x$ (calculated as $NO_2$) in excess of 20 lb/ton of 100 percent acid produced.<br><br>Verify that any nitric acid manufacturing plant with a design capacity of 150 tons/day or less of 100 percent acid does not emit $NO_x$ (calculated as $NO_2$) in excess of 5.5 lb/ton of 100 percent acid produced. |
| **Sulfuric Acid Plants** | |
| **AE.80.2.AL.** Sulfuric acid manufacturing plants must meet general requirements (ADEM Admin. Code R. 335-3-5-.02(3) and (2)) [Cite Revised July 1997]. | Verify that an instrument for continuously monitoring and recording emissions of $SO_2$ is installed, calibrated, maintained, and operated on every sulfuric acid production unit.<br><br>Verify that any instrument and sampling system installed and used according to requirements for sulfuric acid manufacturing plant requirements are approved by the Director. |
| **AE.80.3.AL.** Sulfuric acid manufacturing plants must meet specific requirements (ADEM Admin. Code R. 335-3-5-.02(1)). | (NOTE: Existing sulfuric acid manufacturing plants are plants in operation on 18 January 1972.)<br><br>Verify that $SO_2$ tail gas emissions from any existing sulfuric acid manufacturing plant do not exceed 27 lb/ton of 100 percent sulfuric acid produced.<br><br>Verify that any existing sulfuric acid manufacturing plant emitting less than 27 lb/ton of 100 percent sulfuric acid produced does not increase its rate of $SO_2$ tail gas emissions.<br><br>Verify that tail gas acid mist emissions from any existing sulfuric acid |

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| | manufacturing plant do not exceed 0.5 lb/ton of sulfuric acid produced.<br><br>Verify that $SO_3$ emissions from any existing sulfuric acid manufacturing plant do not exceed 0.2 lb/ton of sulfuric acid produced. |
| **AE.80.4.AL.** New sulfuric manufacturing acid plants must meet specific requirements (ADEM Admin. Code R. 335-3-5-.02(1)(b)) [Cite Revised July 1997]. | (NOTE: New sulfuric acid manufacturing plants are plants that commenced operation after 18 January 1972.)<br><br>Verify that $SO_2$ emissions do not exceed 4 lb/ton of sulfuric acid produced (based on a maximum 2-h average).<br><br>Verify that acid mist emissions do not exceed 0.15 lb/ton of sulfuric acid produced (based on a maximum 2-h average and expressed as $H_2SO_4$). |
| **AE.80.5.AL.** Sulfuric acid plants constructed after 17 August 1971 must meet reporting and monitoring requirements (ADEM Admin. Code R. 335-3-12-.02(1) and (4); 335-3-12-.03). | Verify that any sulfuric acid plant with greater than 300 tons/day production capacity (production being expressed as 100 percent acid) operates a continuous monitoring system to measure $SO_2$ for each sulfuric acid producing facility within the plant.<br><br>Verify that any monitoring system malfunction lasting for more than 48 h is reported in writing to the Director as expeditiously [not defined] as possible.<br><br>Verify that the facility meets any directives issued by the Director in response to a report of a malfunctioning monitoring system.<br><br>Verify that the Director is notified when malfunctioning monitoring system equipment is returned to service. |

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| **AE.100.<br>COATING OPERATIONS** | (NOTE: The following are exempt from the requirements for surface coating operations (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources in Jefferson County<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month.) |
| **AE.100.1.AL.** Surface coating of metal furniture must meet VOC emission requirements (ADEM Admin. Code R. 335-3-6-.11(3)). | Verify that metal furniture coating lines do not discharge VOCs in excess of 0.36 kg/L (3.0 lb/gal) of coating (excluding water) delivered to the coating applicator from prime and top coat or single coat operations. |
| **AE.100.2.AL.** Surface coating of large appliances must meet VOC emission requirements (ADEM Admin. Code R. 335-3-6-.11(4)). | (NOTE: The requirements for the surface coating of large appliances do not apply to the use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, as long as the volume of coating does not exceed 757 L (200 gal) in any 1 yr.)<br><br>Verify that large appliance coating lines do not discharge VOCs in excess of 0.34 kg/L (2.8 lb/gal) of coating (excluding water) delivered to the coating applicator from prime, single, or top coat coating operations. |

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| **DEGREASING OPERATIONS** | |
| **AE.115. GENERAL** | (NOTE: The following are exempt from the requirements for solvent metal cleaning operations (ADEM Admin. Code R. 335-3-6-.01(1)).:<br>- sources in Jefferson County<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month<br>- open top vapor degreasers with an open area smaller than 1 $m^2$ (10.8 $ft^2$)<br>- conveyorized degreasers with an air/vapor interface smaller than 2.0 $m^2$ (21.6 $ft^2$).) |
| **AE.115.1.AL.** Federal facilities must meet specific requirements for cold cleaning operations (ADEM Admin. Code R. 335-3-6-.12(4)) [Revised July 1997]. | Verify that any cold cleaner is equipped with a cover designed to be easily operated with one hand if one of the following occurs:<br>- solvent volatility is greater than 2 kPa (15 mm of mercury or 0.3 $lb/in.^2$) measured at 38 °C (100 °F)<br>- solvent is agitated<br>- solvent is heated.<br><br>Verify that any cold cleaner is equipped with a device for draining cleaned parts.<br><br>Verify that, if the solvent volatility is greater than 4.3 kPa (32 mm Hg of 0.6 $lb/in.^2$) measured at 38 °C (100 °F), the cold cleaner is equipped with an internal drainage device, enclosing parts under the cover while draining.<br><br>(NOTE: Drainage devices may be external for applications where an internal type cannot fit into the cleaning systems.)<br><br>Verify that one of the following devices is installed on any cold cleaner if the solvent volatility is greater than 4.3 kPa (32 mm Hg or 0.6 $lb/in.^2$) measured at 38 °C (100 °F) or the solvent is heated above 50 °C (120 °F):<br><br>- freeboard that gives a freeboard ratio greater than or equal to 0.7<br>- water cover (only if solvent is insoluble in and heavier than water)<br>- other systems or equivalent control (e.g., refrigerated chiller or carbon |

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| | absorption) approved by the Director.<br><br>Verify that any cold cleaner bears a permanent, conspicuous label that summarizes the cold cleaner's operating requirements.<br><br>Verify that the cover of any cold cleaner is closed whenever parts are not being handled.<br><br>Verify that cleaned parts are drained for at least 15 s or until dripping ceases.<br><br>Verify that, if solvent sprays are used, only solvent sprays with a solid fluid stream (not a fine, atomized, or shower type spray) at a pressure not causing excessive splashing are used.<br><br>Verify that waste solvent is stored only in covered containers.<br><br>Verify that waste solvent is not disposed of or transferred to another party in a manner that allows greater than 20 percent of the waste solvent (by weight) to evaporate into the atmosphere. |
| **AE.115.2.AL.** Federal facilities must meet specific requirements for open top vapor degreasers (ADEM Admin. Code R. 335-3-6-.12(5)). | Verify that any open top vapor degreaser is equipped with a cover that can be opened and closed easily without disturbing the vapor zone.<br><br>Verify that any open top vapor degreaser is equipped with the following safety switches:<br><br>- a condenser flow switch and thermostat which shuts off the heat if the condenser coolant is either not circulating or too warm<br>- a vapor level control thermostat which shuts off the heat when the level rises too high.<br><br>Verify that any open top vapor degreaser is equipped with one of the following control devices:<br><br>- a freeboard ratio of greater than or equal to 0.75 and a powered or mechanically assisted cover if the degreaser is greater than 1 $m^2$ (10.8 $ft^2$)<br>- refrigerated chiller<br>- enclosed design (i.e., cover or door opens only when the dry part is actually entering or exiting the degreaser)<br>- carbon adsorption system, with ventilation greater than or equal to 15 $m^3/min/m^2$ (50 $ft^3/min/ft^2$) of air/vapor area (when cover is open) and exhausting less than 25 ppm of solvent averaged over one complete adsorption cycle<br>- an alternative control system approved by the Director. |

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| | Verify that the cover of any open top vapor degreaser is closed whenever work loads are not being processed through the degreaser.<br><br>Verify that solvent carryout is minimized by the following means:<br><br>- racking parts to allow complete drainage<br>- moving parts in and out of the degreaser at less than 3.3 m/min (11 ft/min)<br>- holding the parts in the vapor zone at least 30 s or until condensation ceases<br>- tipping out any pools of solvent on the cleansed parts before removal from the vapor zone<br>- allowing parts to dry within the degreaser for at least 15 s or until visually dry.<br><br>Verify that any open top vapor degreaser does not degrease porous or absorbent materials (e.g., cloth, leather, wood, or rope).<br><br>Verify that no more than half of any open top vapor degreaser is occupied by a workload.<br><br>Verify that spraying occurs always below the vapor level.<br><br>Verify that, upon discovery of a solvent leak, either the leak is repaired immediately or the degreaser is shutdown.<br><br>Verify that waste solvent is not disposed of or transferred to another party in a manner that allows greater than 20 percent of the waste solvent (by weight) to evaporate into the atmosphere.<br><br>Verify that any open top vapor degreaser is operated so that no water is visually detectable in the solvent existing in the water separator.<br><br>Verify that no ventilation fans are used near the degreaser opening.<br><br>Verify that ventilation fans do not provide exhaust ventilation exceeding 20 $m^3/min/m^2$ (65 $ft^3/min/ft^2$) of degreaser area, unless necessary to meet Occupational Safety and Health Administration (OSHA) requirements. |
| **AE.115.3.AL.** Federal facilities must meet specific requirements for conveyorized degreasers (ADEM Admin. Code R. 335-3-6-.12(6)). | Verify that workplace fans are not used near the degreaser opening, unless necessary to meet OSHA requirements.<br><br>Verify that ventilation fans do not provide exhaust ventilation exceeding 20 $m^3/min/m^2$ (65 $ft^3/min/ft^2$) of degreaser area, unless necessary to meet OSHA requirements.<br><br>Verify that any conveyorized degreaser is equipped with one of the following |

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| | control devices:<br><br>- refrigerated chiller<br>- carbon adsorption system, with ventilation greater than or equal to 15 $m^3/min/m^2$ (50 $ft^3/min/ft^2$) of air/vapor area (when cover is open) and exhausting less than 25 ppm of solvent averaged over one complete adsorption cycle<br>- an alternative control system approved by the Director.<br><br>Verify that any conveyorized degreaser is equipped with devices to prevent cleaned parts from carrying out solvent liquid or vapor (e.g., drying tunnel or rotating basket).<br><br>Verify that any conveyorized degreaser is equipped with the following safety switches:<br><br>- a condenser flow switch and thermostat which shut off the heat if the condenser is either not circulating or too warm<br>- a spray safety switch which shuts off the spray pump or the conveyor if the vapor level drops more than 10 cm (4 in.) below the bottom of the condenser<br>- a vapor level control thermostat which shuts off the heat when the level rises too high.<br><br>Verify conveyorized degreaser openings are minimized during operation so that entrances and exits silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than 10 cm (4 in.) or less than 10 percent of the width of the opening.<br><br>Verify that downtime covers close off the entrance and exit of any conveyorized degreaser during the shutdown hours.<br><br>Verify that carryout emissions are minimized by racking parts for best [not defined] drainage and maintaining the vertical conveyor speed at less than 3.3 m/min (11 ft/min).<br><br>Verify that solvent waste is stored only in covered containers.<br><br>Verify that, upon discovery of a solvent leak, either the leak is repaired immediately or the degreaser is shutdown.<br><br>Verify that any conveyorized degreaser is operated so that no water is visually detectable in the solvent existing in the water separator.<br><br>Verify that downtime covers are placed over entrances and exits of any conveyorized degreaser immediately after the conveyors and exhaust are shut down and not removed until just before startup. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **AE.130.**<br>**OPEN BURNING** | |
| **AE.130.1.AL.** Federal facilities must not engage in open burning (ADEM Admin. Code R. 335-3-3-.01). | Verify that the facility does not engage in open burning.<br><br>(NOTE: See Appendix 1-2 for a list of activities and sources exempt from the open burning prohibition.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **AE.135.<br>VEHICLE EMISSIONS** | |
| **AE.135.1.AL.** Federal facilities must not violate specific visible emissions restrictions for motor vehicles (ADEM Admin. Code R. 335-3-9-.01). | (NOTE: The presence of uncombined water is the only acceptable reason for failing to comply with requirements for visible emissions from motor vehicles.)<br><br>Verify that the emissions of visible air contaminants from gasoline-powered motor vehicles, operated on any street, highway, or other public place do not exceed five consecutive seconds' duration.<br><br>Verify that the emissions of visible air contaminants of a shade or density greater than 20 percent opacity from diesel-powered motor vehicles and other movable sources do not exceed five consecutive seconds' duration. |
| **AE.135.2.AL.** Federal facilities must meet specific requirements for ignition systems and engine speeds of gasoline-powered motor vehicles of 1968 and subsequent model years (ADEM Admin. Code R. 335-3-9-.02). | Verify that gasoline-powered motor vehicles of 1968 and subsequent model years meet the following requirements:<br><br>- the number of revolutions per minute of an engine while operating at idle speed meets the specifications set by the engine's manufacturer<br>- the revolutions per minute of an engine is tested for accuracy and precision at reasonable [not defined] intervals<br>- the ignition timing of an engine meets the specifications set by the engine's manufacturer<br>- all engine cylinders fire. |
| **AE.135.3.AL.** Federal facilities must meet specific requirements for positive crankcase ventilation systems on gasoline-powered motor vehicles (ADEM Admin. Code R. 335-3-9-.03). | (NOTE: Motorcycles and motor tricycles with the model year 1968 are exempt from the positive crankcase ventilation system requirements.)<br><br>Verify that the positive crankcase ventilation systems on all 1968 and subsequent model year gasoline-powered motor vehicles, including all 1969 and subsequent model year motorcycles and tricycles, meet the following requirements:<br><br>- plumbing and connections are properly [not defined] connected and installed by the manufacturer and are free of obstructions and leakage<br>- negative pressure (i.e., suction) exists at the inlet of the crankcase ventilation valve<br>- the crankcase ventilation valve is freely operative so as to regulate the flow of gases through the system. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **AE.135.4.AL.** Federal facilities must meet specific requirements for exhaust emission control systems on motor vehicles (ADEM Admin. Code R. 335-3-9-.04). | (NOTE: The following are exempt from the requirements for exhaust emission control systems:<br>- vehicles of 1967 or earlier model year<br>- vehicles not equipped by the manufacturer with exhaust emission control injection systems<br>- motor vehicles with an engine displacement of less than 50 $in.^3$ (819.35 cc).)<br><br>Verify that exhaust emission control air injection systems meet the following operating requirements:<br><br>- the air delivery hoses, connections, and air distribution manifold are properly connected as installed by the manufacturer and are free of obstructions and leakage<br>- the air compressor drive belt tension is maintained within the manufacturer's specifications<br>- a positive air flow from the air pump to the air delivery distribution manifold exists<br>- the check valve prevents any reverse air flow from the air distribution manifold out through the check valve inlet<br>- the anti-backfire valve, gulp-valve, air bypass valve, or other similarly functioning device allows the passage of air from the air pump to the exhaust manifold(s), except when the carburetor throttle is closed rapidly from an open position (e.g., in deceleration).<br><br>Verify that the following devices in engine modification systems on vehicles so equipped are properly [not defined] connected as installed on 1968 and subsequent model year gasoline-powered vehicles by the manufacturer:<br><br>- all vacuum control valves<br>- mechanical linkage<br>- electrical circuits and switches.<br><br>Verify that exhaust emission control systems other than air injection systems and engine modification systems are in good operable conditions, functioning according to the manufacturer's specifications, and are used at all times during vehicle operation. |
| **AE.135.5.AL.** Federal facilities must meet specific requirements for evaporative loss control systems on motor vehicles (ADEM Admin. Code R. 335-3-9-.05). | Verify that the evaporative loss control systems or devices installed on 1972 and subsequent model year gasoline-powered vehicles are maintained in an operable condition so that the system or device continues to reduce or prevent the emission of vapors of hydrocarbon fuel contained in the fuel tank, carburetor, and/or fuel pump. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| Code R. 335-3-9-.05).<br><br>**AE.135.6.AL.** Federal facilities must not remove, disable, or circumvent the effectiveness of air pollution control equipment on motor vehicles (ADEM Admin. Code R. 335-3-9-.06). | Verify that the facility has not removed, disabled, or circumvented the effectiveness of any of the following air pollution control devices:<br><br>- a positive crankcase ventilator<br>- an exhaust emission control system<br>- an evaporative loss control system.<br><br>Verify that any part removed from air pollution control devices for maintenance purposes is replaced with a comparable component, intended by the manufacturer for replacement use. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **AE.155.<br>OTHER EMISSIONS/ SOURCES** | |
| **Existing Process Industries** | (NOTE: Existing process industries are process industries in operation or the construction of which commenced prior to 18 January 1972.) |
| **AE.155.1.AL.** Federal facilities must meet specific requirements for particulate matter emitted from existing process industries in Class I Counties (ADEM Admin. Code R. 335-3-4-.04(1) and Appendix A). | (NOTE: Class I Counties include the following Alabama counties: Autauga, Calhoun, Coffee, Colbert, Covington, Cullman, Dale, Etowah, Houston, Jackson, Jefferson, Lauderdale, Lee, Madison, Mobile, Montgomery, Morgan Pike, Russell, Saint Clair, Shelby, Talladega, Tuscaloosa, Walker.)<br><br>Verify that emissions of particulate matter from any existing process industry in A Class I County do not exceed the rate specified in Appendix 1-3. |
| **AE.155.2.AL.** Federal facilities must meet specific requirements for particulate matter emitted from existing process industries in Class II Counties (ADEM Admin. Code R. 335-3-4-.04(2) and Appendix A). | (NOTE: Class II Counties include all Alabama counties except the following: Autauga, Calhoun, Coffee, Colbert, Covington, Cullman, Dale, Etowah, Houston, Jackson, Jefferson, Lauderdale, Lee, Madison, Mobile, Montgomery, Morgan Pike, Russell, Saint Clair, Shelby, Talladega, Tuscaloosa, Walker.)<br><br>Verify that emissions of particulate matter from any existing process industry in a Class II County do not exceed the rate specified in Appendix 1-3. |
| **New Process Industries** | (NOTE: New process industries are process industries the construction of which commenced on or after 18 January 1972.) |
| **AE.155.3.AL.** Federal facilities, regardless of their location, must meet specific requirements for particulate matter emitted from new process industries (ADEM Admin. Code R. 335-3-4- | Verify that emissions of particulate matter from any new process industry do not exceed the rate specified in Appendix 1-3. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| .04(5)). | |
| **Other Process Industries** | (NOTE: Other process industries include those not covered by requirements for $SO_2$ fuel combustion and sulfuric acid plants.) |
| **AE.155.4.AL.** Federal facilities must meet specific requirements for process industries other than $SO_2$ fuel combustion units and sulfuric acid plants (ADEM Admin. Code R. 335-3-5-.05). | Verify that any new (i.e., built on or after 25 May 1976) or modified (i.e., modified on or after 25 May 1976) sulfur compound emission source meets the requirements:<br>- all applicable New Source Performance Standards<br>- utilizes best available control technology<br>- does not contribute to exceedances of primary or secondary $SO_2$ ambient air quality standards. |
| **Xylene Oxidation Processes** | |
| **AE.155.5.AL.** Federal facilities must meet specific requirements for xylene oxidation processes (ADEM Admin. Code R. 335-3-4-.12). | Verify that the facility does not emit particulate matter in any 1 h from any xylene oxidation process in excess of the result of the following mathematical equations:<br>- $E = 2.75\ P^{0.62}$ (P less than 30 ton/h)<br>- $E = 13.15\ P^{0.16}$ (P greater than or equal to 30 ton/h)<br>Where:<br>- E = emissions in lb/h; P = weight per hour in tons/h. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **AE.160. COUNTY/CITY-SPECIFIC REQUIREMENTS** | (NOTE: Requirements for VOC water separators apply to sources that meet one of the following criteria:<br>- all VOC water separators in Mobile County<br>- any VOC water separator, in all other counties except Jefferson County, constructed after 30 January 1973.) |
| **VOC Water Separators** | (NOTE: The following sources are exempt from requirements for VOC water separators:<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month.) |
| **AE.160.1.AL.** VOC water separators with a true vapor pressure greater than or equal to 1.5 psia under storage conditions must meet specific requirements (ADEM Admin. Code R. 335-3-6-.02). | Verify that any compartment of any single or multiple compartment VOC water separator receiving effluent water containing 1000 gal/day or more of any VOC (with a true vapor pressure greater than or equal to 1.5 psia under storage) from processing, refining, treating, storing, or handling VOCs is equipped with one of the following control devices:<br><br>- a container with all openings sealed, totally enclosing liquid contents<br>- a container equipped with a floating roof<br>- a container equipped with a vapor recovery system<br>- another container equally efficient and approved by the Director.<br><br>Verify that floating roofs consist of either a pontoon type, a double-deck type, or an internal floating cover that rests on the surface of the contents and is equipped with a closure seal(s) to close the space between the roof edge and containing walls.<br><br>Verify that vapor recovery systems consist of both of the following:<br><br>- a vapor gathering system capable of collecting the VOC vapors and gases dispersed<br>- a vapor disposal system capable of processing VOC vapors and gases to prevent them from being emitted into the atmosphere.<br><br>Verify that vapor loss control devices are properly [not defined] installed, in good working order, and in operation. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | Verify that all gauging and sampling devices on vapor loss control equipment are gastight, except when gauging and sampling is being performed. |
| **VOC Loading and Storage** | |
| **AE.160.2.AL.** [Moved to ST.20.1.AL] | |
| **Mobile County:<br>Pumps and Compressors** | (NOTE: The following are exempt from the requirements for pumps and compressors in Mobile County:<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month.) |
| **AE.160.3.AL.** Federal facilities must meet specific requirements for pumps and compressors in Mobile County (ADEM Admin. Code R. 335-3-6-.09). | Verify that all pumps and compressors handling VOCs in Mobile County are equipped with mechanical seals or other equipment of equivalent efficiency approved by the Director. |
| **Mobile, Russell, Madison, And Morgan Counties: Cutback Asphalt** | (NOTE: The following are exempt from cutback asphalt requirements in Mobile, Russell, Madison, and Morgan Counties (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **AE.160.4.AL.** The use of cutback asphalt in Mobile, Russell, Madison, and Morgan Counties must be approved by the Director (ADEM Admin. Code R. 335-3-6-.13). | Verify that cutback asphalt is not sold, stored, used, or applied without approval of the Director. |
| **Etowah, Mobile, and Russell Counties:**<br>**Coating Operations** | (NOTE: The following are exempt from the requirements for surface coating operations (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month.) |
| **AE.160.5.AL.** Federal facilities in Etowah, Mobile, and Russell Counties must meet specific requirements for the surface coating of miscellaneous metal parts and products (ADEM Admin. Code R. 335-3-6-.11(11)). | (NOTE: The requirements for miscellaneous metal parts and products in Etowah, Mobile, and Russell Counties apply to large farm machinery (e.g., tractors and combines), small farm machinery (e.g., lawn and garden tractors, lawn mowers, and rototillers), small appliances (e.g., fans, mixers, blenders, and vacuum cleaners), commercial machinery (e.g., office equipment and vending machines), industrial machinery (e.g., pumps, compressors, fans, and blowers), fabricated metal products (e.g., metal doors and frames), and items that fall into the categories under the Standard Industrial Classification Code Major Groups 33 through 39.)<br><br>(NOTE: The requirements for miscellaneous metal parts in Etowah, Mobile, and Russell Counties do not apply to the following:<br>- automobiles and light-duty trucks<br>- metal furniture<br>- large appliances<br>- exterior of airplanes<br>- automobile refinishing<br>- customized coating of automobiles and trucks, if production is less than 35 vehicles/day<br>- exterior of marine vessels.)<br><br>Verify that the facility does not emit VOCs exceeding the following limits: |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | - 0.52 kg/L (4.3 lb/gal) of coating (excluding water) delivered to a coating applicator applying clear coatings<br>- 0.42 kg/L (3.5 lb/gal) of coating (excluding water) delivered to a coating applicator in a coating application system that is air dried or forced warm air dried at temperatures up to 90 °C (194 °F)<br>- 0.42 kg/L (3.5 lb/gal) of coating (excluding water) delivered to a coating applicator applying extreme performance coatings<br>- 0.36 kg/L (3.0 lb/gal) of coating (excluding water) delivered to a coating applicator for all other coatings and coating application systems. |
| **Etowah, Mobile, and Russell Counties:<br>Perchloroethylene Dry Cleaning** | (NOTE: The following are exempt from the requirements for perchloroethylene dry cleaning systems (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month.) |
| **AE.160.6.AL.** Federal facilities must meet specific requirements for perchloro-ethylene dry cleaning (ADEM Admin. Code R. 335-3-6-.45) [Revised July 1997]. | Verify that the entire dryer exhaust is vented through a properly [not defined] functioning carbon adsorption system or equally effective control device.<br><br>Verify that any perchloroethylene dry cleaning system either emits no more than 3.5 kg (7.7 lbs) per 100 kg ( 220 lbs) dry weight of articles dry cleaned or install and operate a solvent recovery dryer in a manner such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of 50 millimeters (1.7 oz) per minute is attained<br><br>Verify that components leaking liquid or gaseous VOCs are repaired immediately.<br><br>Verify that all filtration cartridges are drained in one of the following manners:<br><br>- in the filter housing or other sealed container for at least 8 h before discarding the cartridges<br>- by drying cabinets ducted into the control device.<br><br>Verify that, when possible, all drained cartridges are drained without emitting VOCs into the atmosphere. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | (NOTE: Perchloroethylene dry cleaning Federal facilities which are coin-operated and those specifically exempted by the Director are exempt from the above requirements.)<br><br>Verify that, for filtration or distillation systems, waste losses are limited to no more than 1 kg of VOCs per 100 kg of fabric processed. |
| **Etowah, Mobile, and Russell Counties:<br>Leaks from Gasoline Tank Trucks and Vapor Control and Collection Systems**<br><br>**AE.160.7.AL.** [Moved to ST.15.9.AL] | |
| **Etowah, Mobile, and Russell Counties:<br>Graphic Arts** | (NOTE: The following are exempt from the requirements for graphic arts (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month.) |
| **AE.160.8.AL.** Federal facilities must meet specific requirements for packaging rotogravure, printing rotogravure, and flexographic printing (ADEM Admin. Code R. 335-3-6-.22). | Verify that the facility meets all requirements for graphic arts before engaging in any packaging rotogravure, printing rotogravure, or flexographic printing activities.<br><br>Verify that the volatile fraction of ink applied to any substrate contains 25 percent by volume or less of organic solvent and 75 percent by volume or more of water.<br><br>Verify that the facility either prints with ink containing 60 percent by volume or more of nonvolatile material or operates one of the following emission control systems:<br><br>- a carbon adsorption system reducing the volatile organic emissions from the capture system by at least 90 percent by weight<br>- an incineration system oxidizing at least 90 percent of the nonmethane VOCs |

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| | (VOC measured as total combustible carbon) to $CO_2$ and water<br>- an alternative VOC emission reduction system with a 90 percent reduction efficiency, approved by the Director.<br><br>Verify that a capture system is used in conjunction with any emission control system, operates consistently with good engineering practice, and reduces overall VOC emissions by at least the following levels:<br><br>- 75 percent, where publication rotogravure processes are employed<br>- 65 percent, where packaging rotogravure processes are employed<br>- 60 percent, were flexographic printing processes are employed. |
| **Jefferson County:<br>VOC Water Separators** | (NOTE: The following are exempt from the requirements for VOC water separators in Jefferson County (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long is the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit.) |
| **AE.160.9.AL.** Federal facilities in Jefferson County must meet specific requirements for VOC water separators (ADEM Admin. Code R. 335-3-6-.25). | Verify that any compartment of any single or multiple compartment VOC water separator receiving effluent water containing 1000 gal/day or more of any VOC from processing, treating, refining, storing, or handling VOCs is equipped with one of the following vapor loss control devices, properly [not defined] installed, in good working order, and in operation:<br><br>- a container with all openings sealed, totally enclosing the liquid contents<br>- a container equipped with a floating roof consisting of a pontoon type, double-deck type roof, or internal floating cover, resting on the surface of the contents and equipped with a closure seal(s) to close the space between the roof edge and containing walls<br>- a container equipped with a vapor recovery system consisting of a vapor gathering system capable of collecting the VOC vapors and gases dispersed and a vapor disposal system capable of processing VOC vapors and gases to prevent vapor emissions into the atmosphere<br>- a container of equivalent efficiency approved by the Director.<br><br>Verify that all gauging and sampling devices are gastight (except when gauging or sampling is performed). |

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| | sampling is performed). |
| **Jefferson County:<br>VOC Loading and Storage**<br><br>**AE.160.10.AL.** [Moved to ST.20.2.AL]. | |
| **Jefferson County:<br>Coating Operations** | (NOTE: The following are exempt from the requirements for coating operations in Jefferson County (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long is the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit.) |
| **AE.160.11.AL.** Federal facilities must meet the requirement for metal furniture coating in Jefferson County (ADEM Admin. Code R. 335-3-6-.32(3)). | Verify that any metal furniture coating line does not emit into the atmosphere any VOCs in excess of 0.36 kg/L (3.0 lb/gal) of coating (excluding water) delivered to the coating applicator from prime and topcoat or single coat operations. |
| **AE.160.12.AL.** Federal facilities must meet the requirement for surface coating of large appliances in Jefferson County (ADEM Admin. Code R. 335-3-6-.32(4)). | (NOTE: The use of quick-drying lacquers for repair of scratches and nicks occurring during assembly is exempt from the requirement for surface coating of large appliances in Jefferson County, as long as the volume of coating does not exceed 757 L (200 gal) in any 1 yr.)<br><br>Verify that any large appliance coating line does not emit into the atmosphere any VOCs in excess of 0.34 kg/L (2.8 lb/gal) of coating (excluding water) delivered to the coating applicator from prime, single, or topcoat coating operations. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **AE.160.13.AL.** Federal facilities must meet specific requirements for the surface coating of miscellaneous metal parts and products in Jefferson County (ADEM Admin. Code R. 335-3-6-.32(11)). | (NOTE: The requirements for miscellaneous metal parts and products in Jefferson County apply to large farm machinery (e.g., tractors and combines), small farm machinery (e.g., lawn and garden tractors, lawn mowers, and rototillers), small appliances (e.g., fans, mixers, blenders, and vacuum cleaners), commercial machinery (e.g., office equipment and vending machines), industrial machinery (e.g., pumps, compressors, fans, and blowers), fabricated metal products (e.g., metal doors and frames), and items that fall into the categories under the Standard Industrial Classification Code Major Groups 33 through 40.)<br><br>(NOTE: The surface coating of the following parts and products is exempt from the requirements for coating operations:<br>- automobiles and light-duty trucks<br>- metal furniture<br>- large appliances<br>- exterior of airplanes<br>- automobile refinishing<br>- customized coating of automobiles and trucks, if production is less than 35 vehicles per day and if the VOC emission rate from the customized coating operation does not exceed 60 tons/yr based on an annual rolling average calculated at the end of each calendar month<br>- exterior of marine vessels<br>- fabricated metal parts and products under the major Standard Industrial Classification Code of Group Number 34, if the VOC emissions rate is less than a potential 10 tons per calendar year before an add-on VOC control device<br>- metal cans<br>- flat metal sheets and strips in the form of rolls or coils<br>- magnet wire for use in electrical machinery.)<br><br>Verify that the installation does not emit VOCs exceeding the following limits:<br><br>- 0.52 kg/L (4.3 lb/gal) of coating (excluding water) delivered to a coating applicator applying clear coatings<br>- 0.42 kg/L (3.5 lb/gal) of coating (excluding water) delivered to a coating applicator in a coating application system that is air dried or forced warm air dried at temperatures up to 90 °C (194 °F)<br>- 0.42 kg/L (3.5 lb/gal) of coating (excluding water) delivered to a coating applicator applying extreme performance coatings<br>- 0.36 kg/L (3.0 lb/gal) of coating (excluding water) delivered to a coating applicator for all other coatings and coating application systems (excluding powder coating systems)<br>- 0.05 kg/L (0.4 lb/gal) of coating (excluding water) delivered to a coating applicator for all powder coating systems.<br><br>Verify that, if any add-on control equipment is used, continuous monitors checking the following are installed: |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | - exhaust gas temperatures of all incinerators<br>- temperature rise across a catalytic incinerator bed<br>- breakthrough of VOC on a carbon adsorption unit<br>- any other continuous monitoring or recording device required by the Director. |
| **AE.160.14.AL.** Federal facilities must meet specific reporting requirements for coating operations in Jefferson County (ADEM Admin. Code R. 335-3-6-.32(12)). | Verify that any coating operation in Jefferson County maintains the following daily records to demonstrate compliance with any applicable Alabama air regulation or Air Permit condition:<br><br>- the quantity in gallons of all surface coatings delivered to the application system<br>- the quantity in gallons of all organic liquid diluents (coating thinners and additives) added to the surface coatings<br>- the quantity in gallons of all organic liquid solvents used for wash or cleanup<br>- the quantity in gallons of all organic liquid waste properly [not defined] contained and shipped out for proper [not defined] disposal and a certification of the waste density and percent VOC content by weight<br>- the date of each application of surface coatings and diluents and usage of wash and cleanup solvents<br>- the regulation(s) applicable to the coating line for which the records are being maintained<br>- the application method and the substrate material type<br>- the surface coating curing and/or drying oven temperature(s) in degrees Fahrenheit<br>- the continuous combustion temperature in degrees Fahrenheit of a thermal incinerator control system<br>- the temperature rise across the catalyst bed and exhaust temperature in degrees Fahrenheit of a catalytic incinerator control system<br>- the inlet and outlet temperature in degrees Fahrenheit of the cooling medium of a condenser control system<br>- the following information on all surface coatings and organic liquid solvents (i.e., diluents, additives, wash, and cleanup):<br>  - manufacturer (supplier)<br>  - product name and manufacturer's name and phone number<br>  - density in pounds per gallon<br>  - VOC content in percent weight and volume<br>  - solids content in percent weight and volume<br>  - water content in percent weight and volume<br>  - exempt VOC content in percent weight and volume<br>  - pounds of VOC per gallon of coating delivered to the application system (excluding water and exempt VOC).<br><br>Verify that daily records are maintained for at least 2 yr. |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | Verify that daily records are maintained in the units needing to verify compliance with any applicable Alabama air regulation or Air Permit condition. |
| **Jefferson County: Degreasing Operations** | (NOTE: The following are exempt from the requirements for degreasing operations in Jefferson County (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long is the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit.) |
| **AE.160.15.AL.** Federal facilities must meet specific requirements for cold cleaning in Jefferson County (ADEM Admin. Code R. 335-3-6-.33(4)). | Verify that any cold cleaning device meets the following equipment and operating requirements:<br>- the device is equipped with a cover easily operated with one hand, if one of the following occurs:<br>- the solvent volatility is greater than 2 kPa (15 mm Hg or 0.3 psi) measured at 38 °C (100 °F)<br>- the solvent is agitated<br>- the solvent is heated<br>- the device is equipped with a device for draining cleaned parts<br>- if the solvent volatility is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at 38 °C (100 °F), the drainage device is constructed internally so that the parts are enclosed under the cover while draining (except that the drainage device may be external for applications where an internal type cannot fit into the cleaning system)<br>- if the solvent volatility is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at 38 °C (100 °F) or if the solvent is heated above 50 °C (120 °F), one of the following devices is installed:<br>- freeboard that gives a freeboard ratio greater than or equal to 0.7<br>- water cover (as long as solvent is insoluble in and heavier than water)<br>- other equipment systems of equivalent control (e.g., refrigerated chiller or carbon adsorption) approved by the Director<br>- a permanent, conspicuous label, summarizing the operating requirements, is attached to the cold cleaner<br>- the cover is closed whenever parts are not being handled in the cleaner<br>- cleaned parts are drained for at least 15 s or until dripping ceases<br>- if a solvent spray is used, the spray is a sold fluid stream (not a fine, atomized, or shower type spray) at a pressure which does not cause excessive |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | splashing<br>- waste solvent is stored only in covered containers<br>- waste solvent is not disposed of or transferred in a manner that allows more than 20 percent of the waste solvent (by weight) to evaporate into the atmosphere. |
| **AE.160.16.AL.** Federal facilities must meet specific requirements for open top vapor degreasers in Jefferson County (ADEM Admin. Code R. 335-3-6-.33(5)). | Verify that any vapor degreaser is equipped with a cover that can be opened and closed easily without disturbing the vapor zone.<br><br>Verify that any open top vapor degreaser is equipped with the following safety switches:<br><br>- a condenser flow switch and thermostat that shuts off the heat if the condenser coolant is either not circulating or is too warm<br>- a spray safety switch that shuts off the spray pump if the vapor level drops more than 10 cm (4 in.) below the bottom of the condenser coil<br>- a vapor level control thermostat that shuts off if the heat level rises too high.<br><br>Verify that any open top vapor degreaser is equipped with one of the following control devices:<br><br>- a freeboard ratio of greater than or equal to 0.75 and a powered or mechanically assisted cover if the degreaser opening is greater than 1 $m^2$ (10.8 $ft^2$)<br>- refrigerated chiller<br>- enclosed design (cover or door opens only when the dry part is actually entering or exiting the degreaser)<br>- carbon adsorption system, with ventilation greater than or equal to 15 $m^3/min/m^2$ (50 $ft^3/min/ft^2$) of air/vapor area (when cover is open) and exhausting less than 25 ppm of solvent averaged over one complete adsorption cycle<br>- any alternative control equipment approved by the Director.<br><br>(NOTE: Open top vapor degreasers with an open area smaller than 1 $m^2$ (10.8 $ft^2$) are exempt from the requirements for refrigerated chillers and carbon adsorption systems.)<br><br>Verify that the cover of any open top vapor degreaser is closed whenever work loads are not being processed through the degreaser.<br><br>Verify that solvent carryout is minimized by the following means:<br><br>- racking parts to allow complete drainage<br>- moving parts in and out of the degreaser at less than 3.3 m/min (11 ft/min)<br>- holding the parts in the vapor zone at least 30 s or until condensation ceases |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | - tipping out any pools of solvent on the cleansed parts before removal from the vapor dry<br>- allowing parts to dry within the degreaser for at least 15 s, or until visually dry.<br><br>Verify that any open top vapor degreaser does not degrease porous or absorbent materials (e.g., cloth, leather, wood, or rope).<br><br>Verify that not more than half of the degreaser's open top area is loaded with a workload.<br><br>Verify that the degreaser is not loaded to the point where the vapor level drops more than 10 cm (4 in.) below the bottom of the condenser coil when the workload is lowered into the vapor zone.<br><br>Verify that spraying occurs always below the vapor level.<br><br>Verify that, upon discovery of a solvent leak, either the leak is repaired immediately or the degreaser is shutdown.<br><br>Verify that waste solvent is not disposed of or transferred to another party in a manner that allows greater than 20 percent of the waste solvent (by weight) evaporates into the atmosphere.<br><br>Verify that any open top vapor degreaser is operated so that no water is visually detectable in the solvent exiting in the water separator.<br><br>Verify that no ventilation fans are used near the degreaser opening.<br><br>Verify that ventilation fans do not provide exhaust ventilation exceeding 20 $m^3/min/m^2$ (65 $ft^3/min/ft^2$) of degreaser area, unless necessary to meet OSHA requirements.<br><br>Verify that a permanent, conspicuous label, summarizing the operating requirements is provided. |
| **AE.160.17.AL.** Federal facilities must meet requirements for conveyorized vapor degreasers in Jefferson County (ADEM Admin. Code R. 335-3-6-.33(6)). | (NOTE: Conveyorized vapor degreasers with an open area smaller than 2 $m^2$ (21.6 $ft^2$) are exempt from the requirement to install control devices.)<br><br>Verify that workplace fans are not used near the degreaser opening, unless necessary to meet OSHA requirements.<br><br>Verify that ventilation fans do not provide exhaust ventilation exceeding 20 $m^3/min/m^2$ (65 $ft^3/min/ft^2$) of degreaser area, unless necessary to meet OSHA |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | requirements.<br><br>Verify that any conveyorized degreaser is equipped with one of the following control devices:<br><br>- refrigerated chiller<br>- carbon adsorption system, with ventilation greater than or equal to 15 $m^3/min/m^2$ (50 $ft^3/min/ft^2$) of air/vapor area (when cover is open) and exhausting less than 25 ppm of solvent averaged over one complete adsorption cycle<br>- an alternative control system approved by the Director.<br><br>Verify that any conveyorized degreaser is equipped with devices to prevent cleaned parts from carrying out solvent liquid or vapor (e.g., drying tunnel or rotating basket).<br><br>Verify that any conveyorized degreaser is equipped with the following safety switches:<br><br>- a condenser flow switch and thermostat which shut off the heat if the condenser is either not circulating or too warm<br>- a spray safety switch which shuts off the spray pump or the conveyor if the vapor level drops more than 10 cm (4 in.) below the bottom of the condenser<br>- a vapor level control thermostat which shuts off the heat when the level rises too high.<br><br>Verify conveyorized degreaser openings are minimized during operation so that entrances and exits silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than 10 cm (4 in.) or less than 10 percent of the width of the opening.<br><br>Verify that downtime covers close off the entrance and exit of any conveyorized degreaser during the shutdown hours.<br><br>Verify that carryout emissions are minimized by racking parts for best [not defined] drainage and maintaining the vertical conveyor speed at less than 3.3 m/min (11 ft/min).<br><br>Verify that solvent waste is stored only in covered containers.<br><br>Verify that, upon discovery of a solvent leak, either the leak is repaired immediately or the degreaser is shutdown.<br><br>Verify that any conveyorized degreaser is operated so that no water is visually detectable in the solvent existing in the water separator.<br><br>Verify that downtime covers are placed over entrances and exits of any |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | conveyorized degreaser immediately after the conveyors and exhaust are shut down and not removed until just before startup. |
| **Jefferson County: Cutback and Emulsified Asphalt.** | (NOTE: The following are exempt from the requirements for cutback and emulsified asphalt in Jefferson County (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long is the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit.) |
| **AE.160.18.AL.** Federal facilities must meet specific requirements for cutback and emulsified asphalt operations in Jefferson County (ADEM Admin. Code R. 335-3-6-.34). | Verify that the facility does not sell, mix, store, or apply cutback asphalt, unless one of the following criteria is met:<br>- long-term stockpile storage is necessary<br>- use or application commences in December and is completed by the following February<br>- cutback asphalt is used only as a penetrating prime coat.<br><br>Verify that emulsified asphalt is mixed, stored, used, or applied in highway and maintenance operations in Jefferson County only when the maximum oil distillate (organic solvent) content in the emulsified asphalt does not exceed 7 percent.<br><br>Verify that, if the maximum oil distillate in the emulsified asphalt exceeds 7 percent, mixing, storage, use, or application of emulsified asphalt is limited to January, February, and December. |
| **Jefferson County: Perchloroethylene Dry Cleaning** | (NOTE: The following are exempt from the requirements for perchloroethylene dry cleaning in Jefferson County (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | - other sources exempted by the Director or through a permit<br>- coin-operated dry cleaning Federal facilities.) |
| **AE.160.19.AL.** Federal facilities must meet specific requirements for perchloro-ethylene dry cleaning systems in Jefferson County (ADEM Admin. Code R. 335-3-6-.45) [Revised July 1997]. | Verify that petroleum solvent washers, dryers, solvent filters, settling tanks, vacuum stills, and other containers and conveyors of petroleum solvent that are used in petroleum solvent dry cleaning Federal facilities that consume 123,026 L (32,500 gal) or more of petroleum solvent annually, meet the following requirements:<br><br>- the entire dryer exhaust is vented through a properly [not defined] functioning carbon adsorption system or an equally effective control device<br>- either no more than 3.5 kg (7.7 lbs) per 100 kg (220 lbs) dry weight of articles dry cleaned or install and operate a solvent recovery dryer in a manner such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of 50 millimeters (1.7 oz) per minute is attained<br>- all components found to be leaking liquid or gaseous VOCs are repaired<br>- all filtration cartridges are drained either in the housing or other sealed container for at least 8 h before discarding the cartridges, or by drying cabinets that are ducted into the control device<br>- when possible, all drained cartridges are dried without emitting VOCs into the atmosphere.<br><br>(NOTE: The equivalency of the requirements for filters, cartridges, and solvent stills not regulated above may be demonstrated by limiting waste losses to no more than 1 kg (2.21 lb) of VOCs per 100 kg (220 lb) of fabric processed.)<br><br>Verify that the following components are visually inspected for leaks:<br><br>- carbon adsorber<br>- hose connections, unions, couplings, and valves<br>- machine door gaskets and seating<br>- filter head gasket and seating<br>- pumps<br>- base tanks and storage containers<br>- water separators<br>- filter sludge recovery<br>- distillation unit<br>- diverter valves<br>- saturated lint from basket<br>- cartridge filters.<br><br>Verify that, if add-on control equipment is used, devices are installed and operated at all times to monitor the following: |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | - exhaust gas temperature of all incinerators<br>- temperature rise across a catalytic incinerator bed<br>- breakthrough of VOC on a carbon adsorption unit<br>- any other continuous monitoring or recording device required by the Director.<br><br>Verify that records of leak repairs and visual inspections are maintained for at least 2 yr. |
| **Jefferson County:<br>Leaks from Gasoline Tank Trucks and Vapor Collection Systems**<br><br>**AE.160.20.AL.** [Moved to ST.15.8.AL]. | |
| **Jefferson County:<br>Graphic Arts** | (NOTE: The following are exempt from the requirements for graphic arts in Jefferson County (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit.) |
| **AE.160.21.AL.** Federal facilities must meet specific requirements for graphic arts operations in Jefferson County (ADEM Admin. Code R. 335-3-6-.43). | Verify that the facility meets one of the following requirements before operating any packaging rotogravure, printing rotogravure, or flexographic printing facility:<br><br>- the volatile fraction of ink, as it is applied to the substrate, contains 25 percent by volume or less of organic solvent and 75 percent by volume or more of water<br>- ink used in printing contains 60 percent by volume or more of nonvolatile material<br>- one of the following control systems is installed and operated:<br>- a carbon adsorption system reducing the volatile organic emissions from the capture system by at least 90 percent by weight |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | - an incineration system oxidizing at least 90 percent of the VOCs (VOC measured as total combustible carbon to $CO_2$ and water<br>- an alternative VOC emission reduction system with at least 90 percent efficiency, approved by the Director.<br><br>Verify that a capture system, operating consistently with good engineering practice and giving an overall reduction in VOC emissions of at least the following, is used in conjunction with any control system:<br><br>- 75 percent where a publication rotogravure process is employed<br>- 65 percent where a packaging rotogravure process is employed<br>- 60 percent where a flexographic printing process is employed.<br><br>Verify that, if add-on control equipment is used, devices are installed and operated at all times to monitor the following:<br><br>- exhaust gas temperature of all incinerators<br>- temperature rise across a catalytic incinerator bed<br>- breakthrough of VOC on a carbon adsorption unit<br>- any other continuous monitoring or recording device required by the Director.<br><br>Verify that graphic arts operations subject to Alabama requirements and Air Permit conditions maintain the following records at the location of the source for at least 2 yr:<br><br>- the quantity in gallons of all inks delivered to the application system<br>- the quantity in gallons of all organic liquid diluents (i.e., ink thinners and additives) added to the surface coatings<br>- the quantity in gallons of all organic liquid solvents used for wash (i.e., blanket) or cleanup<br>- the quantity in gallons of all organic liquid waste properly [not defined] contained and shipped out for proper [not defined] disposal and a certification of the waste density and percent VOC content by weight<br>- the following information on all inks and organic liquid solvents (i.e., diluents, wash, and cleanup):<br>- manufacturer<br>- product name and manufacturer's code number<br>- density in pounds per gallon<br>- VOC content in percent weight and volume<br>- solids content in percent weight and volume<br>- water content in percent weight and volume<br>- exempt VOC content in percent weight and volume. |
| **Jefferson County:<br>Large Petroleum Dry** | (NOTE: The following are exempt from the requirements for large petroleum dry cleaners in external floating roof tanks in Jefferson County (ADEM Admin. Code |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **Cleaners** | R. 335-3-6-.01(1)):<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long is the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit.) |
| **AE.160.22.AL.** Federal facilities must meet specific requirements for large petroleum dry cleaners in Jefferson County (ADEM Admin. Code R. 335-3-6.45). | Verify that any petroleum dry cleaning facility consuming 123,026 L (32,500 gal) or more of petroleum solvent annually meets one of the following requirements:<br>- limits VOC emissions to the atmosphere to 3.5 kg (7.7 lb) of VOCs per 100 kg (220 lb) dry weight of articles dry cleaned<br>- installs and operates a solvent recovery dryer in a manner so that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of 50 mL/min (1.7 oz/min) is attained.<br><br>Verify that any petroleum solvent filtration system meets one of the following requirements:<br>- reduces the VOC content in all filtration wastes to 1.0 kg (2.2 lb) or less per 100 kg (220 lb) dry weight of articles dry cleaned, before disposal, and exposure to the atmosphere<br>- installs and operates a cartridge filtration system, and drains the filter cartridges in their sealed housings for 8 h or more before removal.<br><br>Verify that petroleum solvent vapor and liquid leaks are repaired within 3 working days after identifying the sources of the leaks.<br><br>Verify that, if necessary repair parts are not on hand, parts are ordered within three working days after identifying the sources of the leaks, and petroleum solvent vapor and liquid leaks are repaired within three working days after parts are received.<br><br>Verify that testing and monitoring results are submitted to the Director.<br><br>Verify that the facility makes weekly inspections of washers, dryers, solvent filters, settling tanks, vacuum stills, and all containers and conveyors of petroleum solvent to identify perceptible VOC vapor or liquid leaks. |
| **Jefferson County: Seasonal** | (NOTE: The following are exempt from the requirements for large petroleum dry |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **Afterburner Shutdown** | cleaners in external floating roof tanks in Jefferson County (ADEM Admin. Code R. 335-3-6-.01(1)):<br>- flares, VOCs vented to boilers, afterburners operated principally for odor control, or afterburners operated to control toxic or hazardous substances<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long is the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit.) |
| **AE.160.23.AL.** Federal facilities must meet specific requirements for seasonal afterburner shutdowns in Jefferson County (ADEM Admin. Code R. 335-3-6-.52). | Verify that natural gas-fired afterburners installed to control the emissions of VOCs to reduce ambient ozone concentrations meet the following requirements during December, January, and February before undergoing a seasonal shutdown:<br>- the afterburner is for the control of VOC emissions only<br>- a petition to shutdown an afterburner is submitted in writing to the Director 30 days prior to the shutdown date each season specifying the period(s) within the seasonal afterburner shutdown period when the shutdown is in effect for the afterburner<br>- written approval is granted by the Director for each afterburner<br>- monthly records in a format approved by the Department, are maintained during the periods of afterburner shutdown of the quantity of VOC emissions from the source for which the afterburner is normally used as an air pollution control device. |
| **AE.160.24.AL.** Gasoline must not be introduced into Jefferson and Shelby counties' that does not meet the criteria for “Alabama Gasoline” (ADEM Admin. Code R. 335-3-20-.02) [Added August 1998]. | Verify that on or before 1 June 1998 and continuing until, at least, 15 September 1998, no person, including without limitation, no retailer or wholesale purchaser-consumer, no refiner, importer, distributor, reseller, or carrier can sell, offer for sale, dispense, supply, offer for supply, or introduce into the Jefferson and Shelby counties' gasoline market, gasoline that does not meet the criteria for "Alabama Gasoline".<br><br>(NOTE: "Alabama Gasoline" is considered to be gasoline that meets the specification for reformulated gasoline as described in 40 CFR Part 80.41 or gasoline that has a Reid Vapor Pressure (RVP) of 7.0 pounds per square inch (psi) or less and a sulfur level that shall not exceed a 310 parts per million (ppm) volume-weighted average beginning 1 August 1998 and continuing until 15 September 1998, or a combination thereof.) |

| COMPLIANCE CATEGORY:<br>AIR EMISSIONS MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
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**Appendix 1-1**

**Limits of Particulate Matter Emissions from Fuel Burning Equipment in Class I and II Counties Based on Heat Input**
(Source: ADEM Admin. R. 335-3-4-.03(1) through (4), and Table 4-1)

| Heat Input (MBtu/h) | Allowable Emission for Existing Equipment in Class I Counties | Allowable Emission for Existing Equipment in Class II Counties | Allowable Emission for New Equipment in All Counties |
|---|---|---|---|
| 1. | 0.5 | 0.8 | 0.5 |
| 10. | 0.5 | 0.8 | 0.5 |
| 20. | 0.37 | 0.53 | 0.37 |
| 40. | 0.27 | 0.35 | 0.27 |
| 60. | 0.23 | 0.28 | 0.23 |
| 80. | 0.20 | 0.24 | 0.20 |
| 100. | 0.18 | 0.21 | 0.18 |
| 150. | 0.15 | 0.16 | 0.15 |
| 200. | 0.13 | 0.14 | 0.13 |
| 250. | 0.12 | 0.12 | 0.12 |
| 1,000,000. | 0.12 | 0.12 | 0.12 |

(NOTE: For exiting sources in Class I Counties and new sources in all counties, interpolation of the data in Appendix 1-1 for heat input values between 10 MBtu/h and 250 MBtu/h is accomplished by using the following equation:

$$E = 1.38H^{-0.44}$$

where E = emissions in lb/MBtu and H = heat input in MBtu/h.)

(NOTE: For existing sources in Class II Counties, interpolation of the data in Appendix 1-1 for heat input values between 10 MBtu/h and 250 MBtu/h is accomplished by using the following equation:

$$E = 3.109H^{-0.589}$$

where E = emissions in lb/MBtu and H = heat input in MBtu/h.)

(NOTE: The total heat input from all similar fuel combustion units which discharge particulate matter through a common stack at a plant or on the same premises is used to determine the maximum allowable emission of particulate matter.)

## Appendix 1-2

### Exemptions from the Open Burning Prohibition

(Source: ADEM Admin. R. 335-3-3-.01(1) through (10))

The following activities and sources are exempt from the prohibition against open burning:

- open fires for the cooking of food for human consumption on other than commercial premises
- fires for recreational or ceremonial purposes
- fires to abate a fire hazard, providing the hazard is declared by the fire department or fire district having jurisdiction
- fires for the prevention or control of disease or pests
- fires for training personnel in the methods of fighting fires
- fires for the disposal of dangerous materials where there is no practical alternate method of disposal and burning is approved by the Director
- fires set for recognized agricultural, silvicultural, range, and wildlife management practices
- fires set in salamanders or other devices, utilizing only wood, vegetation, coal, propane, kerosene, fuel oil, or used oil (*used oil as defined in ADEM Admin Code Chapter 335-14-17-.01) as fuel, and used by construction or other workers for heating purposes
- fires for the burning of trees, brush, grass, and other vegetable matter in the clearing and maintenance of rights-of-way if the burning is done by the air curtain incinerator method, properly [not defined] constructed and maintained, or by an equivalent method specifically approved by the Director. These fires are not approved by the Director during the months of June, July, and August of each year in Jefferson County
- open fires specifically or expressly approved by the Director.

*Used oil means any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities.

**Appendix 1-3**

**Limits of Particulate Matter Emissions from Process Industries in Class I and II Counties Based on Process Weight Rate**
(Source: ADEM Admin. R. 335-3-4-.04(1) through (5), and Table 4-2)

| Process Weight (lb/h) | Allowable Emission for Existing Equipment in Class I Counties | Allowable Emission for Existing Equipment in Class II Counties | Allowable Emission for New Equipment in All Counties |
|---|---|---|---|
| 100 | 0.56 | 0.55 | 0.56 |
| 500 | 1.52 | 1.62 | 1.52 |
| 1,000 | 2.34 | 2.57 | 2.34 |
| 5,000 | 6.33 | 7.57 | 6.33 |
| 10,000 | 9.76 | 12.05 | 9.76 |
| 20,000 | 14.97 | 19.18 | 14.97 |
| 60,000 | 29.83 | 39.96 | 29.83 |
| 80,000 | 31.23 | 42.53 | 31.23 |
| 120,000 | 33.33 | 46.30 | 33.33 |
| 160,000 | 34.90 | 49.06 | 34.90 |
| 200,000 | 36.17 | 51.28 | 36.17 |
| 1,000,000 | 46.79 | 68.96 | 46.79 |

(NOTE: For sources in Class I Counties, interpolation of the data in Appendix 1-3 for the process weight per hour values up to 60,000 lb/h is accomplished by the use of the following equation:

$E = 3.59\ P^{0.62}$ (P less than 30 tons/h)

interpolation and extrapolation of the data for process weight per hour values equal to or in excess of 60,000 lb/h are accomplished by use of the equation:

$E = 17.31\ P^{0.16}$ (P greater than or equal to 30 tons/h)

where E = emissions in lb/h and P = process weight in tons/h.)

(NOTE: For sources in Class II Counties, interpolation of the data in Appendix 1-3 for the process weight per hour values up to 60,000 lb/h is accomplished by the use of the following equations:

$E = 4.10\ P^{0.67}$ (P less than 30 ton/h)

interpolation and extrapolation of the data for process weight per hour values equal to or in excess of 60,000 lb/h is accomplished by use of the following equation:

$E = 55.0\ P^{0.11} - 40$ (P greater than or equal to 30 tons/h)

where E = emissions in lb/h and P = process weight in tons per hour.)

**Appendix 1-4**

**Clean Air Act Amendments of 1990--List of Hazardous Air Pollutants**
(Source: Appendix G of ADEM Admin. R. 335-3)

| CAS Number | Chemical name |
|---|---|
| 75070 | Acetaldehyde |
| 60355 | Acetamide |
| 75058 | Acetonitrile |
| 98862 | Acetophenone |
| 53963 | 2-Acetylaminofluorene |
| 107028 | Acrolein |
| 79061 | Acrylamide |
| 79107 | Acrylic acid |
| 107131 | Acrylonitrile |
| 107051 | Allyl chloride |
| 92671 | 4-Aminobiphenyl |
| 62533 | Aniline |
| 90040 | o-Anisidine |
| 1332214 | Asbestos |
| 71432 | Benzene (including benzene from gasoline) |
| 92875 | Benzidine |
| 98077 | Benzotrichloride |
| 100447 | Benzyl chloride |
| 92524 | Biphenyl |
| 117817 | Bis(2-ethylhexyl)phthalate (DEHP) |
| 542881 | Bis(chloromethyl)ether |
| 75252 | Bromoform |
| 106990 | 1,3-Butadiene |
| 156627 | Calcium cyanamide |
| 105602 | Caprolactam |
| 133062 | Captan |
| 63252 | Carbaryl |
| 75150 | Carbon disulfide |
| 56235 | Carbon tetrachloride |
| 463581 | Carbonyl sulfide |
| 120809 | Catechol |
| 133904 | Chloramben |
| 57749 | Chlordane |
| 7782505 | Chlorine |
| 79118 | Chloroacetic acid |
| 532274 | 2-Chloroacetophenone |
| 108907 | Chlorobenzene |
| 510156 | Chlorobenzilate |
| 67663 | Chloroform |
| 107302 | Chloromethyl methyl ether |
| 126998 | Chloroprene |
| 1319773 | Cresols/Cresylic acid (isomers and mixture) |
| 95487 | o-Cresol |
| 108394 | m-Cresol |
| 106445 | p-Cresol |
| 98828 | Cumene |

| CAS Number | Chemical name |
|---|---|
| 94757 | 2,4-D, salts and esters |
| 3547044 | DDE |
| 334883 | Diazomethane |
| 132649 | Dibenzofurans |
| 96128 | 1,2-Dibromo-3-chloropropane |
| 84742 | Dibutylphthalate |
| 106467 | 1,4-Dichlorobenzene(p) |
| 91941 | 3,3-Dichlorobenzidene |
| 111444 | Dichloroethylether (Bis(2-chloroethyl)ether) |
| 542756 | 1,3-Dichloropropene |
| 62737 | Dichlorvos |
| 111422 | Diethanolamine |
| 121697 | N,N-Diethyl aniline (N,N-Dimethylaniline) |
| 64675 | Diethyl sulfate |
| 119904 | 3,3-Dimethoxybenzidine |
| 60117 | Dimethyl aminoazobenzene |
| 119937 | 3,3-Dimethyl benzidine |
| 79447 | Dimethyl carbamoyl chloride |
| 68122 | Dimethyl formamide |
| 57147 | 1,1-Dimethyl hydrazine |
| 131113 | Dimethyl phthalate |
| 77781 | Dimethyl sulfate |
| 534521 | 4,6-Dinitro-o-cresol, and salts |
| 51285 | 2,4-Dinitrophenol |
| 121142 | 2,4-Dinitrotoluene |
| 123911 | 1,4-Dioxane (1,4-Diethyleneoxide) |
| 122667 | 1,2-Diphenylhydrazine |
| 106898 | Epichlorohydrin (1-Chloro-2,3-epoxypropane) |
| 106887 | 1,2-Epoxybutane |
| 140885 | Ethyl acrylate |
| 100414 | Ethyl benzene |
| 51796 | Ethyl carbamate (Urethane) |
| 75003 | Ethyl chloride (Chloroethane) |
| 106934 | Ethylene dibromide (Dibromoethane) |
| 107062 | Ethylenedichloride (1,2-Dichloroethane) |
| 107211 | Ethylene glycol |
| 151564 | Ethylene imine (Aziridine) |
| 75218 | Ethylene oxide |
| 96457 | Ethylene thiourea |
| 75343 | Ethylidenedichloride (1,1-Dichloroethane) |
| 50000 | Formaldehyde |
| 76448 | Heptachlor |
| 118741 | Hexachlorobenzene |
| 87683 | Hexachlorobutadiene |
| 77474 | Hexachlorocyclopentadiene |
| 67721 | Hexachloroethane |
| 822060 | Hexamethylene-1,6-diisocyanate |
| 680319 | Hexamethylphosphoramide |
| 110543 | Hexane |
| 302012 | Hydrazine |
| 7647010 | Hydrochloric acid |

| CAS Number | Chemical name |
|---|---|
| 7664393 | Hydrogen fluoride (Hydrofluoric acid) |
| 123319 | Hydroquinone |
| 78591 | Isophorone |
| 58899 | Lindane (all isomers) |
| 108316 | Maleic anhydride |
| 67561 | Methanol |
| 72435 | Methoxychlor |
| 74839 | Methyl bromide (Bromomethane) |
| 74873 | Methyl chloride (Chloromethane) |
| 71556 | Methylchloroform (1,1,1-Trichloroethane) |
| 78933 | Methyl ethyl ketone (2-Butanone) |
| 60344 | Methyl hydrazine |
| 74884 | Methyl iodide (Iodomethane) |
| 108101 | Methyl isobutyl ketone (Hexone) |
| 624839 | Methyl isocyanate |
| 80626 | Methyl methacrylate |
| 1634044 | Methyl tert butyl ether |
| 101144 | 4,4-Methylene bis(2-chloroaniline) |
| 75092 | Methylene chloride (Dichloromethane) |
| 101688 | Methylene diphenyl diisocyanate (MDI) |
| 101779 | 4,4-Methylenedianiline |
| 91203 | Naphthalene |
| 98953 | Nitrobenzene |
| 92933 | 4-Nitrobiphenyl |
| 100027 | 4-Nitrophenol |
| 79469 | 2-Nitropropane |
| 684935 | N-Nitroso-N-methylurea |
| 62759 | N-Nitrosodimethylamine |
| 59892 | N-Nitrosomorpholine |
| 56382 | Parathion |
| 82688 | Pentachloronitrobenzene (Quintobenzene) |
| 87865 | Pentachlorophenol |
| 108952 | Phenol |
| 106503 | p-Phenylenediamine |
| 75445 | Phosgene |
| 7803512 | Phosphine |
| 7723140 | Phosphorus |
| 85449 | Phthalic anhydride |
| 1336363 | Polychlorinated biphenyls (Aroclors) |
| 1120714 | 1,3-Propane sultone |
| 57578 | beta-Propiolactone |
| 123386 | Propionaldehyde |
| 114261 | Propoxur (Baygon) |
| 78875 | Propylenedichloride (1,2-Dichloropropane) |
| 75569 | Propylene oxide |
| 75558 | 1,2-Propylenimine (2-Methyl aziridine) |
| 91225 | Quinoline |
| 106514 | Quinone |
| 100425 | Styrene |
| 96093 | Styrene oxide |
| 1746016 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin |

| CAS Number | Chemical name |
|---|---|
| 79345 | 1,1,2,2-Tetrachloroethane |
| 127184 | Tetrachloroethylene (Perchloroethylene) |
| 7550450 | Titanium tetrachloride |
| 108883 | Toluene |
| 95807 | 2,4-Toluene diamine |
| 584849 | 2,4-Toluene diisocyanate |
| 95534 | o-Toluidine |
| 8001352 | Toxaphene (chlorinated camphene) |
| 120821 | 1,2,4-Trichlorobenzene |
| 79005 | 1,1,2-Trichloroethane |
| 79016 | Trichloroethylene |
| 95954 | 2,4,5-Trichlorophenol |
| 88062 | 2,4,6-Trichlorophenol |
| 121448 | Triethylamine |
| 1582098 | Trifluralin |
| 540841 | 2,2,4-Trimethylpentane |
| 108054 | Vinyl acetate |
| 593602 | Vinyl bromide |
| 75014 | Vinyl chloride |
| 75354 | Vinylidenechloride (1,1-Dichloroethylene) |
| 1330207 | Xylenes (isomers and mixture) |
| 95476 | o-Xylenes |
| 108383 | m-Xylenes |
| 106423 | p-Xylenes |
| 0 | Antimony Compounds |
| 0 | Arsenic Compounds (inorganic including arsine) |
| 0 | Beryllium Compounds |
| 0 | Cadmium Compounds |
| 0 | Chromium Compounds |
| 0 | Cobalt Compounds |
| 0 | Coke Oven Emissions |
| 0 | Cyanide Compounds[1] |
| 0 | Glycol ethers[2] |
| 0 | Lead Compounds |
| 0 | Manganese Compounds |
| 0 | Mercury Compounds |
| 0 | Fine mineral fibers[3] |
| 0 | Nickel Compounds |
| 0 | Polycylic Organic Matter[4] |
| 0 | Radionuclides (including radon)[5] |
| 0 | Selenium Compounds |

NOTE: For all listings above which contain the word “compounds” and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

[1] X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)(2)

[2] Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH2CH2)n-OR'
where

n = 1, 2, or 3

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure:R-(OCH2CH)n-OH. Polymers are excluded from the glycol category.

[3] Includes mineral fiber emissions from Federal facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

[4] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 °C.

[5] A type of atom which spontaneously undergoes radioactive decay.

**Appendix 1-5**

**Emission Limits for HMIWI**

(Source: ADEM Admin. Code R. 335-3-3-.04(3), Tables 1 and 2) [Added July 2000]

Table 2, below, applies to small **rural** HMIWIs: Small HMIWIs located more than 50 miles from the boundary of the nearest Standard Metropolitan Statistical Area (SMSA) and which burns less than 2000 lb/week of hospital waste and medical/infectious waste. (The quantity limit does not apply during performance tests.) Table 1 applies to all others.

**Table 1:Emission Limits for Small, Medium, and Large HMIWIs**

| Pollutant | Units (7 percent oxygen, dry basis) | Emission Limits | | |
|---|---|---|---|---|
| | | HMIWI size | | |
| | | Small | Medium | Large |
| Particulate matter | Milligrams per dry standard cubic meter (grains per dry standard cubic foot) | 69 (0.03) | 34 (0.015) | 34 (0.015) |
| Carbon monoxide | Parts per million by volume | 40 | 40 | 40 |
| Dioxins/furans | Nanograms per dry standard cubic meter total dioxins/furans (grains per billion dry standard cubic feet) or nanograms per dry standard cubic meter total dioxins/furans TEQ (grains per billion dry standard cubic feet). | 125 (55) or 2.3 (1.0) | 25 (11) or 0.6 (0.26) | 25 (11) or 0.6 (0.26) |
| Hydrogen chloride | Parts per million or percent reduction | 15 or 99% | 15 or 99% | 15 or 99% |
| Sulfur dioxide | Parts per million by volume | 55 | 55 | 55 |
| Nitrogen oxides | Parts per million by volume | 250 | 250 | 250 |
| Lead | Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction | 1.2 (0.52) or 70% | 0.07 (0.03) or 98% | 0.07 (0.03) or 98% |
| Cadmium | Milligrams per dry standard cubic meter (grains per thousand per dry standard cubic feet) or percent reduction | 0.16 (0.07) or 65% | 0.04 (0.02) or 90% | 0.04 (0.02) or 90% |
| Mercury | Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction. | 0.55 (0.24) or 85% | 0.55 (0.24) or 85% | 0.55 (0.24) or 85% |

| Table 2. Emission Limits for Small Rural HMIWI | | |
|---|---|---|
| Pollutant | Units (7 percent oxygen, dry basis) | HMIWI Emission Limits |
| | | |
| Particulate matter | Milligrams per dry standard cubic meter (grains per dry standard cubicfoot) | 197 (0.086) |
| Carbon monoxide | Parts per million by volume | 40 |
| Dioxins/furans | Nanograms per dry standard cubic total dioxins/furans (grains per billion dry standard cubic feet) or nanograms per dry standard cubic meter TEQ (grains per billion dry standard cubic feet) | 800 (350)<br>or 15 (6.6) |
| Hydrogen chloride | Parts per million by volume | 3100 |
| Sulfur dioxide | Parts per million by volume | 55 |
| Nitrogen oxides | Parts per million by volume | 250 |
| Lead | Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) | 10 (4.4) |
| Cadmium | Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) | 4 (1.7) |
| Mercury | Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) | 7.5 (3.3) |

**Appendix 1-6**

**Operating Parameters for HMIWIs To Be Monitored and Minimum Measurement and Recording Frequencies**
(Source: ADEM Admin. Code R. 335-3-3-.04(8), Table 4)
[Added July 2000]

| Operating parameters to be monitored | Minimum Frequency | | Control System | | |
|---|---|---|---|---|---|
| | **Data measure-ment** | **Data recording** | **Dry scrubber followed by fabric filter** | **Wet scrubber** | **Dry scrubber followed by fabric filter and wet scrubber** |
| Maximum operating parameters: | | | | | |
| Maximum charge rate | Continuous | 1 x hour | x | x | x |
| Maximum fabric filter inlet temperature | Continuous | 1 x minute | x | | x |
| Maximum flue gas temperature | Continuous | 1 x minute | x | x | |
| Minimum operating parameter: | | | | | |
| Minimum secondary chamber temp. | Continuous | 1 x minute | x | x | x |
| Minimum dioxin/furan sorbent flow rate | Hourly | 1 x hour | x | | x |
| Minimum HCl sorbent flow rate | Hourly | 1 x hour | x | | x |
| Minimum mercury (Hg) sorbent flow rate | Hourly | 1 x hour | x | | x |
| Minimum pressure drop across the wet scrubber or minimum horsepower or amperage to wet scrubber | Continuous | 1 x minute | | x | x |
| Minimum scrubber liquor flow rate | Continuous | 1 x minute | | x | x |
| Minimum scrubber liquor pH | Continuous | 1 x minute | | x | x |

## SECTION 2

## CULTURAL RESOURCES MANAGEMENT

### Alabama Supplement, July 2000

This section covers the state requirements for Cultural Resources Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

**Definitions**

- *Archaeologist* - a person meetings qualifications as found in the Federal regulations (see Title 36, Code of Federal Regulations, Chapter 61) (Alabama Historical Commission (AHC) Administrative (Admin.) Code Rule (R.) 460-X-10-.01(a)).

- *Burial* - a document necessary to conduct activities involving human remains or funerary objects at marked or unmarked sites (AHC Admin. Code R. 460-X-10-.01(a)).

- *Cemetery* - a place of burial for human remains with or without markings or indications (AHC Admin. Code R. 460-X-10-.01(a)).

- *Funerary Objects* - objects of, used for, or associated with burial (AHC Admin. Code R. 460-X-10-.01(a)).

- *Permit* - includes the human remains, all funerary objects, and the grave or other place of deposition (AHC Admin. Code R. 460-X-10-.01(a)).

| CULTURAL RESOURCES MANAGEMENT<br>GUIDANCE FOR ALABAMA CHECKLIST USERS | |
|---|---|
| | **REFER TO CHECKLIST ITEMS:** |
| Missing Checklist Items | CR.2.1.AL. |
| Historic Properties | CR.5.1.AL. |
| Archeological/Indian Sites | CR.15.1.AL. through CR.15.3.AL. |

| COMPLIANCE CATEGORY:<br>CULTURAL RESOURCES MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **CR.2.**<br>**MISSING CHECKLIST ITEMS** | |
| **CR.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

| COMPLIANCE CATEGORY:<br>CULTURAL RESOURCES MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **CR.5.**<br>**HISTORIC PROPERTIES** | |
| **CR.5.1.AL.** Federal facilities must meet specific requirements for underwater artifacts, treasure troves, and other articles (Alabama Underwater Cultural Resources Act Sections 3 and 8). | Verify that the Federal facility does not take, damage, destroy, salvage, excavate, or otherwise alter any underwater artifacts, treasure troves, or other articles without first receiving a permit from the Alabama Historical Commission. |

| COMPLIANCE CATEGORY:<br>CULTURAL RESOURCES MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **CR.15. ARCHEOLOGICAL/ INDIAN SITES** | |
| **CR.15.1.AL.** Federal facilities must meet specific permit and notification requirements for activities involving human remains or funerary objects (AHC Admin. Code R. 460-X-10-.01(c) and (f)). | Verify that the Federal facility has received a permit from the Alabama Historical Commission before disturbing any human remains.<br><br>Verify that, upon discovery of any human remains and/or funerary objects, the Federal facility notifies the Alabama Historical Commission immediately.<br><br>Verify that, upon discovery of any human remains and/or funerary objects during activities including, but not limited to, construction, mining, logging, or agriculture, the Alabama Historical Commission is notified immediately and reasonable [not defined] efforts are made to protect the items discovered. |
| **CR.15.2.AL.** Federal facilities must meet specific cemetery requirements (Code of Alabama Section 13A-7-23.1). | (NOTE: Federal facilities holding a permit from the Alabama Historical Commission are exempt from cemetery requirements.)<br><br>Verify that the Federal facility does not injure, deface, remove, or destroy any fence, tomb, monument, gravestone, or other memorial of the dead.<br><br>Verify that the Federal facility does not destroy, remove, cut, break, or injure any tree, shrub, plant, flower, decoration, or other real or personal property within any cemetery or graveyard.<br><br>Verify that American Indian places of burial or funerary objects on property not owned by the Federal facility are not desecrated. |
| **CR.15.3.AL.** Federal facilities must meet specific requirements for the exploration or excavation of aboriginal mounds, earth-works, and other antiquities (Alabama Statute 41-3-1, 41-3-4, and 41-3-5). | Verify that nonresidents of Alabama do not explore or excavate remains or carry or send away from Alabama any antiquity discovered in the state.<br><br>Verify that antiquities are not destroyed by exploration or excavation.<br><br>Verify that, upon completing any exploration or excavation, antiquities are returned to the same condition in which they were discovered. |

## SECTION 3

## HAZARDOUS MATERIALS MANAGEMENT

### Alabama Supplement, July 2000

This section covers the state requirements for Hazardous Materials Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

| | |
|---|---|
| | **REFER TO CHECKLIST ITEMS:** |
| Missing Checklist Items | HM.2.1.AL. |
| Releases of Hazardous Materials | HM.20.1.AL. |

| COMPLIANCE CATEGORY:<br>HAZARDOUS MATERIALS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **HM.2.<br>MISSING CHECKLIST ITEMS** | |
| **HM.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

| COMPLIANCE CATEGORY:<br>HAZARDOUS MATERIALS MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **HM.20.<br>RELEASES OF HAZARDOUS MATERIALS** | |
| **HM.20.1.AL.** Releases of materials regulated under Title III of the Federal *Superfund Amendments and Reauthorization Act* must be reported to the State of Alabama (Management Practice). | Verify that releases of materials regulated under Title III of the Federal *Superfund Amendments and Reauthorization Act* are reported to either the instate duty officer at 800/843-0699 or the Alabama Department of Environmental Management in Montgomery at 205/271-7700. |

## SECTION 4

## HAZARDOUS WASTE MANAGEMENT

### Alabama Supplement, July 2000

This section covers the state requirements for Hazardous Waste Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

**Definitions**

- *ADEM* - the Alabama Department of Environmental Management (ADEM Admin. Code R. 335-14-1-.02).

- *Certification* or *Recertification* - as used in this Rule and Appendices thereto is a statement based upon knowledge and belief of the accuracy of the information required by this Rule (ADEM Admin. Code R. 335-14-3-.08(2) [Added August 1998].

- *Commercial Hazardous Waste Disposal Facility* - a facility receiving hazardous waste not generated onsite for disposal and to which a fee is paid or other compensation is given for disposal (ADEM Admin. Code R. 335-14-3-.01( I)).

- *Commission* - the Alabama Environmental Management Commission (ADEM Admin. Code R. 335-14-1-.02).

- *Container* - any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled (ADEM Admin. Code R. 335-14-1-.02).

- *Contingency Plan* - a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous wastes or hazardous waste constituents that could threaten human health or the environment (ADEM Admin. Code R. 335-14-1-.02).

- *Department* - the Alabama Department of Environmental Management (ADEM Admin. Code R. 335-14-1-.02).

- *Disposal* - the discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters including groundwaters (ADEM Admin. Code R. 335-14-1-.02).

- *Generator* - any person, by individual generation site, whose act or process produces hazardous waste, or whose act first causes a hazardous waste to become subject to regulation (ADEM Admin. Code R. 335-14-1-.02).

- *Generator* - for purposes of this Rule is a person as defined in 335-14-1-.02, but such term shall not include the treatment, storage, disposal, or other management of solid or hazardous wastes received from off-site when the final disposal of the waste occurs at the same facility which treated, stored, or otherwise managed the waste (ADEM Admin. Code R. 335-14-3-.08(2) [Added August 1998].

- *Incinerator* - any enclosed device that:
    1. Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor listed as an industrial furnace; or
    2. Meets the definition of infrared incinerator or plasma arc incinerator. regulation (ADEM Admin. Code R. 335-14-1-.02).

- *Individual Generation Site* - the contiguous site at or which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous (ADEM Admin. Code R. 335-14-1-.02).

- *Inner Liner* - a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste (ADEM Admin. Code R. 335-14-1-.02).

- *Land Treatment Facility* - a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface. Such facilities are disposal facilities if the waste will remain after closure (ADEM Admin. Code R. 335-14-1-.02).

- *Landfill* - a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment unit, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave or corrective action management unit (ADEM Admin. Code R. 335-14-1-.02).

- *Manifest* - the form adopted by the Department used for identifying the quantity, composition, origin, routing, and destination of hazardous waste during its transportation from the point of generation to the point of disposal, treatment, or storage (ADEM Admin. Code R. 335-14-1-.02).

- *Pile* - any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building (ADEM Admin. Code R. 335-14-1-.02).

- *Small Quantity Generator* - a generator who generates less than 1000 kg of hazardous waste in a calendar month (ADEM Admin. Code R. 335-14-1-.02).

- *Spill* - the unplanned, accidental, or unpermitted discharge, deposit, injection, leaking, pumping, pouring, emitting, dumping, placing, or releasing of hazardous wastes, or materials which when spilled become hazardous waste, into or on the land, air, or water (ADEM Admin. Code R. 335-14-1-.02).

- *Storage* - the actual or intended containment of wastes, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of such waste (ADEM Admin. Code R. 335-14-1-.02).

- *Surface Impoundment* - a facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials) which is designed to hold an accumulation of liquid wastes or wastes containing free liquids. Examples of surface impoundments are holding, storage, settling and aeration pits, ponds, and lagoons (ADEM Admin. Code R. 335-14-1-.02).

- *Waste Stream* - a waste of given characteristics that is unique to a particular process or individual generation site (ADEM Admin. Code R. 335-14-3-.08(2) [Added August 1998].

.

- *Working Day* - any day, Monday through Friday, on which the offices of the Alabama Department of Environmental Management are open for business, and shall not include weekends or any state observed holiday (ADEM Admin. Code R. 335-14-3-.08(2) [Added August 1998].

**HAZARDOUS WASTE MANAGEMENT**
**GUIDANCE FOR ALABAMA CHECKLIST USERS**

| | **REFER TO CHECKLIST ITEMS:** |
|---|---|
| Missing Checklist Items | HW.2.1.AL. |
| All Sizes of Generators | HW.10.1.AL. |
| Conditionally Exempt Small Quantity Generators (CESQG) | HW.15.1.AL. |
| Small Quantity Generators (SQG) | |
| General | HW.20.1.AL. through HW.20.4.AL. |
| Containers | HW.30.1.AL. |
| Disposal of Restricted Waste | HW.45.1.AL. |
| Generators | |
| General | HW.55.1.AL. through HW.55.8.AL. |
| Personnel Training | HW.60.1.AL. and HW.60.2.AL. |
| Contingency Plans and Emergency Coordinators | HW.65.1.AL. through HW.65.3.AL. |
| Containers | HW.70.1.AL |
| Satellite Accumulation Points | HW.75.1.AL. |
| Disposal of Restricted Waste | HW.90.1.AL. |
| Transportation | HW.100.1.AL. and HW.100.2.AL. |
| All TSDFs | |
| General | HW.105.1.AL. through HW.105.9.AL. |
| Personnel Training | HW.110.1.AL. and HW.110.2.AL. |
| Containers | HW.115.1.AL. through HW.115.5.AL. |
| Container Storage Areas | HW.120.1.AL. and HW.120.2.AL. |
| Contaminant Buildings | HW.125.1.AL. through HW.125.7.AL. |
| Restricted Wastes | HW.130.1.AL. |
| Emissions from Process Vents | HW.135.1.AL. |
| Air Emission Standards for Equipment Leaks | HW.140.1.AL. |
| Documentation Requirements | HW.145.1.AL. through HW.145.12.AL. |
| Surface Impoundments | HW.150.1.AL. |
| Waste Piles | HW.155.1.AL. |
| Land Treatment Units | HW.160.1.AL. |
| Hazardous Waste Landfills | HW.165.1.AL. |
| Closure | HW.170.1.AL. |
| Additional Requirements for Permitted TSDFs | |
| Incinerators | HW.205.1.AL. |
| Miscellaneous Units | HW.210.1.AL. |
| Additional Requirements for Interim Status TSDFs | |
| General | HW.220.1.AL. through HW.220.8.AL. |
| Thermal Treatment | HW.250.1.AL. |
| Chemical/Physical/Biological Treatment | HW.255.1.AL. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **HW.2.<br>MISSING CHECKLIST ITEMS** | |
| **HW.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **HW.10.<br>ALL SIZES OF GENERATORS** | |
| **HW.10.1.AL.** Generators may be required to have an approved disposal plan (ADEM Admin. Code R. 335-14-3-.01(5)(b) [Revised August 1998]. | Verify that, if the generator has been required by the Department to submit a plan for hazardous waste disposal, the plan has been approved.<br><br>Verify that conditions of the approved disposal plan are met.<br><br>(NOTE: The Department may require a disposal plan regardless of whether the waste is to be disposed of at an on-site or off-site disposal area. If the Department requires submission of such a disposal plan, the generator must not dispose of hazardous waste at a site not permitted to receive hazardous waste until the Department approves the disposal plan.) |
| **HW.10.2.AL.** Generators may be requested to have an approved disposal plan (ADEM Admin. Code R. 335-14-3-.01(3) [Moved August 1998]. | Verify that the Federal facility does not generate, treat, store, dispose of, transport, or offer for transportation, hazardous waste without a USEPA identification number issued from the Department.<br><br>Verify that, when a generator adds a process that produces a new hazardous waste or changes a process thereby producing a different hazardous waste, or the information previously provided becomes outdated or inaccurate, he files an updated ADEM Form 8700-12 with the Department describing current hazardous waste activities. A generator. |
| **HW.10.3.AL.** Generators of waste destined for disposal at commercial hazardous waste facilities located in Alabama must meet specific requirements (ADEM Admin. Code R. 335-14-3-.08(1) and (3) [Moved August 1998]. | Determine if hazardous waste generated at the Federal facility is destined for disposal at a TSDF located within the State of Alabama.<br><br>Verify that the Federal facility has applied for and received approval from the Department and has been issued a Disposal Approval Number.<br><br>Verify that no waste is disposed of at a commercial hazardous waste facility in the State sooner than 5 working days following the Department's receipt pt notification unless the generator has previously received acceptance notification.<br><br>(NOTE: If the Department fails to notify the generator of the application's status within 5 days of receiving the application, the disposal facility may, at its discretion, accept and dispose of the waste.)<br><br>Verify that recertification of the initial notification is made biennially. |

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| | Verify that recertification has been received if the process generating the waste, the waste description, or the chemical composition of the waste stream has changed.<br><br>Verify that, if emergency authorization has been granted by the Department, the generator submits a complete ADEM Form 278 01/96 to the Department within 15 calendar day. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **HW.15. CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS (CESQG)** | |
| **HW.15.1.AL.** [Deleted August 1998]. | (Same as the Federal.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **SMALL QUANTITY GENERATORS (SQG)** | |
| **HW.20. GENERAL** | |
| **HW.20.1.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.20.2.AL.** [Moved to HW.10 August 1998]. | |
| **HW.20.3.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.20.4.AL.** [Deleted August 1998]. | (Same as the Federal.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **SMALL QUANTITY GENERATORS (SQG)**<br><br>**HW.30. CONTAINERS**<br><br>**HW.30.1.AL.** SQGs must meet specific requirements for the use and management of containers (ADEM Admin. Code R. 335-14-6-.09). | (NOTE: This requirement is in addition to the Federal requirement.)<br><br>Verify that containers that have a capacity of more than 30 gal are not stacked over two containers high. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **SMALL QUANTITY GENERATORS (SQG)**<br><br>**HW.45. DISPOSAL OF RESTRICTED WASTE**<br><br>**HW.45.1.AL.** [Deleted August 1998]. | (NOTE: Alabama has adopted by reference the Federal regulations concerning land disposal of restricted wastes listed in 40 CFR 268, Subpart A. See the U.S. TEAM Guide for specific requirements.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **GENERATORS** | |
| **HW.55.<br>GENERAL** | |
| **HW.55.1.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.55.2.AL.** [Deleted August 1998]. | [Moved to HW.10.] |
| **HW.55.3.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.55.4.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.55.5.AL.** [Moved to HW.10 August 1998]. | |
| **HW.55.6.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.55.7.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.55.8.AL.** [Deleted August 1998]. | (Same as the Federal.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **GENERATORS**<br><br>**HW.60.<br>PERSONNEL TRAINING** | |
| **HW.60.1.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.60.2.AL.** [Deleted August 1998]. | (Same as the Federal.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **GENERATORS**<br><br>**HW.65. CONTINGENCY PLANS AND EMERGENCY COORDINATORS** | |
| **HW.65.1.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.65.2.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.65.3.AL.** [Deleted August 1998]. | (Same as the Federal.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **GENERATORS**<br><br>**HW.70.**<br>**CONTAINERS**<br><br>**HW.70.1.AL.** Generators must meet specific requirements for the use and management of containers (ADEM Admin. Code R. 335-14-6-.09). | (NOTE: This requirement is in addition to the Federal requirement.)<br><br>Verify that containers that have a capacity of more than 30 gal are not stacked over two containers high. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **GENERATORS**<br><br>**HW.75. SATELLITE ACCUMULATION POINTS**<br><br>**HW.75.1.AL.** [Deleted August 1998]. | (Same as the Federal.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **GENERATORS**<br><br>**HW.90.<br>DISPOSAL OF<br>RESTRICTED WASTE**<br><br>**HW.90.1.AL.** [Deleted August 1998]. | (NOTE: Alabama has adopted by reference the Federal regulations concerning land disposal of restricted wastes listed in 40 CFR 268, Subpart A. See the U.S. TEAM Guide for specific requirements.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **HW.100. TRANSPORTATION** | |
| **HW.100.1.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.100.2.AL.** [Deleted August 1998]. | (Same as the Federal.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ALL TSDFs**<br><br>**HW.105.<br>GENERAL** | |
| **HW.105.1.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 270.10 and 270.30 through 270.33. See the facility permit and the U.S. TEAM Guide for specific requirements. |
| **HW.105.2.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 270.70 through 270.73. See the U.S. TEAM Guide for specific requirements. |
| **HW.105.3.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.11 and 265.11. See the U.S. TEAM Guide for specific requirements. |
| **HW.105.4.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.14 and 265.14. See the U.S. TEAM Guide for specific requirements. |
| **HW.105.5.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.30 through 264.37 and 265.31 through 265.37. See the U.S. TEAM Guide for specific requirements. |
| **HW.105.6.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.17(a) and 265.17(a). See the U.S. TEAM Guide for specific requirements. |
| **HW.105.7.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.17(b) and 265.17(b). See the U.S. TEAM Guide for specific requirements. |
| **HW.105.8.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.13 and 265.13. See the U.S. TEAM Guide for specific requirements. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **HW.105.9.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.55 and 265.44. See the U.S. TEAM Guide for specific requirements. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ALL TSDFs**<br><br>**HW.110.<br>PERSONNEL TRAINING** | |
| **HW.110.1.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.16(a) through 264.16(c) and 265.16(a) through 265.16(c). See the U.S. TEAM Guide for specific requirements. |
| **HW.110.2.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.16(d), 264.16(e) and 265.16(d), 265.16(e). See the U.S. TEAM Guide for specific requirements. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ALL TSDFs**<br><br>**HW.115.<br>CONTAINERS** | |
| **HW.115.1.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 261.7. See the U.S. TEAM Guide for specific requirements. |
| **HW.115.2.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.171 and 265.171. See the U.S. TEAM Guide for specific requirements. |
| **HW.115.3.AL.** [Deleted August 1998]. | These ADEM regulations are identified to 40 CFR 264.172 and 265.172. See the U.S. TEAM Guide for specific requirements. |
| **HW.115.4.AL.** Containers at TSDFs must be handled in a safe manner (ADEM Admin. Code R. 335-14-5-.09(4) and 335-14-6-.09(4)) [Revised August 1998]. | (NOTE: This requirement is in addition to Federal requirements.]<br><br>Verify that containers with a capacity of more than 30 gal are not stacked more than two containers high. |
| **HW.115.5.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.17(b), 264.177 and 265.17(b) and 265.177). See the U.S. TEAM Guide for specific requirements. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ALL TSDFs**<br><br>**HW.120. CONTAINER STORAGE AREAS**<br><br>**HW.120.1.AL.** [Deleted August 1998].<br><br>**HW.120.2.AL** [Deleted August 1998]. | (Same as the Federal.)<br><br>(Same as the Federal.) |

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| **ALL TSDFs** | |
| **HW.125. CONTAINMENT BUILDINGS** | |
| **HW.125.1.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.1100 and 265.1100. See the U.S. TEAM Guide for specific requirements. |
| **HW.125.2.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.1101(a)(1) through 264.1101(a)(2), 264.1101(b) and 40 CFR 265.1101(a)(1) through 265.1101(a)(2), and 265.1101(b). See the U.S. TEAM Guide for specific requirements. |
| **HW.125.3.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.1101(a)(3), 264.1101(c)(1), 264.1101(c)(4) and 265.1101(a)(3), 265.1101(c)(1), and 265.1101(c)(4). See the U.S. TEAM Guide for specific requirements. |
| **HW.125.4.AL.** [Deleted August 1998]. | (Same as the Federal.) |
| **HW.125.5.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.1101(c)(3) and 265.1101(c)(3). See the U.S. TEAM Guide for specific requirements. |
| **HW.125.6.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.1101.(d) and 265.1101(d). See the U.S. TEAM Guide for specific requirements. |
| **HW.125.7.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.1102 and 265.1102. See the U.S. TEAM Guide for specific requirements. |

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| **ALL TSDFs** | |
| **HW.130. RESTRICTED WASTES** | |
| **HW.130.1.AL.** [Deleted August 1998]. | Alabama has adopted by reference the regulations concerning land disposal of restricted wastes listed in 40 CFR 268 and Appendices. See the U.S. TEAM Guide for specific requirements. |

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| **ALL TSDFs** | |
| **HW.135. EMISSIONS FROM PROCESS VENTS** | |
| **HW.135.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning emissions from process vents for interim status and permitted TSDFs incorporate by reference the Federal regulations. ADEM Admin. Code R 335-14-6-.27 requirements for interim status facilities incorporate 40 CFR 265, Subpart AA. ADEM Admin. Code R. 335-14-5-.27 requirements for permitted facilities incorporate 40 CFR 264, Subpart AA. See the U.S. Team Guide for specific requirements. |

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| **ALL TSDFs** | |
| **HW.140. AIR EMISSIONS STANDARDS FOR EQUIPMENT LEAKS** | |
| **HW.140.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning air emissions from equipment leaks for interim status and permitted TSDFs incorporate by reference the Federal requirements. ADEM Admin. Code R 335-14-6-.28 requirements for interim status facilities incorporate 40 CFR 265, Subpart BB. ADEM Admin. Code R. 335-14-5-.28 requirements for permitted facilities incorporate 40 CFR 264, Subpart BB. See the U.S. Team Guide for specific requirements. |

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| **ALL TSDFs** | |
| **HW.145. DOCUMENTATION REQUIREMENTS** | |
| **HW.145.1.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.13(b) and (c) and 265.13(b) and (c). See the U.S. TEAM Guide for specific requirements. |
| **HW.145.2.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.15 and 265.15. See the U.S. TEAM Guide for specific requirements. |
| **HW.145.3.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.50 through 264.54 and 265.50 through 265.54. See the U.S. TEAM Guide for specific requirements. |
| **HW.145.4.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.56(a) through 264.56(i) and 265.56(a) through 265.56(i). See the U.S. TEAM Guide for specific requirements. |
| **HW.145.5.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.73 through 264.74 and 265.73 through 265.74. See the U.S. TEAM Guide for specific requirements. |
| **HW.145.6.AL.** [Deleted August 1998]. | |
| **HW.145.7.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.110, 264.112(a) and 264.112(b) and 265.110, 265.112(a) and 265.112(b). See the U.S. TEAM Guide for specific requirements. |
| **HW.145.8.AL.** [Deleted | These ADEM regulations are identical to 40 CFR 264.118 and 265.118(a) through |

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| August 1998]. | 265.118(d). See the U.S. TEAM Guide for specific requirements. |
| **HW.145.9.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.70, 264.71, 265.70, and 265.71. See the U.S. TEAM Guide for specific requirements. |
| **HW.145.10.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.12(a) and 265.12(a). See the U.S. TEAM Guide for specific requirements. |
| **HW.145.11.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 264.72 and 265.72. See the U.S. TEAM Guide for specific requirements. |
| **HW.145.12.AL.** [Deleted August 1998]. | These ADEM regulations concerning manifests, recordkeeping, and reporting for interim status and permitted TSDFs are identical to the Federal requirements. ADEM Admin. Code R. 335-14-6-.05 requirements for interim status facilities correspond to 40 CFR 265, Subpart E. ADEM Admin. Code R. 335-14-5-.05 requirements for permitted facilities correspond to 40 CFR 264, Subpart E. See the U.S. TEAM Guide for specific requirements. |

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| **ALL TSDFs** | |
| **HW.150. SURFACE IMPOUNDMENTS** | |
| **HW.150.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning hazardous waste surface impoundments for interim status and permitted TSDFs are identical to the Federal requirements. ADEM Admin. Code R. 335-14-6-.11 requirements for interim status facilities correspond to 40 CFR265, Subpart K. ADEM Admin. Code R. 335-14-5-.11 requirements for permitted facilities correspond to 40 CFR 264, Subpart K. See the U.S. TEAM Guide for specific requirements. |

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| **ALL TSDFs** | |
| **HW.155. WASTE PILES** | |
| **HW.155.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning waste piles for interim status and permitted TSDFs are identical to the Federal requirements. ADEM Admin. Code R. 335-14-6-.12 requirements for interim status facilities correspond to 40 CFR 265, Subpart L. ADEM Admin. Code R. 335-14-5-.12 requirements for permitted facilities correspond to 40 CFR 264, Subpart L. See the U.S. TEAM Guide for specific requirements. |

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| **ALL TSDFs**<br><br>**HW.160.<br>LAND TREATMENT UNITS**<br><br>**HW.160.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning land treatment units for interim status and permitted TSDFs are identical to the Federal requirements. ADEM Admin. Code R. 335-14-6-.13 requirements for interim status facilities correspond to 40 CFR 265, Subpart M. ADEM Admin. Code R. 335-14-5-.13 requirements for permitted facilities correspond to 40 CFR 264, Subpart M. See the U.S. TEAM Guide for specific requirements. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ALL TSDFs**<br><br>**HW.165.<br>HAZARDOUS WASTE LANDFILLS**<br><br>**HW.165.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning hazardous waste landfills for interim status and permitted TSDFs are identical to the Federal requirements. ADEM Admin. Code R. 335-14-6-.14 requirements for interim status facilities correspond to 40 CFR 265, Subpart N. ADEM Admin. Code R. 335-14-5-.14 requirements for permitted facilities correspond to 40 CFR 264, Subpart N. See the U.S. TEAM Guide for specific requirements. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ALL TSDFs**<br><br>**HW.170.<br>CLOSURE**<br><br>**HW.170.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning closure and postclosure care for interim status and permitted TSDFs are identical to the Federal requirements. ADEM Admin. Code R. 335-14-6-.07 requirements for interim status facilities correspond to 40 CFR 265, Subpart G. ADEM Admin. Code R. 335-14-5-.07 requirements for permitted facilities correspond to 40 CFR 264, Subpart G. See the U.S. TEAM Guide for specific requirements. |

| COMPLIANCE CATEGORY:<br>HAZARDOUS WASTE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ADDITIONAL REQUIREMENTS FOR PERMITTED TSDFs**<br><br>**HW.205. INCINERATORS** | |
| **HW.205.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning hazardous waste incinerators at permitted TSDFs are identical to the Federal requirements listed in 40 CFR 264, Subpart O. See the U.S. TEAM Guide for specific requirements. |

| COMPLIANCE CATEGORY:<br>HAZARDOUS WASTE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ADDITIONAL REQUIREMENTS FOR PERMITTED TSDFs**<br><br>**HW.210. MISCELLANEOUS UNITS** | |
| **HW.210.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning permitted TSDFs utilizing miscellaneous units are identical to the Federal requirements listed in 40 CFR 264, Subpart X. See the U.S. TEAM Guide for specific requirements. |

| COMPLIANCE CATEGORY:<br>HAZARDOUS WASTE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ADDITIONAL REQUIREMENTS FOR INTERIM STATUS TSDFs**<br><br>**HW.220. GENERAL** | |
| **HW.220.1.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 265.382. See the U.S. TEAM Guide for specific requirements. |
| **HW.220.2.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 265.90(a) through 265.90(c) and 265.90(e). See the U.S. TEAM Guide for specific requirements. |
| **HW.220.3.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 265.91. See the U.S. TEAM Guide for specific requirements. |
| **HW.220.4.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 265.92. See the U.S. TEAM Guide for specific requirements. |
| **HW.220.5.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 265.93. See the U.S. TEAM Guide for specific requirements. |
| **HW.220.6.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 265.93(c)(2) and 265.(d)(5) through 265.93(d)(7). See the U.S. TEAM Guide for specific requirements. |
| **HW.220.7.AL.** [Deleted August 1998]. | These ADEM regulations are identical to 40 CFR 265.94(a). See the U.S. TEAM Guide for specific requirements. |

| COMPLIANCE CATEGORY:<br>HAZARDOUS WASTE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **HW.220.8.AL.** When groundwater is being monitored to satisfy a groundwater assessment program, records must be maintained of the analyses and an annual report submitted (ADEM Admin. Code R. 335-14-6-.06(5)). | Verify that records of analyses and evaluations specified in the plan are maintained throughout the active life of the facility, and for disposal facilities, throughout the postclosure period.<br><br>Verify that the results of the program are submitted annually to the Department no later than 1 March. |

| COMPLIANCE CATEGORY:<br>HAZARDOUS WASTE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **ADDITIONAL REQUIREMENTS FOR INTERIM STATUS TSDFs**<br><br>**HW.250. THERMAL TREATMENT** | |
| **HW.250.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning thermal treatment of hazardous waste at interim status TSDFs are identical to the Federal requirements listed in 40 CFR 265, Subpart P. See the U.S. TEAM Guide for specific requirements. |

| COMPLIANCE CATEGORY:<br>HAZARDOUS WASTE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ADDITIONAL REQUIREMENTS FOR INTERIM STATUS TSDFs**<br><br>**HW.255. CHEMICAL/PHYSICAL/ BIOLOGICAL TREATMENT** | |
| **HW.255.1.AL.** [Deleted August 1998]. | These ADEM regulations concerning chemical, physical, or biological treatment of hazardous waste at interim status TSDFs are identical to the Federal requirements listed in 40 CFR 265, Subpart Q. See the U.S. TEAM Guide for specific requirements. |

**SECTION 5**

**NATURAL RESOURCES MANAGEMENT**

**Alabama Supplement, July 2000**

This section covers the state requirements for Natural Resources Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

**Definitions**

- *Adjacent Wetlands* - those wetland areas bordering, contiguous, neighboring, or hydrologically contiguous to state waters and/or wetland ecosystems (Alabama Department of Environmental Management (ADEM) Administrative (Admin.) Code Rule (R.) 335-8-1-.02) (ADEM Admin. Code R. 335-8-1-.02).

- *Agency* - any unit, department, or office of Federal, state or local government, including subdivisions (ADEM Admin. Code R. 335-8-1-.02).

- *Alabama Coastal Area Management Program (ACAMP)* - see Management Program (ADEM Admin. Code R. 335-8-1-.02).

- *Beach* - a sandy shoreline area characterized by low relief, generally of gentle slope, and some vegetation. The beach extends from the waterline to a change in physiographic form such as a dune or bluff, a change in sediment type such as clay from sand, and/or a change in vegetation type. Gulf beaches are those sand beaches of the mainland and islands in Alabama which are subjected to direct wave action of the Gulf of Mexico. The upper limit of Gulf beaches is usually a transition from halophytic, succulent, prostrate plant forms to a zone occupied by grasses, shrubs, and prostrate forms (ADEM Admin. Code R. 335-8-1-.02).

- *Boathouse* - a structure constructed over water which is designed or intended to be used for the purpose of docking, storing, and protecting one or more watercraft (ADEM Admin. Code R. 335-8-1-.02).

- *Boatslip* - an excavated basin whose length is no greater than twice its width and which is used for the dockage of watercraft (ADEM Admin. Code R. 335-8-1-.02).

- *Canal* - an excavated waterway for the purpose of navigation whose bottom elevation is below mean low water (ADEM Admin. Code R. 335-8-1-.02).

- *Certificate of Compliance* - a document sent to a state agency certifying that the Department has determined the proposed use is in compliance with the Coastal Area Management Program (ADEM Admin. Code R. 335-8-1-.02).

- *Coastal Area* - the waters, including the lands therein and thereunder, and the adjacent shorelands, including the waters therein and thereunder, lying seaward of the continuous 10-ft contour extending seaward to the outer limit of the United States Territorial sea. The inland boundaries of the coastal area are described as follows (ADEM Admin. Code R. 335-8-1-.02):
    1. begin at the southernmost point of the Mississippi-Alabama state line where the land surface elevation reaches 10 ft above mean sea level and continue in a general easterly direction along the 10-ft contour to the proximity of Mobile Bay; continue in a northerly direction on the 10-ft contour along the western shore of Mobile Bay and the Mobile River delta to the north line of Mobile County; then southeastward along the north line of Mobile County to the intersection with the Baldwin County line in the Mobile

River; then along the west and north lines of Baldwin County in the Mobile and Alabama Rivers to the intersection of the westernmost point of Baldwin County where the land surface altitude reaches 10 ft above mean sea level; then along the 10-ft contour in a southwesterly and southern direction along the Alabama River, the Mobile River delta, and the east shore of Mobile Bay to the proximity of Bon Secour; then continue along the 10-ft contour in an easterly and northeasterly direction to the Alabama-Florida state line.

- *Coastal Resources* - valuable human, natural, cultural, or historical assets within the coastal area, such as water quality, air quality, wetlands and submersed grassbeds, beaches and dunes, wildlife habitats, biological resources, and water resources (ADEM Admin. Code R. 335-8-1-.02).

- *Coastal Waters* - those waters, adjacent to the shoreline, which contain a measurable quantity or percentage of sea water including, but not limited to, sounds, bays, lagoons, bayous, ponds, and estuaries (ADEM Admin. Code R. 335-8-1-.02).

- *Consistency Certification* - a document submitted by an applicant for a Federal license, Federal permit, or activity described in an Outer Continental Shelf Lands Plan stating that a use proposed to be undertaken is consistent with the management program and complies with all relevant rules and regulations (ADEM Admin. Code R. 335-8-1-.02).

- *Consistency Determination* - a document sent to the Department by any Federal agency stating that a use proposed to be undertaken by that Federal agency is consistent with the management program and complies with all relevant rules and regulations (ADEM Admin. Code R. 335-8-1-.02).

- *Cultural Resource* - any district, building, site, object, or other material in American history, architecture, archaeology, or culture which is of national, state, or local significance (ADEM Admin. Code R. 335-8-1-.02).

- *Department* - the Alabama Department of Environmental Management (ADEM) (ADEM Admin. Code R. 335-8-1-.02).

- *Department Approval* - the approval of any local permitting program or the issuance of any Department permit (ADEM Admin. Code R. 335-8-1-.02).

- *Department Review* - the procedure by which the Department reviews uses subject to management for the purpose of determining whether or not to do any of the following (ADEM Admin. Code R. 335-8-1-.02):
  1. issue or deny a certificate of compliance
  2. concur with or object to any person or agency's consistency certification
  3. agree or disagree with an agency's objection
  4. issue or deny a Department permit
  5. approve or disapprove a local permitting program.

- *Discharge* - the addition, introduction, leakage, spilling or emitting of any sewer, industrial wastes, pollutant or other wastes into waters of the state (ADEM Admin. Code R. 335-8-1-.02).

- *Ditch* - an excavation designed for the purpose of stormwater drainage whose bottom elevation is at or above zero National Geodetic Vertical Datum (ADEM Admin. Code R. 335-8-1-.02) (ADEM Admin. Code R. 335-8-1-.02).

- *Dredging* - excavation of any materials from lands underlying coastal waters or wetlands (ADEM Admin. Code R. 335-8-1-.02).

- *Dune* - see Primary Dune System (ADEM Admin. Code R. 335-8-1-.02).

- *Dune Walkover* - a raised walkway constructed for the purpose of protecting the beach and dune system between mean high tide and the construction control line [defined in ADEM Admin. Code R. 335-8-1-.02(p)] from damage that may result from anticipated pedestrian traffic to the beach and which is no more than 6 ft in width, constructed without a roof or walls, elevated at least 1 ft above the dune, and extends seaward of the seaward vegetation line (ADEM Admin. Code R. 335-8-1-.02).

- *Energy Facility* - any equipment or facility which will be used in the exploration for, or the development, production, conversion, storage, transfer, processing, or transportation of any energy resource (ADEM Admin. Code R. 335-8-1-.02).

- *Estuary* - that part of a river or stream or other body of water having unimpaired connection with the open sea where the sea water is measurably diluted with fresh water derived from land drainage (ADEM Admin. Code R. 335-8-1-.02).

- *Existing Structure* - a structure the construction of which was initiated prior to 9 October 1985 and for which all required state, local, and Federal authorizations were obtained prior to 9 October 1985 (ADEM Admin. Code R. 335-8-1-.02).

- *Federal Permit or License* - any authorization, certification, approval, or other form of permission and any renewal which any Federal agency is empowered to issue to an applicant. The term also includes:
    1. renewals and major amendments of Federal license and permit activities not previously reviewed by the Department
    2. renewals and major amendments of Federal license and permit activities previously reviewed by the Department which:
        a. are filed after and are subject to management program amendments not in existence at the time of original Department review
        b. will cause coastal area effects substantially different than those originally reviewed by the Department (ADEM Admin. Code R. 335-8-1-.02).

- *Fill* - any solids, dredged material, sludge, or other material the placement of which has the effect or purpose of raising the elevation of wetlands or lands underlying coastal waters (ADEM Admin. Code R. 335-8-1-.02).

- *Footprint* - the ground area covered by a structure when viewed from the top or plan view (ADEM Admin. Code R. 335-8-1-.02).

- *Habitable Structure* - any structure which, by virtue of its design, size or appurtenances, is suitable for occupation as a residence on a temporary or permanent basis, or any similar structure used for commercial purposes (ADEM Admin. Code R. 335-8-1-.02).

- *Hydrologically Contiguous* - continuously or recurrently connected to state waters by other surface water or drainage as evidenced by water marks on land or vegetation, channels, or water eroded paths including areas separated from state surface waters by a berm, causeway, or similar feature and which have a surface elevation at or below the normal high water line of the adjacent water body (ADEM Admin. Code R. 335-8-1-.02).

- *Management Program* - includes, but is not limited to, a comprehensive statement in words, maps, illustrations, or other media of communication prepared and adopted by the state in accordance with the provisions of Chapter 7 of Title 9, Code of Alabama 1975, as amended, setting forth objectives, policies, and standards to guide public and private users of lands and waters in the coastal area (ADEM Admin. Code R. 335-8-1-.02).

- *Marina* - any facility which is capable of providing mooring space for 20 or more boats ancillary to developments such as apartments, condominiums, hotels, or other planned unit developments or any commercial

facility that is capable of offering permanent or transient docking or mooring space for 10 or more boats and is capable of providing one or more of the following services:

1. dry boat storage
2. boat fueling facilities
3. haulout facilities
4. repair services
5. nautical supplies (ADEM Admin. Code R. 335-8-1-.02).

- *Minor Structure* - that subset of structures including, but not limited to, a deck, porch, platform, ramp, nonasphaltic parking area, sunshelter, gazebo, or other like object which is not habitable, including sand fences or dune walkovers constructed for the purpose of dune protection (ADEM Admin. Code R. 335-8-1-.02).
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- *New Structure* - any structure which is not an existing structure (ADEM Admin. Code R. 335-8-1-.02).

- *Nonregulated Use* - a use that is subject to the management program and which does not require a state permit or which is not required by Federal law to be consistent with the management program and may have a significant impact on coastal resources. Nonregulated uses may include, but are not limited to, construction on beaches and dunes, developments greater than 5 acres in size, extraction of groundwater, and other uses determined by the Department (ADEM Admin. Code R. 335-8-1-.02).

- *Outer Continental Shelf (OCS) Plan* - any plan for exploration or development of, or production from any area which has been leased under the *Outer Continental Shelf Lands Act*, or its regulations, which is submitted to the Secretary of the Interior following management program approval by OCRM and which describes in detail Federal license or permit activities (ADEM Admin. Code R. 335-8-1-.02).

- *Person* - any and all persons, natural or artificial, including, but not limited to, any individual, partnership, association, society, joint stock company, firm, company, corporation, institution, trust, estate, or other legal entity or business organization or any state or local governmental entity and any successor (ADEM Admin. Code R. 335-8-1-.02).

- *Primary Dune System* - a ridge or series of ridges of unconsolidated and usually mobile sands lying landward of the upper limit of Gulf beaches which serves as the principal defense against storm wave attack (ADEM Admin. Code R. 335-8-1-.02).

- *Regulated Use* - a use that is subject to the management program and which requires a state permit or which is required by Federal law to be consistent with the management program (ADEM Admin. Code R. 335-8-1-.02).

- *Sludge* - any solid, semisolid, or viscous material, or other residue resulting from treatment of wastewater or produced as a result of wastewater management (ADEM Admin. Code R. 335-8-1-.02).

- *Solid Waste* - all putrescible and nonputrescible discarded materials except, household sewage and livestock and poultry wastes, including, but not limited to, garbage, rubbish, ashes, street and highway cleanings, dead animals including offal, abandoned automobiles and such industrial wastes and medical wastes as are not controlled by other agencies (ADEM Admin. Code R. 335-8-1-.02).

- *State Permit* - any license or permit issued by a duly authorized agency of the State of Alabama for a use which is subject to the management program (ADEM Admin. Code R. 335-8-1-.02).

- *State Waters* - all waters of any river, stream, watercourse, pond, lake, coastal, ground-, or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership, or corporation unless the waters are used in interstate commerce (ADEM Admin. Code R. 335-8-1-.02).

- *Structure* - includes, but is not limited to, a motel, condominium, house, building, bulkhead, deck, pool, parking lot, gazebo, or other object the whole or parts of which are arranged by human action including any substantial improvement to an existing structure. This does not include water, oil, gas, electricity, or sewage pipelines or conduits located beneath the surface of lands (ADEM Admin. Code R. 335-8-1-.02).

- *Submersed Grassbeds* - areas within the coastal area which support rooted vegetation that are not normally emerged even at low tide but remain covered within coastal waters (ADEM Admin. Code R. 335-8-1-.02).

- *Substantial Improvement* -
    1. any extension, enlargement, additions, or expansion to any structure which increases the height or footprint of the structure and is subject to local building ordinances
    2. any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds 50 percent of the fair market value of the structure, either:
        a. before the repair, reconstruction or improvement is started
        b. if the structure has been damaged and is being restored, before the damage occurred (ADEM Admin. Code R. 335-8-1-.02).

- *Toxic Pollutants* - those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation, or assimilation into any organisms, either directly from the environment or indirectly through food chains, will cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations, in the organisms or their offspring (ADEM Admin. Code R. 335-8-1-.02).

- *Use* - any human or corporate activity or result therefrom (ADEM Admin. Code R. 335-8-1-.02).

- *Wetlands* - those areas delineated pursuant to the technical criteria described in the Federal Wetland Delineation Manual that is currently being used by the Corps of Engineers and/or any updated manual that may be used in the future. Wetlands to not include those areas which exist solely due to man-induced conditions such as roadside ditches or manmade impoundments excepting those areas created as mitigation sites (ADEM Admin. Code R. 335-8-1-.02).

| NATURAL RESOURCES MANAGEMENT<br>GUIDANCE FOR ALABAMA CHECKLIST USERS | |
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| | **REFER TO CHECKLIST ITEMS:** |
| Missing Checklist Items | NR.2.1.AL. |
| Dredging | NR.5.1.AL. and NR.5.2.AL. |
| Land Management | NR.10.1.AL. through NR.10.4.AL. |
| Water Resource Management | NR.15.1.AL. through NR.15.8.AL. |
| Wildlife | NR.20.1.AL. and NR.20.2.AL. |

| GUIDANCE FOR ALABAMA APPENDIX USERS | |
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| **REFER TO APPENDIX NUMBERS:** | **REFER TO APPENDIX TITLES:** |
| 5-1 | Endangered and Threatened Wildlife Species |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **NR.2.<br>MISSING CHECKLIST ITEMS** | |
| **NR.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

| COMPLIANCE CATEGORY:<br>NATURAL RESOURCES MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **NR.5.<br>DREDGING** | (NOTE: All U.S. Army Corps of Engineers dredging permits must be certified by the state.) |
| **NR.5.1.AL.** Federal facilities must meet dredging permitting requirements (ADEM Admin. 335-8-2-.02(1) through (3), (6), and (7)). | Verify that the installation has a valid permit or certification of compliance with the ACAMP prior to:<br>- dredging and/or filling state waterbottoms or adjacent wetlands<br>- dredging, filling, or trenching which would result in a temporary disturbance<br>- dredging or filling of nonadjacent wetlands<br>- disposing of dredge material into open state waters.<br><br>Verify that the installation has a valid permit or Departmental authorization prior to placing dredge material in wetlands. |
| **NR.5.2.AL.** Federal facilities must meet dredging operating requirements (ADEM Admin. 335-8-2-.02(4), (5), and (8)). | Verify that the installation mitigates for wetland impacts.<br><br>Verify that fill material placed on state waterbottoms or in wetlands is free of toxic pollutants in toxic amounts [undefined] and is devoid of sludge and/or solid waste.<br><br>Verify that the salinity of return waters from dredge disposal sites is similar to that of the receiving waters and reasonable assurance [undefined] provided that applicable water quality standards are met. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **NR.10.<br>LAND MANAGEMENT** | |
| **NR.10.1.AL.** Federal facilities must meet beach and dune construction requirements (ADEM Admin. Code R. 335-8-2-.08(1), (3)(a), and (4) through (8)). | Verify that the installation does not remove primary dune or beach sands and/or vegetation or otherwise alter the primary dune system.<br><br>Verify that the installation does not construct any new structure or make any substantial improvement to any existing structure on, beneath, or above the surface of any land located between mean high tide and the construction control line (CCL) [defined in ADEM Admin. Code R. 335-8-1-.02(p)].<br><br>Verify that the installation has a valid permit prior to constructing any new structure or making any substantial improvement to an existing structure on, beneath, or above the surface of any parcel of land owned by a person if any portion of the parcel is intersected by the CCL.<br><br>Verify that bulkheads, retaining walls, or similar structures are not present on Gulf beaches or primary dunes unless:<br><br>- bulkheads or retaining walls are landward of the CCL<br>- it is necessary to protect and insure the structural integrity of an existing or previously permitted structure<br>- there are no other feasible nonstructural alternatives, including retreat.<br><br>Verify that motorized vehicles are not operated on the beach or primary dune system.<br><br>(NOTE: Beach cleaning equipment and safety and law enforcement vehicles operating on flat beach sand may be allowed by the Department.)<br><br>Verify that septic tanks and other onsite sewage disposal systems are not present on lots intersected by the CCL unless:<br><br>- no wastewater disposal system is available for the site<br>- the system has approval from the Department of Public Health.<br><br>(NOTE: The Department has determined that placement of temporary and removable items associated with daily recreational use, such as chairs, umbrellas, volleyball and similar equipment, seaward of the CCL is not subject to the ACAMP provided that posts are not permanently installed in the ground and that the items are removed from the beach prior to storm events.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **NR.10.2.AL.** Federal facilities must meet ground-water extraction requirements (ADEM Admin. Code R. 335-8-2-.09. | Verify that the installation has a valid permit prior to the installation of a new well or the alteration of an existing well for the purpose of extracting groundwater at a rate of 50 gpm or greater.<br><br>(NOTE: This applies to a well whose surface location is in the coastal area and one whose surface location is not in the coastal area but whose 50 yr capture zone extends into the coastal area.)<br><br>Verify that wells are drilled and sampled using specialized techniques which determine if saltwater zones overlie the target production zone and that the results are logged in detail sufficient to establish permeable and impermeable zones and their associated quality.<br><br>Verify that wells are pump tested after construction to establish aquifer characteristics of transmissivity and storage coefficient using an observation well which is located an appropriate distance from the pumping well and screened in the production zone of the pumping well.<br><br>(NOTE: The distance from the observation well to the production well must be equal to or greater than 1.5M(P(H)/P(V))[0.5] where M = aquifer thickness in feet, P(H) = aquifer horizontal conductivity in gallons per day per square foot, and P(V) = aquifer vertical conductivity in gallons per day per square foot.)<br><br>Verify that water samples taken for analysis are obtained in accordance with the ADEM Field Operations Standard Operating Procedures or other Department-approved methods.<br><br>Verify that the installation has a valid permit to operate the well. |
| **NR.10.3.AL.** Federal facilities must meet requirements for the siting, construction, and operation of energy facilities (ADEM Admin. Code R. 335-8-2-.10(1) through (6)). | Verify that all new energy facilities located wholly or partially within the coastal area which require a Federal license or permit or a state agency permit have received coastal consistency from the Department prior to any land clearing or construction.<br><br>Verify that the siting, construction, and operation of energy facilities are conducted in a manner [undefined] which minimizes significant impacts to coastal resources.<br><br>Verify that the installation does not discharge untreated produced waters resulting from energy exploration or production activities to state coastal waters.<br><br>Verify that discharges of untreated drill muds and/or cuttings to coastal waters of the Gulf of Mexico: |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| | - fully complies with coastal water discharge requirements, ADEM Admin. Code R. 335-8-2-.12.<br>- do not occur within 2 nautical miles of the shores of gulf beaches<br>- do not occur within 3000 m of another active permitted mud or cuttings discharge.<br><br>Verify that the installation complies with dredging and filling requirements when routing pipelines, cables, and other energy facility related appurtenances which are buried under or placed upon state waterbottoms.<br><br>Verify that, to the maximum extent possible, pipelines, cables, and other energy facility related appurtenances which are buried under or placed upon state waterbottoms are routed through existing pipeline corridors to make landfall. |
| **NR.10.4.AL.** Federal facilities must meet consistency determination requirements (ADEM Admin. Code R. 335-8-1-.10(1), 335-8-1-.13(1), and 335-8-2-.01(3)). | Verify that installations which have functions performed by or on behalf of a Federal agency in the exercise of its statutory responsibilities and development projects undertaken by or on behalf of the Federal agency involving the planning, construction, modification, or removal of public works, facilities, or other structures, in the acquisition, utilization, or disposal of land or water resources which affect the coastal area have applied for a consistency determination from the Department.<br><br>(NOTE: The Department may grant a variance from any requirement.)<br><br>(NOTE: The Department and the State Historical Officer must be notified of any historical, cultural, or archaeological resources that are discovered in the course of conducting an authorized activity.) |

| COMPLIANCE CATEGORY:<br>NATURAL RESOURCES MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **NR.15.**<br>**WATER RESOURCE MANAGEMENT** | |
| **NR.15.1.AL.** Federal facilities must meet mitigation requirements (ADEM Admin. Code R. 335-8-2-.03). | Verify that the installation creates wetlands or restores and enhances existing degraded wetlands as part of its mitigation for wetland impacts resulting from an approved project.<br><br>Verify that the installation has an approved mitigation plan which includes the following:<br><br>- a survey of the mitigation site, including:<br>  - delineation of existing vegetative cover<br>  - location of all drainageways and watercourses<br>  - property location, size, and description<br>- an indication of site preparation techniques, including:<br>  - initial and final elevations<br>  - planting and fertilization schedules<br>  - plant spacing<br>- source and vegetative species to be planted<br>- documentation that the mitigation site will be set aside and protected<br>- a monitoring, maintenance, and reporting schedule which covers the first 5 yr of mitigation. |
| **NR.15.2.AL.** Federal facilities must meet requirements for marinas (ADEM Admin. Code R. 335-8-2-.04). [Revised July 1997] | Verify that Federal facilities provide a comprehensive site plan and operation management plan when applying to construct a marina.<br><br>Verify that marinas are not located within, or in close proximity to [undefined], submersed grassbeds or existing public oyster reefs.<br><br>Verify that open water marinas constructed in the coastal area do not have breakwaters, groins, or jetties which significantly interfere [undefined] with the normal ebb and flow of coastal waters.<br><br>Verify that entrance channels and boat basins are a depth no greater than that of the receiving water. |
| **NR.15.3.AL.** Federal facilities must meet pile supported structure require- | Verify that platforms, decks, T's, L's, boathouses, and other similar minor structures associated with residential piers and docks are: |

| COMPLIANCE CATEGORY:<br>NATURAL RESOURCES MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| ments (ADEM Admin. Code R. 335-8-2-.05(2)). | - located at the waterward end of the pier or dock<br>- not constructed over wetlands or submersed grassbeds<br>- not habitable. |
| **NR.15.4.AL.** Federal facilities must meet shoreline stabilization and erosion mitigation requirements (ADEM Admin. Code R. 335-8-2-.06). | Verify that the installation has a valid permit or certification of compliance with the ACAMP for:<br><br>- bulkheads, the placement of rip-rap, and other structural shoreline armament<br>- jetties, groins, breakwaters, and like structures. |
| **NR.15.5.AL.** Federal facilities must meet canal, ditch, and boatslip requirements (ADEM Admin. Code R. 335-8-2-.07). | Verify that the installation does not construct new canals or expand existing canals through wetlands or uplands with the purpose or effect of creating new waterfront property.<br><br>Verify that the installation has a valid permit or certification of compliance with the ACAMP for:<br><br>- canals constructed for the purposes of providing navigable access to an existing or approved water dependent facility<br>- stormwater drainage ditches<br>- excavated boatslips in areas where the construction of a pier and dock will obstruct navigation. |
| **NR.15.6.AL.** Federal facilities must meet commercial and residential development requirements (ADEM Admin. Code R. 335-8-2-.11). | Verify that new commercial and residential developments with the following features have a valid permit for any nonregulated use:<br><br>- are located wholly or partially within the coastal area<br>- are or will be greater than 5 acres<br>- have areas that are or could be delineated as wetlands<br>- are adjacent to coastal waters,<br>- are intercepted by the CCL.<br><br>Verify that installations which have developments resulting in the platting or subdividing of lots or subparcels have a valid permit or certificate of compliance prior to commencement of construction or reasonable use consistent with the ACAMP. |
| **NR.15.7.AL.** Federal | Verify that installations with continuous or frequent discharges to coastal waters |

| COMPLIANCE CATEGORY:<br>NATURAL RESOURCES MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| facilities must meet monitoring requirements for discharges to coastal waters (ADEM Admin. Code R. 335-8-2-.12(1)). | which are greater than 1 million gpd, or are otherwise classified as a major discharge by the Department or the USEPA Regional Administrator meet the following monitoring requirements:<br><br>- characterization of the sediments and benthic macroinvertebrate community present along the circumferences of two concentric circles with their origin at the discharge point, one with a radius of 400 ft and the other with a radius of 800 ft<br>- characterization completed:<br>- prior to the initiation of a discharge<br>- repeated if the discharger fails accelerated toxicity testing and is required to initiate a Toxicity Reduction Evaluation (TRE) pursuant to the applicable NPDES permit<br>- repeated as requested by the Department<br>- characterization and toxicity test analysis results are submitted to the Department, including any plans for any necessary corrective action. |
| **NR.15.8.AL.** Federal facilities must meet permitting and certification requirements (ADEM Admin. Code R. 335-8-1-.05(1) through (3), .09(1), (2), .13(1), and -2-.01(3)). | Verify that installations notify the Department and request a review to determine if use(s) the installation wishes to conduct require a permit, such as emergency decrees to protect public health and safety, conservation activities, repletion and research activities, construction, maintenance, and repair of structures, uses for enjoyment of dwellings, maintenance and repair of railroads and public service facilities and equipment, pest and weed control, and agricultural or silvicultural activities.<br><br>Verify that uses do not result in the conversion of lands to other uses which are subject to and inconsistent with the ACAMP.<br><br>Verify that installations with Federally licensed or permitted activities affecting the coastal area have applied for a consistency certification from the Department.<br><br>Verify that installations are in compliance with ACAMP requirements which have activities requiring a Federal license or permit which:<br><br>- are described in detail in any plan for the exploration of, development of, or production from any area leased under the *Outer Continental Shelf Lands Act* and its regulations<br>- submitted to the United States Secretary of the Interior<br>- affects the coastal area.<br><br>(NOTE: The Department may grant a variance from any requirement.)<br><br>(NOTE: The Department and the State Historical Officer must be notified of any historical, cultural, or archaeological resources that are discovered in the course of |

| COMPLIANCE CATEGORY:<br>NATURAL RESOURCES MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | conducting an authorized activity.) |

| COMPLIANCE CATEGORY:<br>NATURAL RESOURCES MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **NR.20.<br>WILDLIFE** | |
| **NR.20.1.AL.** Federal facility personnel must not harm protected nongame wildlife species (Alabama Department of Conservation and Natural Resources Rule 220-2-.92). | Verify that no Federal facility personnel take, capture, kill, or attempt to take, capture, or kill, possess, sell, trade, or offer for sale or trade any of the nongame wildlife species listed in Appendix 5-1, Table 1 (protected nongame species) or Table 2 (Federally endangered or threatened species) without a written scientific collection permit issued from the Commissioner of the Department of Conservation and Natural Resources.<br><br>Verify that no person collects, harvests, possesses, offers for sale or trade, any snapping turtle (*Chelydra serpentina*) of soft shell turtles with a carapace length of less than 8 in.<br><br>(NOTE: The taking of these turtles by a pond owner while controlling nuisance populations is exempt from this rule.) |
| **NR.20.2AL.** Federal facilities should protect sensitive plant species. (Alabama Department of Conservation and Natural Resources Rule 220-2-.92) [Revised July 1997; Revised June 1999]. | Verify that Federal facilities protect the plant species listed in Appendix 5-1, Table 2. |

**Appendix 5-1**

**Endangered and Threatened Wildlife Species**
(Source: Alabama Department of Conservation and Natural Resources 1992)

**Table 1: Protected Nongame Species**

| Scientific Name | Common Name |
|---|---|
| *Speoplatyrhinus poulsoni* | Alabama Cavefish |
| *Typhlicthys subterraneus* | Southern Cavefish |
| *Etheostoma ditrema* | Coldwater Darter |
| *Ammocrypta asprella* | Crystal Darter |
| *Percina aurolineata* | Goldline Darter |
| *Etheostoma boschungi* | Slackwater Darter |
| *Percina tanasi* | Snail Darter |
| *Etheostoma brevirostrom* | Holiday Darter |
| *Etheostoma tuscumbia* | Tuscumbia Darter |
| *Etheostoma nuchale* | Watercress Darter |
| *Noturus munitus* | Frecklebelly Madtom |
| *Cottus pygmaeus* | Pygmy Sculpin |
| *Cyprinella caervlea* | Blue Shiner |
| *Notropis* sp. cf. *volucellus* | Cahaba Shiner |
| *Notropis* albizonatus | Palezone Shiner |
| *Rana areolata sevosa* | Dusky Gopher Frog |
| *Cryptobranchus alleganiensis* | Eastern Hellbender |
| *Ambystoma cingulatum* | Flatwoods Salamander |
| *Aneides aeneus* | Green Salamander |
| *Phaeognathus hubrichti* | Red Hills Salamander |
| *Desmognathus monticola* | Seal Salamander |
| *Gyrinophilus palleucus* | Tennessee Cave Salamander |
| *Hyla andersonii* | Pine Barrens Treefrog |
| *Masticophus flagellum flagellum* | Eastern Coachwhip |
| *Pituophis melanoleucus loding* | Black Pine Snake |
| *Drymarchon corais couperi* | Eastern Indigo Snake |
| *Pituophis melanoleucus mugitus* | Florida Pine Snake |
| *Nerodia fasciata clarki* | Gulf Salt Marsh Snake |
| *Heterodon simus* | Southern Hognose Snake |
| *Malaclemys terrapin pileata* | Mississippi Diamondback Terrapin |
| *Gopherus polyphemus* | Gopher Tortoise |
| *Graptemys pulchura* | Alabama Map Turtle |
| *Pseudemys alabamensis* | Alabama Red-bellied turtle |
| *Macrolemys temminicki* | Alligator Snapping Turtle |
| *Graptemys barbouri* | Barbour's Map Turtle |
| *Graptemys ernsti* | Escambia Bay Map Turtle |
| *Grus canadensis* | Mississippi Sandhill Crane |
| *Columbiana passerina* | Common Ground Dove |
| *Haliaeetus leucocephalus* | Bald Eagle |
| *Aguila chrysaetos* | Golden Eagle |
| *Egretta rufescens* | Reddish Egret |
| *Falco peregrinus* | Peregrine Falcon |

**Table 1: Protected Nongame Species**

| Scientific Name | Common Name |
|---|---|
| *Accipiter cooperi* | Cooper's Hawk |
| *Falco columbarius* | Merlin |
| *Pandion haliaetus* | Osprey |
| *Haematopus palliatus* | American Oystercatcher |
| *Pelecanus erythrorhynchos* | American White Pelican |
| *Charadrius melodus* | Piping Plover |
| *Charadrius alexandrinus* | Snowy Plover |
| *Charadrius wilsonia* | Wilson's Plover |
| *Mycteria american* | Wood Stork |
| *Sterna nilotica* | Gull-billed Tern |
| *Vermivora bachmani* | Bachman's Warbler |
| *Picoides borealis* | Red-cockaded Woodpecker |
| *Thryomanes bewickii* | Bewick's Wren |
| *Tadarida brasiliensis* | Brazillian Free-tailed Bat |
| *Myotis grisecens* | Gray Myotis Bat |
| *Myotis sodalis* | Indiana Bat |
| *Plecotus rafinesquii* | Rafinesque's Big-eared Bat |
| *Myotis austroriparius* | Southeastern Bat |
| *Geomys pinetis* | Southeastern Pocket Gopher |
| *Peromyscus polionotus ammobates* | Alabama Beach Mouse |
| *Zapus hudsonius* | Meadow Jumpinjg Mouse |
| *Peromyscus polionotus trissyllepsis* | Perdido Key Beach Mouse |
| *Mustella frenata* | Long-tailed Weasel |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| **Mammals** | | | | | |
| *Corynorhinus rafinesquii* | Rafinesque's big-eared bat | G3G4 | S2 | | SP |
| *Felis concolor coryi* | Florida panther southeastern | G5T1 | SX | LE | SP |
| *Geomys pinetis* | pocket gopher | G5 | S3 | | SP |
| *Lasiurus intermedius* | northern yellow bat | G4G5 | S1 | | |
| *Lasiurus seminolus* | Seminole bat | G5 | S3 | | |
| *Microtus ochrogaster* | prairie vole | G5 | S2 | | |
| *Myotis austroriparius* | southeastern myotis | G4 | S2 | | SP |
| *Myotis grisescens* | gray bat | G2G3 | S2 | LE | SP |
| *Myotis lucifugus* | little brown myotis | G5 | S3 | | |
| *Myotis septentrionalis* | northern myotis | G4 | S2 | | |
| *Myotis sodalis* | Indiana bat | G2 | S2 | LE | SP |
| *Neotoma magister* | Allegheny woodrat | G3G4 | S3 | | |
| *Peromyscus polionotus ammobates* | Alabama beach mouse | G5T1 | S1 | LE | SP |
| *Peromyscus polionotus trissyllepsis* | Perdido Key beach mouse | G5T1 | S1 | LE | SP |
| *Spilogale putorius* | eastern spotted skunk | G5 | S2S3 | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Sylvilagus obscurus* | Appalachian cottontail | G4 | S1 | | |
| *Sylvilagus palustris* | marsh rabbit | G5 | S3 | | |
| *Tadarida brasiliensis* | Brazilian free-tailed bat | G5 | S3 | | SP |
| *Trichechus manatus* | manatee | G2? | SA | LE | SP |
| *Ursus americanus floridanus* | Florida black bear | G5T2 | S2 | C | |
| *Zapus hudsonius* | meadow jumping mouse | G5 | S3 | | SP |
| Last update: 8/1/96 | Name: ag | | | | |
| **Birds** | | | | | |
| *Aimophila aestivalis* | Bachman's sparrow | G3 | S3 | | |
| *Ammodramus henslowii* | Henslow's sparrow | G3G4 | S3N | | |
| *Ammodramus leconteii* | Le Conte's sparrow | G4? | S3N | | |
| *Ammodramus maritimus* | seaside sparrow | G4 | S3 | | |
| *Anas fulvigula* | mottled duck greater | G4 | S3 | | |
| *Anser albifrons* | white-fronted goose | G5 | S3N | | |
| *Bonasa umbellus* | ruffed grouse | G5 | S2 | | |
| *Calidris canutus* | red knot | G5 | S3N | | |
| *Catoptrophorus semipalmatus* | willet | G5 | S3B, S2N | | |
| *Charadrius alexandrinus tenuirostris* | southeastern snowy plover | G4T3 | S1B, S1N | | |
| *Charadrius melodus* | piping plover | G3 | S1N | LELT | SP |
| *Charadrius wilsonia* | Wilson's plover | G5 | S1B, S3N | | SP |
| *Chlidonias niger* | black tern | G4 | S2N | | |
| *Chondestes grammacus* | lark sparrow | G5 | S3 | | |
| *Clangula hyemalis* | oldsquaw | G5 | S3N | | |
| *Columbina passerina* | common ground-dove | G5 | S3 | | SP |
| *Corvus corax* | common raven | G5 | SX | | |
| *Coturnicops noveboracensis* | yellow rail | G4 | S3S4N | | |
| *Cygnus columbianus* | tundra swan | G5 | S2N | | |
| *Dendrocygna bicolor* | fulvous whistling-duck | G5 | S1B, S2N | | |
| *Dendroica cerulea* | cerulean warbler | G4 | S3 | | |
| *Dendroica dominica stoddardi* | Stoddard's yellow-throated warbler | G5T3Q | S2S3 | | |
| *Egretta rufescens* | reddish egret | G4 | S3N | | SP |
| *Elanoides forficatus* | American swallow-tailed kite | G5 | S3B, SAN | | |
| *Eudocimus albus* | White ibis | G5 | S3N, S4B | | |
| *Falco peregrinus* | peregrine falcon | G4 | SHB, SZN | E(S/A) | SP |
| *Falco sparverius paulus* | southeastern American kestrel | G5T3T4 | S2 | | |
| *Gavia stellata* | red-throated loon | G5 | S2N | | |
| *Grus canadensis pulla* | Mississippi sandhill crane | G5T1 | SX | LE | SP |
| *Grus canadensis tabida* | greater sandhill crane | G5T2 | S1N | | |
| *Haematopus palliatus* | American oystercatcher | G5 | S1B, S2N | | SP |
| *Haliaeetus leucocephalus* | bald eagle | G4 | S1B, S2N | LELTNL | SP |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Himantopus mexicanus* | black-necked stilt | G5 | S1B, SZN | | |
| *Ixobrychus exilis* | least bittern | G5 | S2N, S4B | | |
| *Lanius ludovicianus* | loggerhead shrike | G4G5 | S4 | | |
| *Laterallus jamaicensis* | black rail | G4? | S2S3 | | |
| *Limnodromus scolopaceus* | long-billed dowitcher | G5 | S3N | | |
| *Limnothlypis swainsonii* | Swainson's warbler | G4 | S3 | | |
| *Lophodytes cucullatus* | hooded merganser | G5 | S3B, S5N | | |
| *Melanitta fusca* | white-winged scoter | G5 | S3N | | |
| *Melanitta nigra* | black scoter | G5 | S3N | | |
| *Melospiza melodia* | song sparrow | G5 | S3B, S5N | | |
| *Mergus merganser* | common merganser | G5 | S3N | | |
| *Mycteria americana* | wood stork | G4 | SAB, S2N | LENL | SP |
| *Numenius americanus* | long-billed curlew | G5 | S3N | | |
| *Nyctanassa violacea* | yellow-crowned night-heron | G5 | S3N, S5B | | |
| *Pandion haliaetus* | osprey | G5 | S3 | | SP |
| *Passerina ciris* | painted bunting | G5 | SUB, S3N | | |
| *Pelecanus erythrorhynchos* | American white pelican | G3 | S3N | | SP |
| *Pelecanus occidentalis* | brown pelican | G4 | S1B, S3N | LENL | SP |
| *Phalaropus tricolor* | Wilson's phalarope | G5 | S3N | | |
| *Picoides borealis* | red-cockaded woodpecker | G3 | S2 | L3 | SP |
| *Plegadis chihi* | white-faced ibis | G5 | S2B, S2N | | |
| *Plegadis falcinellus* | glossy ibis | G5 | S2B, S2N | | |
| *Pluvialis dominica* | lesser golden-plover | G5 | S3N | | |
| *Podilymbus podiceps* | pied-billed grebe | G5 | S3B, S5N | | |
| *Rallus longirostris* | clapper rail | G5 | S3 | | |
| *Riparia riparia* | bank swallow | G5 | S3B, S5N | | |
| *Rynchops niger* | black skimmer | G5 | S1B, S3N | | |
| *Sterna antillarum* | least tern | G4 | S1B, S3N | | |
| *Sterna hirundo* | common tern | G5 | S3 | | |
| *Sterna maxima* | royal tern | G5 | S1B, S3N | | |
| *Sterna nilotica* | gull-billed tern | G5 | S1B, S3N | | SP |
| *Sterna sandvicensis* | sandwhich tern | G5 | S1B, S3N | | |
| *Thryomanes bewickii altus* | Appalachian Bewick's wren | G5T2T3 | S2 | | SP |
| *Tyrannus dominicensis* | gray kingbird | G5 | S1 | | |
| *Tyto alba* | common barn-owl | G5 | S3 | | |
| *Vermivora bachmanii* | Bachman's warbler yellow-throated | GH | SH | LE | SP |
| *Vireo flavifrons* | vireo | G5 | S3N, S5B | | |
| *Vireo griseus* | white-eyed vireo | G5 | S3N, S5B | | |
| *Vireo solitarius* | solitary vireo | G5 | S2BS5N | | |
| Last update: 8/1/96 | Name: ag | | | | |
| **Reptiles** | | | | | |
| *Apalone ferox* | Florida softshell | G5 | S2 | | |
| *Caretta caretta* | loggerhead sea turtle | G3 | S1 | Lt | SP |
| *Chelonia mydas* | green sea turtle | G3 | SZN | LELT | SP |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Crotalus adamanteus* | eastern diamondback rattlesnake | G5 | S3 | | |
| *Dermochelys coriacea* | leatherback sea turtle | G3 | SZN | LE | SP |
| *Drymarchon corais couperi* | eastern indigo snake | G4T3 | S1 | LT | SP |
| *Eretmochelys imbricata* | Atlantic hawksbill turtle | G3 | SZN | LE | SP |
| *Eumeces anthracinus* | coal skink | G5 | S3 | | |
| *Farancia erytrogramma erytrogramma* | eastern rainbow snake | G5T5 | S3 | | |
| *Gopherus polyphemus* | gopher tortoise | G3 | S2 | LT | SP |
| *Graptemys barbouri* | Barbour's map turtle | G2 | S2 | | SP |
| *Graptemys nigrinoda delticola* | delta map turtle | G4T2 | S2 | | |
| *Graptemys nigrinoda nigrinoda* | black-knobbed sawback | G4T4 | S3 | | |
| *Heterodon simus* | southern hognose snake | G4G5 | SH | | SP |
| *Lampropeltis calligaster* | mole kingsnake | G5 | S3 | | |
| *Lampropeltis triangulum syspila* | red milk snake | G5T5 | S2 | | |
| *Spiza americana* | dickcissel | G5 | S3N, S4B | | |
| *Lampropeltis triangulum triangulum* | eastern milk snake | G5T5 | S2 | | |
| *Lepidochelys kempii* | Kemp's ridley sea turtle alligator | G1 | SZN | LE | SP |
| *Macroclemys temminckii* | snapping turtle | G3G4 | S3 | | SP |
| *Malaclemys terrapin pileata* | Mississippi diamondback terrapin | G5 | S2 | | |
| *Micrurus fulvius* | eastern coral snake | G5 | S3 | | |
| *Nerodia clarkii clarkii* | gulf salt marsh snake | G4? | S1S2 | | |
| *Nerodia cyclopion* | green water snake | G5 | S2 | | |
| *Nerodia floridana* | Florida green water snake | G5 | SU | | |
| *Ophisaurus mimicus* | mimic glass lizard | G3 | S2 | | |
| *Pituophis melanoleucus lodingi* | black pine snake | G5T2 | S2 | | SP |
| *Pituophis melanoleucus melanoleucus* | northern pine snake | G5T4 | S3 | | |
| *Pituophis melanoleucus mugitus* | Florida pine snake | G5T3? | S2 | | SP |
| *Pseudemys alabamensis* | Alabama redbelly turtle | G1 | S1 | LE | SP |
| *Rhadinaea flavilata* | pine woods snake | G4 | S2 | | |
| *Seminatrix pygaea* | black swamp snake | G5 | S2 | | |
| *Sternotherus carinatus* | razorback musk turtle | G5 | S1 | | |
| *Sternotherus depressus* | flattened musk turtle | G2 | S2 | LT | SP |
| Last update: 8/1/96 | Name: ag | | | | |
| **Amphibians** | | | | | |
| *Ambystoma cingulatum* | flatwoods salamander | G2G3 | S1 | | SP |
| *Ambystoma texanum* | smallmouth salamander | G5 | S3 | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Ambystoma tigrinum* | tiger salamander | G5 | S3 | | |
| *Amphiuma means* | two-toed amphiuma | G5 | S3 | | |
| *Amphiuma pholeter* | one-toed amphiuma | G3 | S1 | | |
| *Aneides aeneus* | green salamander | G3G4 | S3 | | SP |
| *Cryptobranchus alleganiensis* | hellbender | G4 | S3 | | |
| *Desmognathus aeneus* | seepage salamander | G4 | S2 | | |
| *Desmognathus apalachicolae* | Apalachiocola dusky salamander | G3 | S3 | | |
| *Desmognathus ochrophaeus* | mountain dusky salamander | G5 | S2 | | |
| *Eurycea aquatica* | brown-backed salamander | G2Q | S2 | | |
| *Gyrinophilus palleucus* | Tennessee cave salamander | G2 | S2 | | SP |
| *Hemidactylium scutatum* | four-toed salamander | G5 | S3 | | |
| *Hyla andersonii* | Pine Barrens treefrog | G4 | S2 | | SP |
| *Necturus sp 1* | Black Warrior waterdog | G2 | S2 | | |
| *Phaeognathus hubrichti* | Red Hills salamander | G2 | S2 | LT | SP |
| *Plethodon serratus* | southern redback salamander | G5 | S3 | | |
| *Plethodon websteri* | Webster's salamander | G4 | S3 | | |
| *Pseudacris ocularis* | little grass frog | G5 | S1 | | |
| *Rana capito sevosa* | dusky gopher frog | G4T3 | S2 | | SP |
| *Rana heckscheri* | river frog | G5 | S1 | | |
| *Rana sylvatica* | wood frog | G5 | S2 | | |
| *Siren lacertina* | greater siren | G5 | S3 | | |
| **Fish** | | | | | |
| *Acipenser fulvescens* | lake sturgeon | G3 | S1 | | |
| *Acipenser oxyrhynchus desotoi* | Gulf sturgeon | G3T1T2 | S2 | LT | SP |
| *Alosa alabamae* | Alabama shad | G4 | S4 | | |
| *Ameiurus brunneus* | snail bullhead | G4 | S3 | | |
| *Ameiurus serracanthus* | spotted bullhead | G3 | S3 | | |
| *Ammocrypta asprella* | crystal darter | G3 | S3 | | SP |
| *Ammocrypta bifascia* | Florida sand darter | G3 | S3 | | |
| *Ammocrypta vivax* | scaly sand darter | G5 | S3 | | |
| *Carpiodes carpio* | river carpsucker | G5 | S3 | | |
| *Catostomus commersoni* | white sucker | G5 | S3 | | |
| *Cottus pyggmaeus* | pygmy sculpin | G1 | S1 | Lt | SP |
| *Cycleptus elongatus* | blue sucker | G3 | S3 | | |
| *Cyprinella caerulea* | blue shiner | G2 | S2 | LT | SP |
| *Cyprinella callitaenia* | bluestripe shiner | G2 | S2 | | |
| *Cyprinella monacha* | spotfin chub | G2 | SH | LT | SP |
| *Elassoma alabamae* | spring pygmy sunfish | G1 | S1 | | |
| *Enneacanthus obesus* | banded sunfish | G5 | S3 | | |
| *Erimystax dissimilis* | streamline chub | G4 | S3 | | |
| *Erimystax insignis* | blotched chub | G3G4 | S3 | | |
| *Etheostoma blennius* | blenny darter | G3 | S2 | | |
| *Etheostoma boschungi* | slackwater darter | G1 | S1 | LT | SP |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Etheostoma chermocki* | vermilion darter | G1 | S1 | | |
| *Etheostoma chuckwachatte* | lipstick darter | G? | S2 | | |
| *Etheostoma crossopterum* | fringed darter | G4 | S1 | | |
| *Etheostoma davisoni* | Choctawhatchee darter | G3 | S3 | | |
| *Etheostoma ditrema* | Coldwater darter | G2 | S1 | | SP |
| *Etheostoma douglasi* | Tuskaloosa darter | G2 | S2 | | |
| *Etheostoma lynceum* | brighteye darter | G5 | S? | | |
| *Etheostoma neopterum* | lollypop darter | G1G2 | S1S2 | | |
| *Etheostoma nigripinne* | blackfin darter | G3G4 | S3S4 | | |
| *Etheostoma nuchale* | watercress darter | G1 | S1 | LE | SP |
| *Etheostoma trisella* | trispot darter | G2 | SH | | |
| *Etheostoma tuscumbia* | Tuscumbia darter | G2 | S2 | | SP |
| *Etheostoma wapiti* | boulder darter | G1 | S1 | LE | SP |
| *Etheostoma zonifer* | backwater darter | G3 | S3 | | |
| *Etheostoma zonistium* | bandfin darter | G3G4 | S3 | | |
| *Fundulus auroguttatus* | banded topminnow | G4 | S3 | | |
| *Fundulus bifax* | stippled studfish | G2G3 | S2S3 | | |
| *Fundulus chrysotus* | golden topminnow | G5 | S3 | | |
| *Fundulus confluentus* | marsh killifish eastern | G5 | S3 | | |
| *Fundulus escambiae* | starhead topminnow | G3G4 | S3S4 | | |
| *Fundulus grandis* | gulf killifish | G5 | S3 | | |
| *Fundulus jenkinski* | saltmarsh topminnow | G3 | S1 | | |
| *Heterandria formosa* | least killifish | G5 | S1 | | |
| *Hybognathus nuchalis* | Mississippi silvery minnow | G5 | S3 | | |
| *Ichthyomyzon bdellium* | Ohio lamprey | G3G4 | S3 | | |
| *Ichthyomyzon greeleyi* | mountain brook lamprey | G3 | S1 | | |
| *Lampetra appendix* | American brook lamprey | G5 | S1 | | |
| *Lepisosteus platostomus* | shortnose gar | G5 | S3 | | |
| *Lepisosteus spatula* | alligator gar | G5 | S3 | | |
| *Lucania goodei* | bluefin killifish | G5 | S1 | | |
| *Luxilus coccogenis* | warpaint shiner | G5 | S2 | | |
| *Luxilus zonistius* | bandfin shiner | G3 | S3 | | |
| *Lythrurus fumeus* | ribbon shiner | G5 | S3 | | |
| *Microphis brachyurur* | opossum pipefish | G5 | S3 | | |
| *Micropterus sp 1* | shoal bass | G2 | S2 | | |
| *Moxostoma lachneri* | greater jumprock grayfin | G3 | S3 | | |
| *Moxostoma sp 1* | redhorse | G2 | S2 | | |
| *Notropis albizonatus* | palezone shiner | G2 | S1 | LE | SP |
| *Notropis asperifrons* | burrhead shiner | G5 | S4 | | |
| *Notropis buchanani* | ghost shiner | G5 | S3 | | |
| *Notropis cahabae* | Cahaba shiner | G2 | S2 | LE | SP |
| *Notropis candidus* | silverside shiner | G3 | S3 | | |
| *Notropis cummingsae* | dusky shiner | G5 | S3 | | |
| *Notropis edwardraneyi* | fluvial shiner | G3 | S3 | | |
| *Notropis euryzonus* | broadstripe shiner | G3 | S3 | | |
| *Notropis harperi* | redeye chub | G4 | S3 | | |
| *Notropis hypsilepis* | highscale shiner | G3 | S3 | | |
| *Notropis leuciodus* | Tennessee shiner | G5 | S3 | | |
| *Notropis lineapunctatus* | lined chub | G3 | S3 | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Notropis sp 4* | undescribed shiner | G2 | S1S2 | | |
| *Notropis stramineus* | sand shiner | G5 | S1 | | |
| *Notropis uranoscopus* | skygazer shiner | G3 | S2 | | |
| *Noturus elegans* | elegant madtom | G4 | S1 | | |
| *Noturus exilis* | slender madtom | G5 | S3 | | |
| *Noturus flavus* | stonecat | G5 | S2 | | |
| *Noturus miurus* | brindled madtom | G5 | S3 | | |
| *Noturus munitus* | frecklebelly madtom | G3 | S1 | | SP |
| *Noturus phaeus* | brown madtom | G4 | S1 | | |
| *Percina aurolineata* | goldline darter | G2 | S1 | LT | SP |
| *Percina burtoni* | blotchside darter | G2 | S1 | | |
| *Percina evides* | gilt darter | G4 | S3 | | |
| *Percina lenticula* | freckled darter | G2 | S2 | | |
| *Percina palmaris* | bronze darter | G3 | S3 | | |
| *Percina sp 10* | Alabama channel darter | G1G3 | S1S3 | | |
| *Percina sp 3 ssp 1* | Warrior muscadine darter | G4T1 | S1 | | |
| *Percina sp 9 ssp 1* | Warrior bridled darter | G?T? | S? | | |
| *Percina tanasi* | snail darter | G2 | S1 | LT | SP |
| *Phenacobius mirabilis* | suckermouth minnow | G5 | S3 | | |
| *Phenacobius uranops* | stargazing minnow | G4 | S3 | | |
| *Phoxinus erythrogaster* | southern redbelly dace | G5 | S3 | | |
| *Polyodon spathula* | paddlefish | G4 | S2 | | |
| *Scaphirhynchus platorynchus* | shovelnose sturgeon | G4 | Sl | | |
| *Scaphirhynchus suttkusi* | Alabama sturgeon | G1Q | S1 | PE | |
| *Semotilus thoreauianus* | Dixie chub | G3? | S? | | |
| *Speoplatyrhinus poulsoni* | Alabama cavefish | G1 | S1 | LE | SP |
| *Typhlichthys subterraneus* | southern cavefish | G3 | S2 | | SP |
| **Mollusks** | | | | | |
| *Actinonaias pectorosa* | pheasantshell | G4 | S? | | |
| *Alasmidonta marginata* | elktoe | G5 | S? | | |
| *Alasmidonta mccordi* | coosa elktoe | GX | SX | | |
| *Alasmidonta undulata* | triangle floater | G4 | S? | | |
| *Alasmidonta viridis* | slippershell mussel | G4 | S? | | |
| *Amblema plicata perplicata* | roundlake | G5T3 | S3? | | |
| *Amphigyra alabamensis* | shoal sprite | GH | S? | | |
| *Anodonta grandis* | giant floater | G5 | S? | | |
| *Anodonta imbecillis* | paper pondshell | G5 | S? | | |
| *Arcidens confragosus* | rock-pocketbook | G3 | S3? | | |
| *Clappia cahabensis* | cahaba pebblesnail | GH | S? | | |
| *Clappia umbilicata* | umbilicate pebblesnail | GH | SX? | | |
| *Cumberlandia monodonta* | spectaclecase | G2G3 | S3? | | |
| *Cyclonaias tuberculata* | purple wartyback | G5 | S? | | |
| *Cyprogenia stegaria* | fanshell dromedary | Gl | Sl? | LE | SP |
| *Dromus dromas elimia* | pearlymussel | Gl | Sl? | LE | SP |
| *Alabamensis elimia* | mud elimia black-crest | Gl | S? | | |
| *Albanyensis* | elimia | G? | S? | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Elimia ampla* | ample elimia lilyshoals | Gl | S? | | |
| *Elimia annettae* | elimia | GlQ | S? | | |
| *Elimia annulifera* | snail | | S? | | |
| *Elimia bellacrenata* | snail | Gl | S? | | |
| *Elimia bellula* | walnut elimia | Gl | S? | | |
| *Elimia boykiniana* | flaxen elimia short-spire | G? | S? | | |
| *Elimia brevis* | elimia | GH | S? | | |
| *Elimia bullula* | snail | G? | S? | | |
| *Elimia cahawbensis* | cahaba elimia | G3 | S? | | |
| *Elimia capillaris* | spindle elimia | Gl | S? | | |
| *Elimia chiltonensis* | prune elimia | Gl | S? | | |
| *Elimia clara* | snail | G3 | S? | | |
| *Elimia clausa* | snail | GH | S? | | |
| *Elimia cochilaris* | snail | Gl | S? | | |
| *Elimia comma* | snail | G? | S? | | |
| *Elimia crenatella* | lacey elimia | GlG2 | S? | | |
| *Elimia fascinans* | banded elimia | Gl | S? | | |
| *Elimia flava* | snail | G? | S? | | |
| *Elimia fusiformis* | fusiform elimia | GH | SX? | | |
| *Elimia gerhardti* | coldwater *elimia* | G4 | S? | | |
| *Elimia hartmaniana* | high-spired elimia | GH | SX? | | |
| *Elimia haysiana* | silt elimia gladiator | GH | S? | | |
| *Elimia hydei* | elimia constricted | G? | S? | | |
| *Elimia impressa* | elimia | GH | SX? | | |
| *Elimia interveniens* | slowwater elimia | G? | S? | | |
| *Elimia jonesi* | hearty elimia | GH | SX? | | |
| *Elimia laeta* | ribbed elimia round-rib | GH | SX? | | |
| *Elimia nassula* | elimia | G? | S? | | |
| *Elimia olivula* | caper elimia | GHQ | S? | | |
| *Elimia paupercula* | snail rough-lined | G? | S? | | |
| *Elimia pilsbryi* | elimia | GH | SX? | | |
| *Elimia pupaeformis* | pupa elimia | GH | SX? | | |
| *Anodonta suborbiculata* | flat floater | G4 | S? | | |
| *Anodontoides radiatus* | rayed creekshell | G3 | SlS2 | | |
| *Antrorbis breweri* | snail | Gl | S? | | |
| *Elimia pupoidea* | snail | GHQ | S? | | |
| *Elimia pygmaea* | pygmy elimia | GH | SX? | | |
| *Elimia showalteri* | compact elimia | GlQ | S? | | |
| *Elimia ucheensis* | snail | G? | S? | | |
| *Elimia vanuxemiana* | cobble elimia | GH | S? | | |
| *Elimia varians* | puzzle elimia | GLQ | SX? | | |
| *Elimia variata* | squat elimia | GlQ | S? | | |
| *Ellipsaria lineolata* | butterfly | G4 | S? | | |
| *Elliptio arctata* | delicate spike | G3 | S3? | | |
| *Elliptio complanata* | eastern elliptio | G5 | S? | | |
| *Elliptio crassidens* | elephant-ear | G5 | S? | | |
| *Elliptio dilatata* | spike | G5 | S? | | |
| *Elliptio fraterna* | brother spike | Gl | Sl | | |
| *Elliptio lanceolata* | yellow lance | G3 | S? | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Elliptio mcmichaeli* | fluted elephant-ear | G3Q | S2? | | |
| *Elliptio nigella* | winged spike | GH | SH | | |
| *Elliptoideus sloatianus* | purple bankclimber | G2 | S2? | PT | |
| *Epioblasma arcaeformis* | sugarspoon | GX | SX | | |
| *Epioblasma biemarginata* | angled riffleshell | GX | SX | | |
| *Epioblasma brevidens* | cumberlandian combshell | G2 | S2? | PE | |
| *Epioblasma capsaeformis* | oyster mussel | G2 | SlS2 | PE | |
| *Epioblasma flexuosa* | leafshell | GX | SX | | |
| *Epioblasma florentina florentina* | yellow blossom | GlTX | SX | LE | SP |
| *Epioblasma florentina walkeri* | tan riffleshell | GlTl | Sl? | LE | SP |
| *Epioblasma haysiana* | acornshell | GX | SH | | |
| *Epioblasma lenior* | narrow catspaw | GX | SX | | |
| *Epioblasma lewisii* | forkshell | GXQ | SX | | |
| *Epioblasma metastriata* | upland combshell | GHQ | Sl? | LE | SP |
| *Epioblasma florentina walkeri* | tan riffleshell | GlTl | Sl? | LE | SP |
| *Epioblasma obliquata obliquata* | catspaw | GlT? | Sl? | LE | SP |
| *Epioblasma othcaloogensis* | southern acornshell southern | GHQ | SH | LE | |
| *Epioblasma penita* | combshell | Gl | Sl? | LE | SP |
| *Epioblasma personata* | round combshell | GX | SX | | |
| *Epioblasma propinqua* | Tennessee riffleshell | GX | SX | | |
| *Epioblasma stewardsoni* | Cumberland leafshell | GX | SX | | |
| *Epioblasma torulosa torulosa* | tubercled blossom | G2TX | SX | LE | SP |
| *Epioblasma triquetra* | snuffbox | G3 | S3? | | |
| *Epioblasma turgidula* | turgid blossom | GH | SH | LE | SP |
| *Ferrissia mcneili* | hood ancylid | G? | S? | | |
| *Fusconaia barnesiana* | Tennessee pigtoe | G2G3 | S3? | | |
| *Fusconaia cerina* | pigtoe | G5 | S? | | |
| *Fusconaia cor* | shiny pigtoe | Gl | Sl? | LE | SP |
| *Fusconaia cuneolus* | fine-rayed pigtoe | Gl | Sl? | LE | SP |
| *Fusconaia ebena* | ebonyshell | G4 | S3? | | |
| *Fusconaia escambia* | narrow pigtoe | G2 | Sl? | | |
| *Fusconaia subrotunda* | long-solid pigtoe | G4 | S? | | |
| *Fusconaia succissa* | purple pigtoe round | G3 | S2? | | |
| *Glebula rotundata* | pearlshell | G3G4 | S3? | | |
| *Glyphyalinia pecki* | blind glyph | GlG3 | SlS3? | | |
| *Gyrotoma excisa* | excised slitshell | GX | SX? | | |
| *Gyrotoma lewisii* | striate slitshell | GX | SX? | | |
| *Gyrotoma pagoda* | pagoda slitshell | GX | SX? | | |
| *Gyrotoma pumila* | ribbed slitshell | GX | S? | | |
| *Gyrotoma pyramidata* | pyramid slitshell | GX | SX? | | |
| *Gyrotoma walkeri* | round slitshell | GX | SX? | | |
| *Hemistena lata* | cracking pearlymussel | Gl | Sl? | LE | SP |
| *Io fluvialis* | spiny riversnail | G2 | S2? | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Lampsillis abrupta* | pink mucket | G2 | S2? | LE | SP |
| *Lampsilis altilis* | fine-lined pocketbook | G? | S? | LT | |
| *Lampsilis australis* | southern sandshell | G2 | SlS2 | | |
| *Lampsilis binominata* | lined pocketbook | Gl | SX | | |
| *Lampsilis cardium* | plain pocketbook | G5 | S? | | |
| *Lampsilis fasciola* | wavy-rayed lampmussel | G4 | S? | | |
| *Lampsilis haddletoni* | haddleston lampmussel | GH | S2? | | |
| *Lampsilis hydiana* | Louisiana fatmucket | G2 | S2? | | |
| *Lampsilis ornata* | mussel | G5 | Sl? | | |
| *Lampsilis ovata* | pocketbook | G5 | S? | | |
| *Lampsilis perovalis* | orange-nacre mucket | Gl | Sl? | LT | SP |
| *Lampsilis straminea claibornensis* | southern fatmucket | G5T5 | S2? | | |
| *Lampsilis straminea straminea* | rough fatmucket | G5T3 | S2? | | |
| *Lampsilis subangulata* | shiny-rayed pocketbook | G2 | S? | PE | |
| *Lampsilis teres* | yellow sandshell | G5 | S? | | |
| *Lampsilis virescens* | Alabama lampmussel | Gl | Sl? | LE | SP |
| *Lasmigona complanata alabamensis* | Alabama heelsplitter | G5TlQ | Sl? | | |
| *Lasmigona costata* | fluted-shell | G5 | S? | | |
| *Lasmigona holstonia* | Tennessee heelsplitter | G2G3 | S2? | | |
| *Lemiox rimosus* | birdwing pearlymussel | Gl | Sl? | LE | SP |
| *Leptodea fragilis* | fragile papershell | G5 | S? | | |
| *Leptodea leptodon* | scaleshell | G2G3 | SlS2 | | |
| *Leptoxis ampla* | round rocksnail | GlG2 | S? | | |
| *Leptoxis clipeata* | agate rocksnail | GH | SX? | | |
| *Leptoxis compacta* | oblong rocksnail | GH | S? | | |
| *Leptoxis crassa anthonyi* | Anthony's river snail | GlTl | SX | LE | |
| *Leptoxis formanii* | interrupted rocksnail | GX | SX | | |
| *Leptoxis formosa* | maiden rocksnail | GH | S? | | |
| *Leptoxis ligata* | rotund rocksnail | GH | SX? | | |
| *Leptoxis lirata* | lirate rocksnail | GH | SX? | | |
| *Leptoxis melanoidus* | black mudalia | G? | S? | | |
| *Leptoxis minor* | knob mudalia | G? | S? | | |
| *Leptoxis occultata* | bigmouth rocksnail | GH | SX? | | |
| *Leptoxis picta* | spotted rocksnail | GH | S? | | |
| *Leptoxis plicata* | plicate rocksnail | G? | S? | | |
| *Leptoxis praerosa* | onyx rocksnail | GlG3 | SlS3? | | |
| *Leptoxis showalterii* | coosa rocksnail painted | GH | SX? | | |
| *Leptoxis taeniata* | rocksnail | Gl | S? | | |
| *Leptoxis virgata* | smooth mudalia | G2 | S? | | |
| *Leptoxis vittata* | stripped rocksnail | GH | SX? | | |
| *Lepyrium showalteri* | flat pebblesnail | Gl | S? | | |
| *Lexingtonia dolabelloides* | slabside pearlymusel | G2G3 | S2? | | |
| *Ligumia recta* | black sandshell | G5 | S? | | |
| *Ligumia subrostrata* | pondmussel | G4 | S? | | |
| *Lioplax cyclostomaformis* | cylindrical lioplax | Gl | S? | | |
| *Lithasia armigera* | armored rocknail | G? | S? | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Lithasia curta* | knobby rocksnail | G? | S? | | |
| *Lithasia geniculata* | ornate rocksnail | GlG3 | SlS3? | | |
| *Lithasia lima* | warty rocksnail | GlG3 | SlS3? | | |
| *Lithasia salebrosa* | rustic rocksnail | G? | S? | | |
| *Lithasis verrucosa* | varicose rocksnail | G? | S? | | |
| *Margaritifera hembeli* | Louisiana pearlshell | Gl | Sl? | LT | SP |
| *Margaritifera marrianae* | Alabama pearlshell | GlG2 | SlS2 | | |
| *Marstonia arga* | marstonia | G3 | S? | | |
| *Marstonia olivacea* | olive marstonia | Gl | S? | | |
| *Marstonia pachyta* | armored marstonia | G1G3 | SlS3? | | |
| *Medionidus acutissimus* | Alabama moccasinshell | Gl | Sl? | LT | SP |
| *Medionidus conradicus* | cumberland moccasinshell | G4 | S? | | |
| *Medionidus mcglameriae* | Tombigbee moccasinshell | GXQ | SX? | | |
| *Medionidus parvulus* | Coosa moccasinshell | GlG2 | SlS2 | LE | SP |
| *Medionidus penicillatus* | gulf moccasinshell | G2 | SlS2 | PE | |
| *Megalonaias boykiniana* | round washboard | G3 | SlS2 | | |
| *Megalonaias nervosa* | washboard | G5 | S? | | |
| *Mesodon clausus trossulus* | a land snail | G5TlT3 | SlS3? | | |
| *Neoplanorbis carinatus* | | GHQ | S? | | |
| *Neoplanorbis smithi* | | GHQ | S? | | |
| *Neoplanorbis tantillus* | | GHQ | S? | | |
| *Neoplanorbis umbilicatus* | | GHQ | S? | | |
| *Obliquaria reflexa* | threehorn wartyback | G5 | S? | | |
| *Obovaria olivaria* | hickorynut | G4 | S? | | |
| *Obovaria retusa* | ring pink | Gl | Sl? | LE | SP |
| *Obovaria rotulata* | round ebonyshell | Gl | Sl? | | |
| *Obovaria subrotunda* | round hickorynut | G3 | S3? | | |
| *Obovaria unicolor* | Alabama hickorynut | G3G4 | S3S4? | | |
| *Pegias fabula* | little-wing pearlymussel | Gl | Sl? | LE | SP |
| *Plethobasus cicatricosus* | white wartyback | Gl | Sl? | LE | SP |
| *Plethobasus cooperianus* | orange-foot pimpleback | Gl | Sl? | LE | SP |
| *Plethobasus cyphyus* | sheepnose | G3 | S3? | | |
| *Pleurobema avellanum* | hazel pigtoe | GH | SH | | |
| *Pleurobema chattanoogaense* | painted clubshell | Gl | Sl | | |
| *Pleurobema clava* | clubshell | Gl | Sl? | LE | SP |
| *Pleurobema coccineum* | round pigtoe | G3G4 | S3S4? | | |
| *Pleurobema cordatum* | Ohio pigtoe | G3 | S3 | | |
| *Pleurobema curtum* | black clubshell | Gl | Sl? | LE | SP |
| *Pleurobema decisum* | southern clubshell | GlG2 | SlS3 | LE | SP |
| *Pleurobema flavidulum* | yellow pigtoe | GlQ | S? | | |
| *Pleurobema furvum* | dark pigtoe | Gl | Sl? | LE | SP |
| *Pleurobema georgianum* | southern pigtoe | Gl | S? | LE | SP |
| *Pleurobema hanleyanum* | Georgia pigtoe | GHQ | SH | | |
| *Pleurobema johannis* | Alabama pigtoe | GH | SH | | |
| *Pleurobema marshalli* | flat pigtoe | Gl | SH | LE | SP |
| *Pleurobema oviforme* | Tennessee clubshell | G2G3 | S3? | | |
| *Pleurobema perovatum* | ovate slubshell | Gl | Sl? | LE | SP |
| *Pleurobema plenum* | rough pigtoe | Gl | Sl? | LE | SP |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Pleurobema pyramidatum* | pyramid pigtoe | G2G3 | S3? | | |
| *Pleurobema pyriforme* | oval pigtoe | G2 | SH | PE | |
| *Pleurobema rubellum* | warrior pigtoe | GH | SH | | |
| *Pleurobema showalteri* | pigtoe | G?Q | S? | | |
| *Pleurobema strodeanum* | fuzzy pigtoe | G2 | S? | | |
| *Pleurobema taitianum* | heavy pigtoe | Gl | Sl? | LE | SP |
| *Pleurobema verum* | true pigtoe | G? | S? | | |
| *Pleurocera annulifera* | ringed hornsnail | G? | S? | | |
| *Pleurocera brumbyi* | spiral hornsnail | G? | S? | | |
| *Pleurocera corpulenta* | corpulent hornsnail | GH | S? | | |
| *Pleurocera currierlanum* | hornsnail | G? | S? | | |
| *Pleurocera curta* | shortspire hornsnail | G2 | S? | | |
| *Pleurocera foremani* | rough hornsnail | GHQ | S? | | |
| *Pleurocera postelli* | broken hornsnail | G2 | S? | | |
| *Pleurocera prasinata* | hornsnail | GlQ | S? | | |
| *Pleurocera showalteri* | upland hornsnail | GlQ | S? | | |
| *Pleurocera walkeri* | telescope hornsnail pink | G? | S? | | |
| *Potamilus slatus* | heelsplitter | G5 | S? | | |
| *Potamilus inflatus* | inflated heelsplitter | Gl | Sl? | LT | SP |
| *Potamilus purpuratus* | bleufer | G5 | S? | | |
| *Ptychobranchus fasciolaris* | kidneyshell | G4 | S? | | |
| *Ptychobranchus greenii* | triangular kidneyshell | G2 | Sl? | LE | SP |
| *Ptychobranchus jonesi* | southern kidneyshell | G2 | S2? | | |
| *Ptychobranchus subtentum* | fluted kidneyshell | G4 | S? | | |
| *Pyrgulopsis scakarufirnus* | | G? | S? | | |
| *Quadrula spiculata* | southern mapleleaf | G? | S? | | |
| *Quadrula asperata* | Alabama orb | Gl | Sl | | |
| *Quadrula cylindrica* | rabbitsfoot winged | G4T2T3 | S2S3? | | |
| *Quadrula fragosa* | mapleleaf | Gl | S? | LE | |
| *Quadrula intermedia* | cumberland monkeyface | Gl | Sl? | LE | SP |
| *Quadrula metanevra* | monkeyface | G3 | S3? | | |
| *Quadrula nodulata* | mussel | GlG2Q | SlS2 | | |
| *Quadrula pustulosa* | pimpleback | G5 | S? | | |
| *Quadrula quadrula* | mapleleaf | G5 | S? | | |
| *Quadrula rumphiana* | ridged mapleleaf | GlG2 | SlS2 | | |
| *Quadrula stapes* | stirrupshell | Gl | Sl? | LE | SP |
| *Quincuncina burkei* | tapered pigtoe | G2 | Sl? | | |
| *Quincuncina infucata* | sculptured pigtoe | G4 | S2? | | |
| *Rhodacme elatior* | domed ancylid | GlG3 | S? | | |
| *Rhodacme filosa* | wicker ancylid | G? | S? | | |
| *Rhodacme hinkleyi* | knobby ancylid | G? | S? | | |
| *Somatogyrus aureus* | golden pebblesnail | GH | S? | | |
| *Somatogyrus biangulatus* | angular pebblesnail | GH | S? | | |
| *Somatogyrus biangulatus* | angular pebblesnail | GH | S? | | |
| *Somatogyrus constrictus* | knotty pebblesnail | GH | S? | | |
| *Somatogyrus coosaensis* | coosa pebblesnail | GH | S? | | |
| *Somatogyrus crassus* | stocky pebblesnail | GH | S? | | |
| *Somatogyrus currierlianus* | Tennessee pebblesnail | GH | S? | | |
| *Somatogyrus decipiens* | hidden pebblesnail | GH | S? | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Somatogyrus excavatus* | ovate pebblesnail | GH | S? | | |
| *Somatogyrus hendersoni* | fluted pebblesnail | GH | S? | | |
| *Somatogyrus hinkleyi* | granite pebblesnail | G? | S? | | |
| *Somatogyrus humerosus* | atlas pebblesnail | GH | S? | | |
| *Somatogyrus nanus* | dwarf pebblesnail | GH | S? | | |
| *Somatogyrus obtusus* | moon pebblesnail | GH | S? | | |
| *Somatogyrus pilsbryanus* | tallapoosa pebblesnail | G? | S? | | |
| *Somatogyrus pygmaeus* | pygmy pebblesnail | GH | S? | | |
| *Somatogyrus quadratus* | quadrate pebblesnail | GH | S? | | |
| *Somatogyrus sargenti* | mud pebblesnail | G? | S? | | |
| *Somatogyrus strengi* | rolling pebblesnail | GH | S? | | |
| *Somatogyrus tennesseensis* | opaque pebblesnail | GH | S? | | |
| *Somatogyrus walkerianus* | pebblesnail | G? | S? | | |
| *Stiobia nana* | sculpin snail | GlG3 | SlS3 | | |
| *Strophitus subvexus* | southern creekmussel | G2 | Sl? | | |
| *Strophitus undulatus* | squawfoot | G5 | S? | | |
| *Toxolasma corvunculus* | southern lilliput | G? | S? | | |
| *Toxolasma cylindrellus* | pale lilliput | Gl | Sl? | LE | SP |
| *Toxolasma lividum lividum* | mussel | G2G3Tl | S2? | | |
| *Toxolasma parvum* | lilliput | G4 | S? | | |
| *Tritogonia verrucosa* | pistolgrip | G4 | S? | | |
| *Truncilla donaciformis* | fawnsfoot | G4 | S? | | |
| *Truncilla truncata* | deertoe | G4 | S? | | |
| *Tulotoma magnifica* | Alabama livebearing snail | Gl | S2? | LE | SP |
| *Uniomerus tetralasmus* | pondhorn | G4 | S? | | |
| *Vertigo alabamensis* | Alabama vertigo | GlG3 | SlS3? | | |
| *Villosa choctawensis* | Choctaw bean | G2 | S2? | | |
| *Villosa fabalis* | rayed bean little | G2 | S2? | | |
| *Villosa lienosa* | spectaclecase | G5 | S3? | | |
| *Villosa nebulosa* | Alabama rainbow | G3 | S3? | | |
| *Villosa taeniata punctata* | creek paintedshell | G?T?Q | S? | | |
| *Villosa taeniata taeniata* | painted creekshell | G?T?Q | S? | | |
| *Villosa trabalis* | cumberland bean | G2 | S? | LE | |
| *Villosa vanuxemensis umbrans* | coosa creekshell southern | G3T? | S3? | | |
| *Villosa vibex* | rainbow | G4Q | S? | | |
| **Vascular Plants** | | | | | |
| *Armoracia lacustris* | lake cress | G4? | Sl | | |
| *Arnoglossum sulcatum* | indian plantain | G3G4` | S2S3 | | |
| *Asclepias cinerea* | Carolina milkweed | G3G4 | Sl | | |
| *Asclepias rubra* | red milkweed | G4G5 | Sl | | |
| *Asplenium bradleyi* | Bradley spleenwort | G4 | S2 | | |
| *Asplenium sheteroresiliens* | Wagner's spleenwort | G2Q | Sl | | |
| *Asplenium monanthes* | single-sorus spleenwort | G4 | S1 | | |
| *Asplenium ruta-muraria* | wall rue spleenwort | G5 | S2 | | |
| *Asplenium scolopendrium var americanum* | American hart's-tongue fern | G4T3 | S1 | LT | |
| *Asplenium trichomanes* | maidenhair spleenwort | G5 | S2S3 | | |

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| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Asplenium x ebenoides* | Scott's spleenwort | HYB | S1 | | |
| *Aster azureus* | sky blue aster | G5 | Sl | | |
| *Aster chapmanii* | Chapman aster thistle-leaved | G2G3 | SH | | |
| *Aster eryngiifolius* | aster | G3? | S2 | | |
| *Aster georgianus* | Georgia aster | G2G3 | S2S3 | | |
| *Aster laevis var concinnus* | smooth purple aster | G5T4 | S1 | | |
| *Aster pinifolius* | pale-violet aster | G? | SH | | |
| *Aster spectabilis* | showy aster | G5 | S2 | | |
| *Aster surculosus* | purple aster | G4G5 | Sl | | |
| *Aster texanus* | Texas aster | G? | Sl? | | |
| *Astragalus michauxii* | sandhills milk-vetch | G3 | Sl | | |
| *Astragalus tennesseensis* | Tennessee milk-vetch | G3 | SlS2 | | |
| *Astragalus villosus* | hoary milk-vetch | G4 | S2 | | |
| *Astrolepis x integerrima* | hybrid cloak fern | HYB | Sl | | |
| *Aureolaria dispersa* | false-foxglove spreading | G? | S2? | | |
| *Aureolaria patula* | false-foxglove | G2 | Sl | | |
| *Balduina atropurpurea* | honeycomb head | G2G3 | Sl | | |
| *Baptisia australis* | blue wild indigo | G5 | Sl | | |
| *Baptisia megacarpa* | Apalachicola wild indigo | G3 | S2 | | |
| *Berberis canadensis* | American barberry nodding | G4 | SH | | |
| *Bidens cernua* | Beggar-ticks | G5 | S1 | | |
| *Bigelowia nuttallii* | nuttall's rayless goldenrod | G3 | S3 | | |
| *Blephilia subnuda* | smooth blephillia | GlG2 | SlS2 | | |
| *Borychium jenmanii* | Alabama grapefern | G3G4 | SH | | |
| *Botrychium lunarioides* | winter grapefern | G4? | SH | | |
| *Boykinia aconitifolia* | brook saxifrage | G4 | Sl | | |
| *Brachiaria platyphylla* | broad-leaf signalgrass | G5 | S1 | | |
| *Brickellia cordifolia* | flyr's nemesis | G2G3 | S2 | | |
| *Bulbostylis warei* | ware's hairsedge | G3G4 | SH | | |
| *Burmannia capitata* | bluethreads | G3G5 | S1 | | |
| *Cacalia diversifolia* | variable-leaved Indian plaintain | G2 | Sl | | |
| *Cacalia tuberosa* | prairie Indian plantain | G4G5 | Sl? | | |
| *Callirhoe alcaeoides* | clustered poppy-mallow | G5? | S2 | | |
| *Callirhoe triangulata* | clustered poppy-mallow | G3G5 | SH | | |
| *Calopogon barbatus* | bearded grass-pink | G5? | Sl | | |
| *Calopogon multiflorus* | many-flowered grass-pink | G4 | SlS2 | | |
| *Canna flaccida* | golden canna | G5? | SH | | |
| *Carex austro-caroliniana* | sedge | G4 | S2? | | |
| *Carex baltzellii* | Baltzell's sedge | G2 | Sl | | |
| *Carex barrattii* | Barratt's sedge | G4 | Sl? | | |
| *Carex brysonii* | Bryson's sedge | Gl | Sl | | |
| *Carex decomposita* | epiphytic sedge | G4 | Sl | | |
| *Carex eburnea* | sedge | G5 | S2 | | |
| *Carex exilis* | coast sedge | G5 | Sl | | |
| *Carex impressinervia* | impressed-nerved sedge | GlG2 | Sl | | |
| *Carex purpurifera* | purple sedge | G4? | S2 | | |

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| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Carex socialis* | sedge | G3 | S? | | |
| *Carya myristiciformis* | nutmeg hickory | G4 | Sl | | |
| *Cassia deeringiana* | Florida senna | G2G3 | S? | | |
| *Castanea pumila* | Allegheny chinkapin | G5 | S? | | |
| *Castanea pumila var ozarkensis* | Ozark chinquapin scarlet Indian | G5T3 | S? | | |
| *Castilleja coccinea* | paintbrush undescribed Indian | G5 | SH | | |
| *Castilleja sp l* | paintbrush climbing | G2 | S2 | | |
| *Celastrus scandens* | bittersweet | G5 | S2 | | |
| *Celtis iguanaea* | iguana hackberry | G5 | Sl | | |
| *Chasmanthium nitidum* | shiny spikegrass | G3? | Sl | | |
| *Chelon lyonii* | turtlehead two-spike finger | G4 | Sl | | |
| *Chloris floridana* | grass | G2? | SH | | |
| *Chrysopsis godfreyi* | Godfrey's golden-aster | G2 | Sl | | |
| *Chrysopsis gossypina var cruiseana* | Cruise's golden-aster | G5T2 | S? | | |
| *Climicifuga rubifolia* | Appalachian bugbane | G3 | SH | | |
| *Clematis morefieldii* | Moorefield's leather-flower | Gl | Sl | LE | |
| *Clematis socialis* | Alabama leather-flower | Gl | Sl | LE | |
| *Coelorachis tuberculosa* | Florida jointgrass | G3 | Sl | | |
| *Comandra umbellata* | bastard-toadflax | G5 | Sl | | |
| *Corallorhiza wisteriana* | spring coralroot | G5 | S2 | | |
| *Coreopsis gladiata* | southeastern tickseed | G3G5 | S2 | | |
| *Coreopsis grandiflora var l* | tickseed | G5T? | S2 | | |
| *Coreopsis nudata* | Georgia tickseed | G3? | Sl | | |
| *Coreopsis pubescens var debilis* | a tickseed | G5?T? | S? | | |
| *Coreopsis pulchra* | woodland tickseed | G2 | S2 | | |
| *Cotinus obovatus* | American smoke-tree | G4 | S2 | | |
| *Crataegus harbisonii* | Harbison's hawthorn | GHQ | SH | | |
| *Crataegus pulcherrima* | hawthorn | G2? | S? | | |
| *Crataegus triflora* | hawthorn | G2? | S2 | | |
| *Croomia pauciflora* | croomia | G3 | S3 | | |
| *Croton alabamensis var alabamensis* | Alabama croton | G3T? | S3 | | |
| *Croton elliottii* | Elliott's croton | G2G3 | Sl | | |
| *Cuscuta harperi* | Harper's dodder | G2 | S2 | | |
| *Cyperus granitophilus* | granite-loving flatsedg | G3Q | S2 | | |
| *Cypripedium candidum* | small white lady's-slipper | G4 | Sl | | |
| *Cypripedium kentuckiense* | southern lady's-slipper | G3 | Sl | | |
| *Cystoptersis tennesseensis* | Tennessee bladderfern leafy prairie | G5 | S2 | | |
| *Dalea foliosa* | clover | G2 | Sl | LE | |
| *Dalea gattingeri* | Gattinger's prairie clover | G3G4 | S3 | | |
| *Dalea sp l* | undescribed prairie clover | G2 | S2 | | |
| *Delphinium alabamicum* | Alabama larkspur | G2 | S2 | | |

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| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Delphinium exaltatus* | tall larkspur | G3 | SH | | |
| *Delphinium virescens* | prairie larkspur | G5T5 | Sl | | |
| *Desmodium ochroleucum* | creamy tick trefoil | G2G3 | S? | | |
| *Dicentra cucullaria* | Dutchman's breeches | G5 | S2 | | |
| *Dicerandra linearifolia* | large-flowered pennyroyal | G4G5 | S2 | | |
| *Diervilla rivularis* | riverbank bush-honeysuckle | G3 | S? | | |
| *Diphylleia cymosa* | umbrella-leaf | G4 | SH | | |
| *Disporum maculatum* | spotted mandrin | G3G4 | Sl | | |
| *Dodecatheon frenchii* | French's shooting star | G3 | Sl | | |
| *Dryopteris campyloptera* | mountain woodfern | G5 | Sl | | |
| *Dryopteris celsa* | log fern | G4 | Sl | | |
| *Dryopteris goldiana* | Goldie's woodfern | G4 | Sl | | |
| *Dryopteris x australis* | southern woodfern | HYB | Sl | | |
| *Dyscoriste oblongifolia* | oblong-leaved dyschoriste | G4G5 | Sl | | |
| *Echinacea pallida* | pale-purple coneflower | G4G5 | S2 | | |
| *Echinodorus parvulus* | dwarf burhead | G3 | Sl | | |
| *Eleocharis melanocarpa* | black-fruited spike-rush | G4 | Sl | | |
| *Eleocharis olivacea* | capitate spikerush | G5 | Sl | | |
| *Eleocharis robbinsii* | Robbin's spikerush | G4G5 | Sl | | |
| *Eleocharis wolfii* | Wolf's spikerush | G4G5 | Sl | | |
| *Elodea canadensis* | broad waterweed | G5 | S1 | | |
| *Epidendrum conopseum* | green-fly orchid | G4 | S2 | | |
| *Equisetum arvense* | field horsetail | G5 | S2 | | |
| *Erigeron strigosus var l* | daisy fleabane | G5T2? | S2? | | |
| *Eriocaulon lineare* | narrow pipewort | G4 | S2 | | |
| *Eriocaulon texense* | Texas pipewort | G4 | S2 | | |
| *Eriogonum longifolium var harperi* | Harper's umbrella plant | G4T2 | S2 | | |
| *Erythronium albidum* | white trout lily | G5 | SlS2 | | |
| *Erythronium umbilicatum ssp umbilicatum* | yellow trout lily | G5T5 | Sl | | |
| *Euphorbia discoidalis* | euphorbia | G3?Q | S2? | | |
| *Fimbristylis brevivaginata* | glade fimbristylis | G2 | S? | | |
| *Fothergilla major* | witch-alder | G3 | S2 | | |
| *Fraser caroliniensis* | Carolina gentian | G5 | SlS2 | | |
| *Galactia floridana* | Florida milk pea | G2G4 | SH | | |
| *Gentiana elliottii* | gentian | G? | SlS2 | | |
| *Geum laciniatum* | rough avens | G5 | Sl? | | |
| *Geum virginianum* | pale avens | G5 | Sl? | | |
| *Gordonia lasianthus* | loblolly bay | G5 | Sl | | |
| *Halesia carolina* | silverbell | G4G5 | S2 | | |
| *Hedeoma drummondii* | Drummond's pennyroyal | G3G5 | S2 | | |
| *Helenium brevifolium* | little leaf sneezeweed | G3G4 | SH | | |
| *Helenium vernale* | spring sneezeweed | G4? | S2? | | |
| *Helianthemum arenicola* | rock rose | G3 | SH | | |
| *Helianthus eggertii* | Eggert's sunflower | G2G3 | Sl | PT | |
| *Helianthus glaucophyllus* | white-leaved sunflower | G3 | SH | | |
| *Helianthus heterophyllus* | wetland sunflower | G3G4 | SlS2 | | |

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| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Helianthus longifolius* | longleaf sunflower | G3 | SlS2 | | |
| *Helianthus smithii* | Smith's sunflower | G3Q | S2 | | |
| *Heuchera longiflora* | long-flower alumroot | G4 | S1 | | |
| *Hexastylis shuttleworthii var sharperi* | Harper's wild ginger | G4T2 | S2 | | |
| *Hexastylis speciosa* | Harper's heartleaf | G2G3 | S2S3 | | |
| *Hibiscus coccineus* | brilliant hibiscus | G4? | Sl | | |
| *Hottonia inflata* | featherfoil | G4 | S2 | | |
| *Huperzia lucidula* | shining clubmoss | G5 | S2 | | |
| *Huperzia porophila* | rock clubmoss | G4 | Sl | | |
| *Hydrastis canadensis* | golden seal | G4 | S2 | | |
| *Hydrophyllum appendiculatum* | waterleaf | G5 | S2? | | |
| *Hymenocallis coronaria* | shoals spider-lilly | G2Q | S2 | | |
| *Hymenophyllum tayloriae* | gorge filmy fern | GlG2 | Sl | | |
| *Hymenophyllum tunbrigense* | Turnbridge fern | G4G5 | Sl | | |
| *Hypericum dolabriforme* | straggling St. John's-wort | G4 | SH | | |
| *Hypericum lloydii* | Lloyd St. John's-wort | G4? | Sl | | |
| *Hypericum nitidum* | Carolina St. John's-wort | G4 | S2 | | |
| *Hypericum nudiflorum* | pretty St. John's-wort | G5 | S2 | | |
| *Hypericum reductum* | Atlantic St. John-s-wort | G5 | S2 | | |
| *Hypoxis juncea* | yellow stargrass | G4? | S? | | |
| *Ilex amelanchier* | sarvis holly | G4 | S2 | | |
| *Ipomoea macrorhiza* | large-stem morning-glory | G3G5 | Sl | | |
| *Isoetes butleri* | glade quillwort | G4 | S2 | | |
| *Isoetes melanopoda* | blackfoot quillwort | G5 | Sl? | | |
| *Isopetes virginica* | piedmont quillwort | G3Q | S2 | | |
| *Isopyrum biternatum* | false rue-anemone | G5 | Sl | | |
| *Isotria verticillata* | large whorled pogonia | G5 | S2 | | |
| *Jamesianthus alabamensis* | jamesianthus | G3 | S3 | | |
| *Jeffersonia diphylla* | twinleaf | G5 | S2 | | |
| *Juglans cinerea* | butternut | G4 | S? | | |
| *Juncus georgianus* | Georgia rush | G4 | Sl | | |
| *Juncus gymnocarpus* | naked-fruited rush | G4 | S2 | | |
| *Juniperus communis* | ground juniper | G5 | Sl | | |
| *Kalmia hirsuta* | hairy laurel | G5 | S2? | | |
| *Kosteletzkya smilacifolia* | southern sea-shore mallow | GlG3Q | Sl? | | |
| *Lachnocaulon digynum* | pineland bogbutton | G3 | S2 | | |
| *Lachnocaulon engleri* | Engler's bogbutton | G2G4 | Sl? | | |
| *Lachnocaulon minus* | small's bog buttons | G3G4 | Sl? | | |
| *Leavenworthia alabamica* | Alabama glade-cress | G3 | S2S3 | | |
| *Leavenworthia crassa* | fleshy-fruit glade cress | G2 | S2 | | |
| *Leavenworthia exigua var exigua* | glade cress | G4T3 | SR | | |
| *Leavenworthia exigua var lutea* | pasture glade-cress | G4Tl | Sl | | |
| *Leavenworthia torulosa* | necklace glade cress | G4 | SX | | |
| *Leavenworthia uniflora* | michaux leavenworthia | G4 | S2 | | |

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| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Lesquerella densipila* | duck river bladderpod | G3 | S2 | | |
| *Lesquerella lyrata* | lyrate bladderpod | Gl | Sl | LT | |
| *Liatris chapminii* | gay-feather slender | G5 | SH | | |
| *Liatris cylindracea* | blazing-star | G5 | S2 | | |
| *Liatris sp l* | undescribed liatris | Gl | Sl | | |
| *Lilaeopsis carolinensis* | Carolina lilaeopsis | G3 | Sl | | |
| *Lilium canadense* | Canada lily | G5 | Sl | | |
| *Lilium iridollae* | panhandle lily | GlG2 | Sl | | |
| *Lilium philadelphicum* | wood lily | G5 | Sl? | | |
| *Lilium superbum* | Turk's-cap lily | G5 | S2S3 | | |
| *Lindera melissifolia* | pondberry | G2 | SH | LE | |
| *Lindera subcoriacea* | bog spicebush | G2 | Sl | | |
| *Lindernia saxicola* | rock false pimpernel | GlQ | Sl? | | |
| *Linum macrocarpum* | flax | G2? | Sl | | |
| *Linum sulcatum var harperi* | Harper's grooved-yellow flax | G5TU | Sl | | |
| *Liparis loeselii* | Loesel's twayblade | G5 | Sl? | | |
| *Listera australis* | southern twayblade | G4 | S2 | | |
| *Lobelia boykinii* | Boykin's lobelia | G2 | SlS2 | | |
| *Ludwigia arcuata* | piedmont seedbox | G4G5 | SH | | |
| *Ludwigia spathulata* | spatulate seedbox | G2G3 | SlS2 | | |
| *Luziola bahiensis* | Brazilian loziola | G4G5 | Sl | | |
| *Lycium carolinianum* | Christmas berry | G4 | SlS2 | | |
| *Lycopodium obscurum* | tree clubmoss | G5 | Sl | | |
| *Lygodium palmatum* | climbing fern | G4 | S2? | | |
| *Lysimachia fraseri* | Fraser's loosestrife | G3 | Sl | | |
| *Lysimachia graminea* | grass-leaf loosestrife | G2Q | SH | | |
| *Macbridea caroliniana* | Carolina bird-in-a-nest | G2G3 | SR | | |
| *Macranthera flammea* | flame flower | G3 | S2S3 | | |
| *Marshallia mohrii* | Mohr's Barbara's buttons | G3 | S3 | LT | |
| *Marshallia trinervia* | broadleaf Barbara's buttons | G3 | S3 | | |
| *Matelea alabamensis* | Alabama anglepod | G2 | Sl | | |
| *Matelea baldwyniana* | Baldwin's milkvine | G2G3 | SH | | |
| *Melanthium latifolium* | broadleaf bunchflower | G5 | Sl | | |
| *Minuartia godfreyi* | Godfrey's sandwort | Gl | SH | | |
| *Mirabilis albida* | pale umbrella-wort | G5 | S2 | | |
| *Monarda clinopodia* | bee-balm | G5 | S2 | | |
| *Monotropa hypopithys* | pinesap | G5 | S2 | | |
| *Monotropsis odorata var odorata* | sweet pinesap | G3T? | Sl | | |
| *Myriophyllum laxum* | Piedmont water-milfoil | G3 | S2 | | |
| *Najas gracillima* | thread-like naiad | G5 | Sl | | |
| *Nestronia umbellula* | nestronia | G4 | S2 | | |
| *Neviusia alabamensis* | Alabama snow-wreath | G2 | S2 | | |
| *Oenothera heterophylla* | vari-leaf evening-primrose | G4 | SH | | |
| *Onosmodium molle ssp molle* | soft false gromwell | G4?T3 | S2 | | |
| *Onosmodium sp l* | false gromwell | GlG2 | S2 | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Ophioglossum engelmannii* | limestone adder's-tongue | G5 | S2S3 | | |
| *Orbexilum lupinellum* | lupine scurfpea | G3G4 | S? | | |
| *Orobanche uniflora* | one-flower broomrape | G5 | S2 | | |
| *Oxalis grandis* | giant wood-sorrel | G4G5 | SH | | |
| *Pachysandra procumbens* | Allegheny-spurge | G4G5 | S2S3 | | |
| *Palhinhaea cernua* | nodding clubmoss | G5 | SlS2 | | |
| *Panicum lithophilum* | Swallen's panic-grass | G4Q | Sl | | |
| *Panicum nudicaule* | naked-stemmed panic grass | G3? | S2 | | |
| *Parnassia asarifolia* | kidneyleaf grass-of-Parnassus | G4 | SlS2 | | |
| *Parnassia grandifolia* | large-leaved grass-of-Parnassus | G3G4 | Sl | | |
| *Paronychia virginica* | yellow nail-wort | G4 | S2 | | |
| *Peltandra sagittifolia* | spoon-flower | G3G4 | S2 | | |
| *Penstemon multiflorus* | many-flower beardtongue | G4 | SH | | |
| *Penstemon smallii* | small beardtongue | G3G4 | Sl? | | |
| *Penstemon tenuiflorus* | glade beardtongue | G3? | S2S3 | | |
| *Phacelia dubia var dubia* | phacelia | G5T? | SlS2 | | |
| *Phacelia dubia var georgiana* | outcrop small-flower phacelia | G5T3 | S2 | | |
| *Phlox pulchra* | Wherry's phlox | G2G3 | S2S3 | | |
| *Phoebanthus tenuifolia* | pineland false sunflower Carpenter's | G3 | Sl | | |
| *Physalis carpenteri* | ground-cherry | G3 | SH | | |
| *Pieris phillyreifolia* | climbing fetter-bush | G3 | S2S3 | | |
| *Pinguicula planifolia* | Chapman's butterwort | G3? | SlS2 | | |
| *Pinguicula pumila* | small butterwort | G4 | Sl? | | |
| *Pinus clausa* | sand pine | G3 | S? | | |
| *Pinus serotina* | pond pine | G4Q | Sl | | |
| *Pityopsis oligantha* | golden aster | GlG3 | S? | | |
| *Plantago cordata* | heart-leaved plantain | G4 | Sl | | |
| *Platanthera blephariglottis var conspicua* | large white fringed orchid | G4G5T3 | SlS2 | | |
| *Plantanthera flava var flava* | southern rein orchid yellow fringeless | G4T4?Q | S2S3 | | |
| *Platanthera integra* | orchid | G4 | SlS2 | | |
| *Plantanthera integrilabia* | white fringeless orchid green-fringed | G2 | S2 | | |
| *Platanthera lacera* | orchid | G5 | S2 | | |
| *Plantanthera nivea* | snowy orchid | G5 | S2? | | |
| *Platanthera permoena* | purple fringeless orchid | G5 | Sl? | | |
| *Pleea tenuifolia* | rush false-asphodel | G4 | SlS2 | | |
| *Polanisia tenuifolia* | slenderleaf clammy-weed | G5 | SH | | |
| *Polygala balduinii* | white milkwort | G2G4 | Sl? | | |
| *Polygala boykinii* | white milkwort | G3G4 | S3S4 | | |
| *Polygala crenata* | crenate milkwort | G4? | SH | | |
| *Polygala hookeri* | hooker milkwort | G3 | SlS2? | | |
| *Polygonella americana* | southern jointweed | G5 | SH | | |
| *Polygonella macrophylla* | large-leaved jointweed | G2 | Sl | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Polymnia laevigata* | Tennessee leafcup | G3 | S2S3 | | |
| *Ponthieva racemosa Populus* | shadow-witch | G4G5 | S2 | | |
| *HHHeterophylla* | swamp cottonwood barbed | G5 | S2 | | |
| *Prenanthes barbata* | rattlesnake-root | G3 | SlS2 | | |
| *Prunus alabamensis* | Alabama plum | G4 | Sl? | | |
| *Psilotum nudum* | whiskfern single-stemmed | G5 | Sl | | |
| *Psoralea simplex* | scurf-pea | G4G5 | SH | | |
| *Psoralea subacaulis* | Nashville breadroot | G4 | S2 | | |
| *Pteroglossaspis ecristata* | crestless eulophia | G2G3 | SH | | |
| *Ptilimnium costatum* | eastern bishop-weed | G3G4 | Sl | | |
| *Ptilimnium nodosum* | harperella | G2 | Sl | LE | |
| *Pycnanthemum curvipes* | a mountain-mint | G3 | Sl? | | |
| *Pyrularia pubera* | buffalo-nut | G5 | S2 | | |
| *Quercus boyntonii* | running post oak | GHQ | Sl | | |
| *Quercus georgiana* | Georgia oak | G4 | S2 | | |
| *Quercus macrocarpa* | mossy-cup oak | G5 | S2 | | |
| *Guercus minima* | dwarf live oak | G5 | S2 | | |
| *Ranunculus flabellaris* | yellow water-crowfoot | G5 | Sl | | |
| *Rhamnus lanceolata* | lance-leaved buckthorn | G4G5 | S2? | | |
| *Rhapidophyllum hystrix* | needle palm | G4 | S2S3 | | |
| *Rhexia aristosa* | awned meadowbeauty small-flowered | G3 | Sl | | |
| *Rhexia parviflora* | meadowbeauth panhandle | G2 | Sl | | |
| *Rhexia salicifolia* | meadowbeauty | G2 | Sl | | |
| *Rhododendron austrinum* | orange azalea | G3G4 | S2S3 | | |
| *Rhododendron cumberlandense* | Cumberland rhododendron | G3 | S? | | |
| *Rhododendron minus* | dwarf rhododendron | G4 | S2 | | |
| *Rhododendron prunifolium* | plumleaf azalea | G3 | S2S3 | | |
| *Rhynchospora capillacea* | horned beaked rush | G5 | Sl | | |
| *Rhynchospora crinipes* | hairy-peduncled beak rush | Gl | Sl | | |
| *Rhynchospora fernaldii* | Fernald's beak rush | G3G4 | Sl? | | |
| *Rhynchospora intermedia* | beak rush southern white beak | G2G3 | S? | | |
| *Rhynchospora macra* | rush | G3G4 | Sl? | | |
| *Rhynchospora pleiantha* | beak rush | G3 | Sl | | |
| *Rhynchospora saxicola* | Stone Mountain beak rush | G3G4 | Sl | | |
| *Rhynchospora stenophylla* | narrow-leaved beak rush | G4 | Sl | | |
| *Rhynchospora thornei* | Thorne beak rush | Gl | Sl | | |
| *Rhynchospora tracyi* | Tracy's beak rush | G4 | Sl | | |
| *Ribes curvatum* | granite gooseberry | G4 | SH | | |
| *Ribes cynosbati* | prickly gooseberry | G5 | SlS2 | | |
| *Rubus allegheniensis* | Allegheny blackberry | G5 | Sl | | |
| *Rudbeckia auriculata* | eared coneflower | Gl | Sl | | |
| *Rudbeckia heliopsidis* | sun-facing coneflower | G2 | S2 | | |
| *Rudbeckia mollis* | soft-hair coneflower | G3G5 | Sl | | |
| *Rudbeckia nitida var nitida* | yellow coneflower | G3?T2T3 | Sl? | | |
| *Rudbeckia triloba var* | pinnate-lobed black-eyed | G4T2? | S2S3 | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *pinnatiloba* | Susan | | | | |
| *Ruellia nocitflora* | night-flowering ruellia | G2G3 | Sl | | |
| *Sabatia brevifolia* | short-leaved pink | G2G3 | Sl | | |
| *Sabatia capitata* | rose pink | G2 | S2 | | |
| *Sabatia grandiflora* | large-flowered pink | G3G4 | Sl? | | |
| *Sabatia quadrangula* | four-angled pink | G4G5 | SH | | |
| *Sageretia minutiflora* | tiny-leaved buckthorn | G4 | SH | | |
| *Sagittaria isoetiformis* | slender arrow-head | G3G5 | S2 | | |
| *Sagittaria secundifolia* | Kral's water-plantain | Gl | Sl | LT | |
| *Salix humilis* | tall prairie willow | G5 | S2S3 | | |
| *Sarracenia leucophylla* | white-topped pitcher plant | G3 | S3 | | |
| *Sarracenia oreophila* | green pitcher plant | G2 | S2 | LE | |
| *Sarrancenia rubra ssp alabamensis* | Alabama canebrake pitcher plant | G3T2 | SlS2 | LE | |
| *Sarracenia rubra ssp wherryi* | Wherry's sweet pitcher plant | G3T3 | S3 | | |
| *Saxifraga careyana* | Carey saxifrage | G3 | Sl? | | |
| *Schisandra glabra* | bay starvine | G4 | S2 | | |
| *Schizachyrium maritimum* | seaside bluestem | G3G4Q | S? | | |
| *Schizachyrium scoparium var divergens* | eastern little bluestem | G5T5 | SH | | |
| *Schoenolirion croceum* | yellow sunnybell | G4 | S2 | | |
| *Schornolirion wrightii* | Texas sunnybell | G3 | S? | | |
| *Schwalbea americana* | chaffseed | G2 | SH | LE | |
| *Scirpus hallii* | Hall's bulrush | G2 | S? | | |
| *Scutellaria alabamensis* | Alabama skullcap | G2 | S2 | | |
| *Scutellaria glabriuscula* | glabrous skullcap | G2? | SH | | |
| *Sedum nevii* | Nevius' stonecrop | G2 | S2 | | |
| *Selaginella arenicola ssp riddellii* | Riddell's spikemoss | G5T4 | S2 | | |
| *Selaginella ludoviciana* | gulf spike-moss | G4G5 | SlS2 | | |
| *Selaginella rupestris* | ledge spike-moss | G5 | S2S3 | | |
| *Sida elliottii* | Elliott's fan-petal | G4G5 | S2 | | |
| *Sideroxylon reclinatum* | buckthorn | G4G5 | Sl? | | |
| *Sideroxylon thornei* | swamp butkthorn | GlG2 | Sl | | |
| *Silene caroliniana ssp wherryi* | Wherry's catchfly | G5TU | SlS21 | | |
| *Silene ovata* | ovate catchfly | G3 | S2? | | |
| *Silene rotundifolia* | roundleaf catchfly cumberland | G4 | SlS2 | | |
| *Silphium brachiatum* | rosinweed | G2 | S2 | | |
| *Silphium mohrii* | Mohr's rosinweed | G3G4Q | Sl | | |
| *Silphium pinnatifidum* | prairie-dock | G3Q | S? | | |
| *Silphium sp l* | rosinweed | G2 | S2 | | |
| *Silphium trifoliatum var latifolium* | rosinweed | G4?T4? | S2S3 | | |
| *Sium floridanum* | Florida water-parsnip | GlQ | Sl | | |
| *Solanum carolinense var hirsutum* | horse-nettle | G5Tl | Sl | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Solidago uliginosa* | bog goldenrod | G4G5 | SH | | |
| *Spigelia gentianoides* | gentian pinkroot | G2 | SlS2 | LE | |
| *Spiranthes longilabris* | giant spiral ladies'-tresses | G3 | Sl | | |
| *Spiranthes magnicamporum* | great plains ladies'-tresses | G3G4 | S3 | | |
| *Sporobolus floridanus* | Florida dropseed | G3? | SR | | |
| *Stewartia malacodendron* | silky camellia | G4 | S2S3 | | |
| *Stewartia ovata* | mountain camellia | G4 | S2S3 | | |
| *Stylisma aquatica* | water dawnflower | G4 | SR | | |
| *Stylisma pickeringii var pickeringii* | Pickering's morning-glory | G4T2T3 | Sl | | |
| *Synandra hispidula* | Wyandotte beauty | G4 | Sl | | |
| *Talinum calcaricum* | limestone fame-flower | G3 | S2 | | |
| *Talinum mengesii* | Menge's fame-flower | G5 | Sl | | |
| *Tephrosia mohrii* | pineland hoary-pea | G2?Q | SlS2 | | |
| *Thalia dealbata* | powdery thalia | G3G5 | SH | | |
| *Thalictrum debile* | southern meadowrue | G2Q | S2 | | |
| *Thalictrum mirabile* | little mountain meadowrue | G2G3Q | Sl? | | |
| *Thalictrum subrotundum* | reclined meadowrue | GlG2 | Sl | | |
| *Thelypteris ovata* | ovate marsh fern | G3G5 | S3 | | |
| *Thelypteris pilosa var alabamensis* | Alabama streak-sorus fern | G4Tl | S2 | LT | |
| *Thelypteris quadrangularis* | hairy maden fern | G3G5 | S2 | | |
| *Thermopsis fraxinifolia* | ash-leaved bush-pea | G3G4T3? | SH | | |
| *Trichomanes petersii* | dwarf filmy-fern | G3G5 | S2 | | |
| *Tridens carolinianus* | sandgrass | G3? | S? | | |
| *Trillium decipiens* | deceiving trillium | G3 | S2S3 | | |
| *Trillium decombens* | decumbent trillium | G4 | S2S3 | | |
| *Trillium flexipes* | nodding trillium | G5 | S2S3 | | |
| *Trillium grandiflorum* | large-flowered trillium | G5 | Sl | | |
| *Trillium lancifolium* | narrow-leaved trillium | G3 | S2S3 | | |
| *Trillium luteum* | lemon-scented trillium | G4 | SlS2 | | |
| *Trillium pusillum var pusillum sensu stricto* | dwarf trillium | G3TlQ | S2 | | |
| *Trillium recurvatum* | prairie trillium | G5 | S2 | | |
| *Trillium reliquum* | relict trillium | G2 | S2 | LE | |
| *Trillium rugelii* | southern nodding trillium | G3 | S2? | | |
| *Trillium sessile* | toadshade | G4G5 | S2 | | |
| *Trillium sulcatum* | southern red trillium | G4 | Sl | | |
| *Trillium vaseyi* | Vasey's trillium | G4 | Sl? | | |
| *Triosteum angustifolium* | horse-gentian | G5 | Sl | | |
| *Utricularia floridana* | Florida bladderwort | G3G5 | SlS2 | | |
| *Utricularia inflata* | swollen bladderwort | G5 | SlS2 | | |
| *Utriculatia resupinata* | northeastern bladderwort | G4 | SlS2 | | |
| *Uvularia floridana* | Florida bellwort | G3? | SlS2? | | |
| *Veratrum parviflorum* | small-flowered false hellebore Wood's false | G4? | SlS2 | | |
| *Veratrum woodii* | hellebore | G5 | Sl | | |
| *Verbesina aristata* | crownbeard | G2? | SH | | |

**Table 2: State Sensitive Species**

| Scientific Name | Common Name | Global Rank | State Rank | USESA Rank | State Protected |
|---|---|---|---|---|---|
| *Viburnum bracteatum* | limerock arrowwood | Gl | Sl | | |
| *Viburnum obovatum* | small-leaf viburnum | G5 | Sl | | |
| *Viguiera porteri* | Confederate daisy | G4 | S2 | | |
| *Viola canadensis* | Canada violet | G5 | S2 | | |
| *Viola egglestonii* | Eggleston's violet | G4 | Sl | | |
| *Vitis munsoniana* | Munson grape | Gr?Q | SH | | |
| *Vitis mustangensis* | mustang grape | G4? | Sl | | |
| *Vitis rupestris* | sand grape | G3? | Sl? | | |
| *Warea sessilifolia Websteria* | sessile-leaved warea | G2G4 | SH | | |
| *Coonfervoides* | websteria | G? | Sl | | |
| *Xyris cahpmanii* | Chapman's yellow-eyed grass | G3 | S? | | |
| *Xyris drummondii* | Drummond's yellow-eyed grass | G3 | S2 | | |
| *Xyris isoetifolia* | quillwort yellow-eyed grass | G2? | SR | | |
| *Xyris longisepala* | Kral's yellow-eyed grass | G2 | Sl | | |
| *Xyris scabrifolia* | Harper's yellow-eyed grasss acid-swamp | G3 | SlS2 | | |
| *Xyris serotina* | yellow-eyed-grass Tenneessee | G3G4 | SH | | |
| *Xyris tennesseensis Zanthoxylum* | yellow-eyed grass` | Gl | Sl | LE | |
| *americanum Zephyranthes atamasco var* | toothache-tree | G5 | Sl | | |
| *Treatiae Zigadenus* | Easter lily | G4G5T2T4 | Sl? | | |
| *Leimanthoides* | crow-poison | G4Q | Sl | | |
| **Non-Vascular Plants** | | | | | |
| *Archidium tenerrimum* | large-spored moss | G? | S? | | |
| *Asterella tenella* | liverwort | G? | S? | | |
| *Brachymenium macrocarpon* | tree moss | G?Q | S? | | |
| *Cololejeunea ornata* | liverwort | G2G4 | Sl | | |
| *Fissidens kegelianus* | fan moss | G?Q | S? | | |
| *Fontinalis welchiana* | difficult moss | G? | Sl | | |
| *Frullania riparia* | liverwort | G? | S? | | |
| *Grimmia alpi ola* | rock moss | G?Q | S2? | | |
| *Plagiochila invisus* | liverwort | Gl | Sl | | |
| *Tortula rhizophylla* | moss | G2G3 | Sl | | |
| *Trichostomum crispulum* | moss | G? | S2 | | |

**Global Rank**

Global ranks are determined by the scientific staff of The Nature Conservancy (TNC) and state Natural Heritage Programs. Global ranks allow the best available and objective assessment of an rare plant's rarity and the level of threat to its existence. The total number of individuals, the number of populations, and the threats to

the populations are considered throughout the plant's range.

| | |
|---|---|
| **Gl** | Extremely rare and critically imperiled, generally with five or fewer occurrences in the world, or very few remaining individuals, or because of some special condition the species is particularly vulnerable to extinction. |
| **G2** | Very rare and imperiled, generally with six to twenty occurrences and less than 3000 individuals, or because of some factor(s) vulnerable to extinction. |
| **G3** | Very rare and local throughout its range or found locally in a restricted range. Or because of other factors vulnerable to extinction throughout its range. Generally between 21 and 100 occurrences and fewer than 10,000 individuals. |
| **G4** | Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery. Thus, the plant is of long-term concern. |
| **G5** | Demonstrably secure globally, though it might be quite rare in parts of its range, especially at the periphery. |
| **GH** | Of historical occurrence throughout its range, i.e., formally part of the established biota, with the expectation that it may be rediscovered. |
| **GU** | Possibly in peril range-wide but status uncertain, need more information. |
| **GX** | Believed to be extinct throughout range, with virtually no likelihood that it will be rediscovered. |
| **G#Q** | Taxonomic status is questionable, numeric rank may change with taxonomy. |
| **G#?** | Inexact numeric rank. |

**State Rank**

A numeric rating (Sl through S5) of relative endangerment based primarily on the number of occurrences of the Element in the state. Other factors in addition to the number of occurrences are considered when assigning rank, so the number of occurrences suggested for each numeric rank below are not absolute guidelines.

| | |
|---|---|
| **Sl** | Extremely rare and critically imperiled in the state with five or fewer occurrences, or very few remaining individuals, or because of some special condition when the species is particularly vulnerable to extinction. |
| **S2** | Very rare and imperiled within the state, six to twenty occurrences and less than 3000 individuals, or few remaining individuals, or because of some factor(s) making it vulnerable to extinction. |
| **S3** | Rare and uncommon in the state, from 2l to 100 occurrences. |
| **S4** | Widespread, abundant, and apparently secure within the state, though it may be quite rare in parts of its range, especially at the periphery, and is of long-term concern. |
| **SH** | Of historical occurrence in Tennessee, i.e., known to occur in Tennessee in the past, with the expectation that it may be rediscovered. |
| **SU** | Possibly in peril in Tennessee but status uncertain, need more information. |
| **SX** | Believed to be extirpated from Tennessee, with virtually no likelihood that it will be rediscovered. |
| **S#S#** | Denotes a range of ranks because the exact rarity of the element is uncertain (i.e., SlS2) |
| **S?** | Unranked, within the state. |

**U.S. Endangered Species**

Federally listed species are protected by the Endangered Species Act of 1973 (as amended). The list is administered and determined by the US Fish and Wildlife Service.

| | |
|---|---|
| **LE** | Listed Endangered, the taxon is threatened by extinction throughout all or a significant portion of its range. |
| **LT** | Listed Threatened, the taxon is likely to become an endangered species in the foreseeable future. |
| **PE** | Proposed Endangered, the taxon is proposed for listing as endangered. |
| **PT** | Proposed Threatened, the taxon is proposed to be listed as threatened. |

**SECTION 6**

**OTHER ENVIRONMENTAL ISSUES**

**Alabama Supplement, July 2000**

| **OTHER ENVIRONMENTAL ISSUES**<br>**GUIDANCE FOR ALABAMA CHECKLIST USERS** |
|---|
| **REFER TO CHECKLIST ITEMS:** |
| The NEPA Process<br>Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.<br>Missing Checklist Items O1.2.1.AL.<br><br>Environmental Noise<br>Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.<br>Missing Checklist Items O2.2.1.AL.<br><br>IRP<br>Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.<br>Missing Checklist Items O3.2.1.AL.<br><br>Pollution Prevention<br>Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.<br>Missing Checklist Items O4.2.1.AL. |

| COMPLIANCE CATEGORY:<br>OTHER ENVIRONMENTAL ISSUES<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **NEPA**<br><br>**O1.2.**<br>**Missing Checklist Items**<br><br>**O1.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

| COMPLIANCE CATEGORY:<br>OTHER ENVIRONMENTAL ISSUES<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ENVIRONMENTAL NOISE**<br><br>**O2.2.**<br>**Missing Checklist Items** | |
| **O2.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

| COMPLIANCE CATEGORY:<br>OTHER ENVIRONMENTAL ISSUES<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **IRP**<br><br>**O3.2.**<br>**Missing Checklist Items** | |
| **O3.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

| COMPLIANCE CATEGORY:<br>OTHER ENVIRONMENTAL ISSUES<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **POLLUTION PREVENTION**<br><br>**O4.2.**<br>**Missing Checklist Items** | |
| **O4.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

**SECTION 7**

**PESTICIDE MANAGEMENT**

**Alabama Supplement, July 2000**

This section covers the state requirements for Pesticide Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

**Definitions**

- *Adverse Effect* - personal injury, damage to personal property, damage to real property, damage to the environment, or any combination of these (Alabama Department of Agriculture and Industries (ADAI) Administrative (Admin.) Code Rule (R.) 80-1-14-.02(4)).

- *Agricultural Aircraft Operation* - the operation of an aircraft for the purpose of dispensing any pesticide directly affecting agriculture, horticulture, forest preservation, or for any other pest control operation (ADAI Admin. Code R. 80-1-14-.02(3)).

- *Agricultural Commodity* - any plant, or part thereof, animal or animal product, produced by a person (including farmers, ranchers, vineculturists, plant propagators, Christmas tree growers, aquaculturists, floriculturists, orchardists, foresters, or other comparable persons) primarily for sale, consumption, or other use by man or animals (ADAI Admin. Code R. 80-1-13-.02(1)).

- *Application Equipment* - the entire mechanism required to dispense pesticides but not including the mechanism of the carrying vehicle (ADAI Admin. Code R. 80-1-14-.02(1)).

- *Category(ies)* - a unique class of pesticide applicators requiring special skills and knowledge (ADAI Admin. Code R. 80-1-13-.02(2)).

- *Commercial Applicator* - a permitted applicator (whether or not he is a private applicator with respect to some pesticide uses) who uses or supervises the use of restricted-use pesticides for any purpose or on any property other than [a *Private Applicator]*. Commercial applicators are further identified according to the type of pesticide application engaged in as follows:
    1. *Custom Pesticide Applicator* - a permitted applicator who uses or supervises the use of restricted-use pesticides and other pesticides as a full time employee of a licensed custom pesticide applicator.
    2. *Custodial Pesticide Applicator* - a commercial applicator who uses or supervises the use of restricted-use pesticides for purposes other than production of an agricultural commodity on property owned, leased, or otherwise in control of another person as part of his permanent salaried employment for the owner, lessor, or person in control of the property.
    3. *Governmental Pesticide Applicator* - a permitted applicator who uses or supervises the use of restricted-use pesticides as a part of his permanent employment with a Federal, state, county, or municipal governmental agency in pest control programs conducted by governmental agencies.
    4. *Resident Pesticide Applicator* - a permitted applicator who uses or supervises the use of restricted-use pesticides for purposes other than the production of an agricultural commodity on property owned or leased by him or to property owned or leased by another person if applied without compensation other than trading personal services with another property owner.
    5. *Pesticide Consultant* - a permitted applicator who advises, consults, or makes recommendations for the application of any pesticides on property owned, leased, or otherwise controlled by another person (ADAI Admin. Code R. 80-1-13-.02(4)).

- *Commissioner* - the Commissioner of the Alabama Department of Agriculture and Industries (Ala. Code § 2-27-2(33)).

- *Competent* - understanding the particular functions associated with pesticide application, the degree of competency being directly related to the nature of the pesticide activity and the associated responsibility (ADAI Admin. Code R. 80-1-13-.01(3) and 80-1-14-.02(11)).

- *Decal* - an identification symbol to be affixed to equipment used in custom pesticide operation(s) signifying that requirements of law have been met (ADAI Admin. Code R. 80-1-14-.02(13)).

- *Direct Supervision* - the act or process whereby the application of a pesticide is made by a competent person acting under the restrictions and control of a Supervisor who is available if and when needed, even though such Supervisor is not physically present at the time and place the pesticide is applied (ADAI Admin. Code R. 80-1-14-.02(12)).

- *Drift* - the drifting or movement of a pesticide by air currents or diffusion onto property beyond the boundaries of the target area to be treated with pesticide (ADAI Admin. Code R. 80-1-14-.02(5)).

- *Emergency* - an occurrence which can impair public health, safety, or result in injury, damage, or loss of life and which calls for immediate action. An emergency may be minor or of such magnitude as to create a disaster (ADAI Admin. Code R. 80-1-14-.02(6)).

- *Environment* - water, air, land, and all plants and man and other animals living therein and the interrelationships which exist among these (ADAI Admin. Code R. 80-1-14-.02(7)).

- *Full-time Employee* - any person employed full time by a licensee with the exception of clerical, janitorial, office maintenance employees, or those employees performing work completely disassociated with the custom application of pesticides (ADAI Admin. Code R. 80-1-14-.02(14)).

- *Fungicide* - any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any fungi (except those living on or in man or other animals) (Ala. Code § 2-27-2(3)).

- *Hazard* - a probability that a given pesticide or the use of a pesticide will have adverse effects on man or the environment in a given situation, the relative likelihood of danger or ill effects being dependent on a number of interrelated factors present at any given time (ADAI Admin. Code R. 80-1-14-.02(15)).

- *Herbicide* - any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any weed (Ala. Code § 2-27-2(5)).

- *Insecticide* - any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects which may be present in any environment whatsoever (Ala. Code § 2-27-2(2)).

- *Label* - the written, printed, or graphic matter on, or attached to, the pesticide or immediate container thereof and the outside container or wrapper of the retail package, if any there be, of the pesticide (ADAI Admin. Code R. 80-1-14-.02(16)).

- *Licensee* - any individual, firm, partnership, corporation, association, or other legal entity or organization which holds a valid license issued under the provisions of [the *Alabama Pesticide Act*] to engage in the business of custom application of pesticides (ADAI Admin. Code R. 80-1-14-.02(17)).

- *Nontarget Organisms* - an organism exposed or potentially exposed to a pesticide other than the pest(s) the applicator intends to control (ADAI Admin. Code R. 80-1-14-.02(20)).

- *Permitted Applicator* - an individual who is permitted by the Commissioner to recommend the use of, use or supervise the use of restricted use pesticides (ADAI Admin. Code R. 80-1-13-.02(5)).

- *Pesticide* - any substance or mixture of substances intended for preventing, destroying, repelling, attracting, or mitigating any insects, rodents, nematodes, fungi, weeds, or other forms of plant or animal life and/or bacteria and viruses (except bacteria or viruses on or in living man or other animals, which the commissioner declares to be a pest; and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant (Ala. Code § 2-27-2(1)).

- *Pesticide Management Area* - an area designated by the Commissioner with approval of the Board, in which commercial pesticide application is prohibited or limited as to pesticide(s) and/or method(s) of application (ADAI Admin. Code R. 80-1-14-.02(22)).

- *Pesticide Overspray* - the application of a pesticide onto property beyond the boundaries of the target area which is caused by the failure to control the direct flow of the pesticide or by a failure to control the application equipment in surrounding conditions of use and application in a manner which fails to confine the pesticide to the target area (ADAI Admin. Code R. 80-1-14-.02(23)).

- *Place of Business* - any location in Alabama where licensee maintains records, receives orders, holds financial transactions, and generally engages in business activities. A place of business may or may not be identified by street address (ADAI Admin. Code R. 80-1-14-.02(21)).

- *Private Applicator* - a permitted applicator who uses or supervises the use of any pesticide classified for restricted use for the purpose of producing any agricultural commodity on property owned or rented by him or his employer or (if applied without compensation other than trading of personal services between producers of agricultural commodities) on property of another person (ADAI Admin. Code R. 80-1-13-.02(6)).

- *Rodenticide* - any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating rodents or any other vertebrate animals which the Commissioner declares to be a pest in any environment whatsoever (Ala. Code § 2-27-2(4)).

- *Supervisor* - an individual who is permitted by the Commissioner to recommend the use of, use, or supervise the use of pesticides for persons engaged in the custom application of pesticides (ADAI Admin. Code R. 80-1-14-.02(19)).

- *Target Area* - intended site of pesticide application (ADAI Admin. Code R. 80-1-14-.02(9)).

| PESTICIDE MANAGEMENT<br>GUIDANCE FOR ALABAMA CHECKLIST USERS | |
|---|---|
| | **REFER TO CHECKLIST ITEMS:** |
| Missing Checklist Items | PM.2.1.AL. |
| Pesticide Applicators | PM.5.1.AL. |
| Pesticide Application | |
| Aerial | |
| General | PM.25.1.AL. through PM.25.7.AL. |
| Pesticide Applicators | PM.25.8.AL. |
| Documentation | PM.25.9.AL. |
| Storage, Mixing, and Preparation | PM.25.10.AL. |
| Documentation | PM.40.1.AL. |
| Disposal | PM.55.1.AL. |

| PESTICIDE MANAGEMENT<br>GUIDANCE FOR ALABAMA APPENDIX USERS | |
|---|---|
| **REFER TO APPENDIX NUMBERS:** | **REFER TO APPENDIX TITLES:** |
| 7-1 | Restricted-Use Pesticides |

| COMPLIANCE CATEGORY:<br>PESTICIDE MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **PM.2.<br>MISSING CHECKLIST ITEMS** | |
| **PM.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

| COMPLIANCE CATEGORY:<br>PESTICIDE MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **PM.5.**<br>**PESTICIDE APPLICATORS** | |
| **PM.5.1.AL.** Federal facilities must meet specific permit requirements for restricted-use pesticide applicators (ADAI Admin. Code R. 80-1-13-.06 & -.07 and Ala. Code § 2-27-11(a)). | Verify that personnel purchasing and/or applying restricted-use pesticides (see Appendix 7-1) have a current use permit for any of the following types of pesticide activity:<br><br>- private application<br>- commercial application<br>- custom pesticide application<br>- custodial pesticide application<br>- governmental pesticide application<br>- residential pesticide application<br>- pesticide consultation.<br><br>Verify that personnel with current commercial pesticide applicator permits have permits in one or more of the following categories:<br><br>- for agricultural pest control:<br>- for industrial, institutional, structural, and health-related pest control:<br>  - industrial, institutional, and household pest control<br>  - wood-destroying organisms pest control<br>  - fumigation pest control<br>  - public health pest control<br>  - regulatory pest control<br>  - demonstration and research pest control. |

| COMPLIANCE CATEGORY:<br>PESTICIDE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **PESTICIDE APPLICATION**<br><br>**PM.25.<br>AERIAL**<br><br>**General** | |
| **PM.25.1.AL.** Federal facilities must comply with any area pesticide limitations for aerial application, issued by the Commissioner (ADAI Admin. Code R. 80-1-14-.07(1)). | Verify that the Federal facility does not exceed any area pesticide limitation issued by the Commissioner, including any of the following:<br><br>- prohibition against custom pesticide applications<br>- limitations of application methods and pesticide(s) used<br>- restrictions of the time of year of pesticide applications. |
| **PM.25.2.AL.** Federal facilities must meet specific operating and notification requirements for aerial pesticide application (ADAI Admin. Code R. 80-1-14-.06(3) through (5)). | Verify that any agricultural aircraft operation meets the following operating requirements:<br><br>- pesticide application equipment is free of leaks<br>- pesticide application equipment has a positive shutoff system to prevent leaking and dissemination of pesticides on any nontarget areas over which a flight is made<br>- positive shutoff system equipment does not allow spillage, dripping, and backflow, nor creates a hazard from vapors or drift.<br><br>Verify that aerial application is made only when no persons, other than those assisting in the application, are visible in the target area.<br><br>Verify that the Commissioner is notified immediately when any emergency or accidental release of pesticide(s) from aerial application or auxiliary equipment, and is given the following information:<br><br>- name of pilot<br>- licensee involved<br>- name of the property owner or operator<br>- location of the incident<br>- name of the pesticide<br>- estimated amount of pesticide involved<br>- estimated size of the area that received the spill |

| COMPLIANCE CATEGORY:<br>PESTICIDE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| | - description of the what is located within 300 ft from the edge of the spill in all directions<br>- number of humans or animals known to have been contaminated<br>- weather conditions at the site of the emergency or accidental release. |
| **PM.25.3.AL.** Pilots must confirm specific facts prior to commencing aerial pesticide applications (ADAI Admin. Code R. 80-1-14-.07(3)). | Verify that the following facts are confirmed prior to aerial pesticide applications:<br>- the boundaries and exact location of the target areas<br>- the identity of nontarget areas and safety hazards located on or adjacent to the target areas. |
| **PM.25.4.AL.** Federal facilities must meet specific cleaning requirements for aerial pesticide spraying and spreading equipment (ADAI Admin. Code R. 80-1-14-.07(4)). | Verify that spraying and spreading equipment are thoroughly rinsed after each pesticide application.<br>(NOTE: This requirement does not apply when the next application operation either:<br>- uses the same pesticide, or<br>- uses another pesticide deemed compatible by the manufacturer and will not result in any adverse effects or illegal residues.)<br>Verify that rinsing is conducted in an area where an environmental hazard would not be created by the drainage or disposal of waste materials and conducted with methods that would not create an environmental or human hazard. |
| **PM.25.5.AL.** Federal facilities must meet specific requirements while pesticides are being aerially applied (ADAI Admin. Code R. 80-1-14-.07(5) through (8)). | Verify that all pesticides, applied as liquids, in liquid carriers, or as dusts, are released within 15 ft above the canopy of the target area (except where obstructions in or adjacent to the target area would endanger the safety of the pilot while applying pesticides at the altitude).<br>Verify that all pesticides applied aerially as dry granules or pellets are released within 40 ft above the canopy of the target area (except where obstructions in or adjacent to the target area would endanger the safety of the pilot while applying pesticides at the altitude).<br>Verify that pesticide application does not occur when wind speeds exceed label directions or 10 mph, whichever is lowest.<br>Verify that pesticides are not deposited by aircraft within 400 ft of the premises of schools, hospitals, nursing homes, or churches.<br>Verify that pesticides are not deposited by aircraft on any dedicated road or on any |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | vehicle using a dedicated road.<br><br>Verify that no pesticide labeled toxic or harmful to aquatic life is deposited in or near any body of water in a manner as to be hazardous to aquatic life, unless aquatic life is the intended target of the pesticide.<br><br>Verify that the federal facility gains written consent from an inhabitant (who is at least 18 yr of age) prior to depositing any pesticide inside the residential or business property line of the inhabitant. |
| **PM.25.6.AL.** Federal facilities must meet specific dispensing requirements for aircraft engaged in custom pesticide application (ADAI Admin. Code R. 80-1-14-.07(9)). | Verify that aerially applied pesticides are not dispensed under such conditions which could allow the pesticide to drift outside the target area and create a hazard or potential adverse effect either to humans or the nontarget environment.<br><br>Verify that aerial pesticide applications are not made under such conditions which could result in overspray.<br><br>Verify that all aerially applied pesticides are registered with the ADAI or the USEPA.<br><br>Verify that all pesticides are applied in a manner consistent with their registered label.<br><br>Verify aerially applied pesticides are not allowed to create hazards to persons, property, established apiaries, aquatic life, wildlife, and other nontarget organisms. |
| **PM.25.7.AL.** Federal facilities must meet specific pesticide equipment requirements for aerial application (ADAI Admin. Code R. 80-1-14-.06(1)). | Verify that all application equipment is maintained at all times in proper [not defined] functional condition, consistent with the type of dispensing equipment being used.<br><br>Verify that application equipment is properly [not defined] calibrated according to the type of pesticide(s) and methods of application used. |
| **Pesticide Applicators** | |
| **PM.25.8.AL.** Federal facilities must meet specific requirements for aircraft application supervisors and licensees (ADAI Admin. Code R. 80-1-14-.03 and 80- | Verify that supervisors hold certification cards and custom pesticide applicators hold licenses in the following categories, according to the work they perform:<br><br>- category I, demonstration pest control<br>- category II, agricultural pest control<br>- category III, forest pest control |

| COMPLIANCE CATEGORY:<br>PESTICIDE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| Code R. 80-1-14-.03 and 80-1-14-.04). | - category IV, right-of-way pest control<br>- category V, aquatic pest control<br>- category VI, public health pest control. |
| **Documentation** | |
| **PM.25.9.AL.** Federal facilities must meet specific recordkeeping and reporting requirements for aerial pesticide applications (ADAI Admin. Code R. 80-1-14-.08). | Verify that records of aerial pesticide applications are maintained for at least 3 yr.<br><br>Verify that reports are completed within 72 h after each application or within an alternative time period specified by the Commissioner.<br><br>Verify that books and reports are maintained at the pertinent [not defined] place of business in Alabama.<br><br>Verify that books and reports contain the following information:<br><br>- names of licensee<br>- names and address of the person for whom the pesticide was applied<br>- identification of farm or land sites treated with pesticide(s)<br>- name of crop which was treated<br>- total number of acres treated<br>- the year, month, day and approximate time the pesticide was applied<br>- the brand and/or trade name, manufacturer, and formulation of the pesticide applied<br>- amount of formulated product or active material applied per acre (must specify)<br>- total gallons or pounds per acre of the final tank mix applied<br>- name of person making application of pesticide<br>- signature of person completing this record. |
| **Storage, Mixing, Preparation** | |
| **PM.25.10.AL.** Federal facilities must meet specific requirements for storage, mixing, and disposal facilities (ADAI Admin. Code R. 80-1-14-.06(2)). | Verify that all storage, mixing, and disposal facilities (including the general grounds) are maintained so as not to cause any injury or damage to man, domestic or wild animals, other wildlife, aquatic areas, or the environment.<br><br>Verify that all pesticides are stored in a well lighted, well ventilated, clean area which can be secured from entry by lock.<br><br>Verify that there are no unlabeled, leaking, or damaged containers in the storage |

| COMPLIANCE CATEGORY:<br>PESTICIDE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | area.<br><br>Verify that restricted use pesticides are stored separately from the general use pesticides.<br><br>Verify that fixed mixing facilities are uncluttered, well ventilated, well lighted, and secured from entry by lock. |

| COMPLIANCE CATEGORY:<br>PESTICIDE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **PESTICIDE APPLICATION**<br><br>**PM.40. DOCUMENTATION** | |
| **PM.40.1.AL.** Federal facilities must meet specific documentation requirements for pesticide applications (ADAI Admin. Code R. 80-1-13-.14). | Verify that private applicators maintain books and records of all applications required by any pesticide label.<br><br>Verify that commercial applicators maintain books and records which accurately and truthfully show for each and every application of a restricted use pesticide the following information:<br><br>- USEPA registration number of restricted pesticide used<br>- amount of pesticide used<br>- uses to which the pesticide was put, including the following:<br>  - crop or site on which the pesticide was used<br>  - pest being controlled<br>  - rate of pesticide application<br>  - location of each pesticide application<br>  - date of the pesticide application.<br><br>Verify that such books and records are maintained for at least 3 yr. |

| COMPLIANCE CATEGORY:<br>PESTICIDE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **PM.55.<br>DISPOSAL** | |
| **PM.55.1.AL.** Federal facilities must meet specific requirements when disposing of and handling pesticides (Ala. Code § 2-27-59 and ADAI Admin. Code R. 80-1-13-.03 (4)). | Verify that the Federal facility does not discard, dispose of, or otherwise handle any pesticide or pesticide container in a manner that causes direct injury or damage to man, animals, wildlife, or other property, or pollutes any stream, water, or waterway in any manner harmful or injurious to wildlife or other things [not specified].<br><br>Verify that pesticide containers are not reused.<br><br>(NOTE: Reuse of containers may be permitted by the Commissioner on a case-by-case basis. Large bulk containers used for bulk transportation may be reused if certain requirements are satisfied.) |

**Appendix 7-1**

**Restricted-Use Pesticides**
(Source: ADAI Admin. Code R. 80-1-15-.01 and 80-1-15-.02)

The following pesticides and their use restrictions have been designated as restricted use by the State of Alabama (Ala. Code § 2-27-1 *et seq.* (1975)). All pesticides classified as restricted by the USEPA under the requirements of the *Federal Insecticide, Fungicide, and Rodenticide Act* are also designated as restricted use under the *Alabama Pesticides Act of 1971*.

| Pesticide | Use Restriction |
|---|---|
| Acrolein | All Formulations and Concentrations |
| Aldicarb | All Formulations and Concentrations |
| Aluminum Phosphide | All Formulations and Concentrations |
| Azinphos Methyl | All Formulations and Concentrations Above 13.5 Percent Restricted |
| Carbofuran | All Formulations and Concentrations |
| Clomazone | All Formulations and Concentrations |
| Curacron | All Formulations and Concentrations |
| Cyanides | All Formulations and Concentrations |
| Calcium Cyanide Mercuric Cyanide Sodium Cyanide | |
| Demeton | All Formulations and Concentrations |
| Disulfoton | All Formulations and Concentrations Greater than 2 Percent Restricted |
| Dyfonate | All Formulations and Concentrations |
| Ethoprop | All Formulations and Concentrations |
| Ethyl Parathion | All Formulations and Concentrations |
| Fenamiphos | All Formulations and Concentrations |
| Fensulfothion | All Formulations and Concentrations |
| Fluroacetomide/1081 | All Formulations and Concentrations |
| Magnesium Phosphide | All Formulations and Concentrations |
| Methamidophos | All Formulations and Concentrations |
| Methomyl | All Formulations and Concentrations Except 1 Percent Fly Bait |
| Methyl Bromide | All Formulations and Concentrations |
| Methyl Parathion | All Formulations and Concentrations |
| Mevinphos | All Formulations and Concentrations |
| Paraquat | All Formulations and Concentrations Greater than 1 Percent Restricted |
| Phorate | All Formulations and Concentrations |
| Phosphamidon | All Formulations and Concentrations |
| Phosphorus (White or Yellow) | All Formulations and Concentrations |
| Picloram | All Formulations and Concentrations |
| Sodium Fluoroacetate | All Formulations and Concentrations |
| Strychnine and Its Salts<br>Strychnine Sulfate | All Formulations and Concentrations |
| Sulfotepp | All Formulations and Concentrations |
| Tepp | All Formulations and Concentrations |
| Thallium Sulfate | All Formulations and Concentrations |
| Zinophos | All Formulations and Concentrations |

**SECTION 8**

**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT**

**Alabama Supplement, July 2000**

This section covers the state requirements for POL Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

These definitions are taken from Alabama Department of Environmental Management (ADEM) Administrative (Admin.) Code Rule (R.) 335-14-17-.01, unless otherwise noted. [All Definitions, except *Used Oil*, Added November 1996].

**Definition**

- *Aboveground Tank* - a tank used to store or process used oil that is not an underground storage tank as defined in ADEM Admin. Code R. 335-6-15-.03 (ADEM Admin. Code R. 335-14-17-.01).

- *Container* - any portable device in which material is stored, transported, treated, disposed of, or otherwise handled (ADEM Admin. Code R. 335-14-17-.01).

- *Department* - the Alabama Department of Environmental Management (ADEM Admin. Code R. 335-3-1-.02(w)).

- *Existing Tank* - a tank that is used for the storage or processing of used oil and that is in operation, or for which installation has commenced on or prior to the effective date of these rules. Installation will be considered to have commenced if the owner or operator has obtained all Federal, state, and local approvals or permits necessary to begin installation of the tank and if either (ADEM Admin. Code R. 335-14-17-.01):
  1. a continuous onsite installation program has begun, or
  2. the owner or operator has entered into contractual obligations which cannot be canceled or modified without substantial loss for installation of the tank to be completed within a reasonable time.

- *New Tank* - a tank that will be used to store or process used oil and for which installation has commenced after the effective date of these rules (ADEM Admin. Code R. 335-14-17-.01).

- *Off-Specification Oil* - Used oil burned for energy recovery and any fuel produced from used oil that exceeds the following allowable limits (ADEM Admin. Code R. 335-14-17-.02(2)):

| | |
|---|---|
| Arsenic | 5 ppm maximum |
| Cadmium | 2 ppm maximum |
| Chromium | 10 ppm maximum |
| Lead | 100 ppm maximum |
| Flash point | 100 °F minimum |
| Total halogens | 4000 ppm maximum |

- *Tank* - any stationary device, designed to contain an accumulation of used oil which is constructed primarily of nonearthen materials, (e.g., wood, concrete, steel, plastic) which provides structural support (ADEM Admin. Code R. 335-14-17-.01).

- *Used Oil* - any oil that has been refined from crude oil or any synthetic oil, that has been used, and as a result of such use is contaminated by physical or chemical impurities (ADEM Admin. Code R. 335-14-17-.01)
.
- *Used Oil Burner* - a facility where used oil not meeting the specification requirements in Rule 335-14-17-.02(2) is burned for energy recovery in devices identified in Rule 335-14-17-.07(2)(a).

- *Used Oil Collection Center* - any site or facility that is recognized by the Department, in accordance with Rule 335-14-17-.04(2)(b)(2). and accepts/aggregates and stores used oil collected from used oil generators regulated under Rule 335-14-17-.03 who bring used oil to the collection center in shipments of no more than 55 gal under the provisions of Rule 335-14-17-.03(5). Used oil collection centers may also accept used oil from household do-it-yourselfers (ADEM Admin. Code R. 335-14-17-.01).

- *Used Oil Generator* - any person, by individual generation site, whose act or process produces used oil or whose act first causes used oil to become subject to regulation (ADEM Admin. Code R. 335-14-17-.01).

- *Used Oil Processor/Rerefiner* - a facility that processes used oil (ADEM Admin. Code R. 335-14-17-.01).

- *Used Oil Transfer Facility* - any transportation related facility including loading docks, parking areas, storage areas, and other areas where shipments of used oil are held for more than 24 h and not longer than 35 days during the normal course of transportation or prior to an activity performed pursuant to Rule 335-14-17-.03(1)(b)(2). Transfer facilities that store used oil for more than 35 days are subject to regulation under Rule 335-14-17-.06 (ADEM Admin. Code R. 335-14-17-.01).

- *Used Oil Transporter* - any person who transports used oil, any person who collects used oil from more than one generator and transports the collected oil, and owners and operators of used oil transfer facilities. Used oil transporters may consolidate or aggregate loads of used oil for purposes of transportation but, with the following exception, may not process used oil. Transporters may conduct incidental processing operations that occur in the normal course of used oil transportation (e.g., settling and water separation), but that are not designed to produce (or make more amenable for production of) used oil derived products or used oil fuel (ADEM Admin. Code R. 335-14-17-.01).

| PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT<br>GUIDANCE FOR ALABAMA CHECKLIST USERS | |
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| | **REFER TO CHECKLIST ITEMS:** |
| Missing Checklist Items | PO.2.1.AL. |
| Used Oil Generators | PO.65.1.AL. through PO.65.5.AL. |
| Used Oil Collection Centers and Aggregation Points | PO.70.1.AL. |
| Used Oil Transportation | PO.75.1.AL. through PO.75.8.AL. |
| Used Oil Burners | PO.80.1.AL. through PO.80.5.AL. |
| Used Oil Marketing | PO.85.1.AL. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **PO.2.<br>MISSING CHECKLIST ITEMS** | |
| **PO.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **PO.65.<br>USED OIL GENERATORS** | (NOTE: Mixing a characteristic hazardous waste with used oil constitutes treatment if the characteristic waste is rendered nonhazardous and requires that the owner/operator comply with the hazardous waste standards and permit requirements before any mixing occurs (ADEM Admin. Code R. 335-14-17-.02(b)(2)(iii)).). |
| **PO.65.1.AL.** [Deleted, November 1996]. | |
| **PO.65.2.AL.** [Deleted, November 1996]. | |
| **PO.65.3.AL.** [Deleted, November 1996]. | |
| **PO.65.4.AL.** Containers used to store used oil must remain closed (ADEM Admin. Code R. 335-14-17-.03(3)(a)(1)). | Verify that containers holding used oil are always closed during storage.<br><br>(NOTE: This requirement does not apply when it is necessary to add or remove used oil.) |
| **PO.65.5.AL.** Labels on used oil containers and tanks must be legible (ADEM Admin. Code R. 335-14-17-.03(3)(c)) [Revised July 1997]. | Verify that labels are legible from a distance of at least 25 ft.<br><br>Verify that containers and aboveground tanks used to store used oil at generator facilities are labeled or marked clearly with the words "Used Oil". |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **PO.70.**<br>**USED OIL COLLECTION CENTERS AND AGGREGATION POINTS** | |
| **PO.70.1.AL.** Used oil collection centers must be recognized by the Department (ADEM Admin. Code R. 335-14-17-.04(2)(b)(2)). | Determine if the Federal facility operates a used oil collection center.<br><br>Verify that the collection center gains recognition by notifying the Department's Land Division of the intent to operate a used oil collection center.<br><br>Verify that the letter notifying the Department contains the following information:<br><br>- the used oil collection center company name<br>- the owner of the used oil collection center<br>- the mailing address of the used oil collection center<br>- the name and telephone number for a used oil collection center POC<br>- a brief description of the used oil collection center's used oil activity (i.e., generator collection only, do-it-yourself (DIY) and generator collection)<br>- the physical location of the collection center (street address, no Post Office boxes). |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **PO.75.**<br>**USED OIL TRANSPORTATION** | |
| **PO.75.1.AL.** Storage of used oil at transfer facilities must satisfy certain requirements (ADEM Admin. Code R. 335-14-17-.05(6)(b)(1) & -.05(6)(b)(2)). [Revised July 1997]. | Verify that owners or operators of used oil transfer facilities do not store used oil in units other than tanks, containers, or units subject to hazardous waste regulations.<br><br>Verify that containers holding used oil are always closed during storage.<br><br>(NOTE: This requirement for containers to be closed does not apply when it is necessary to add or remove used oil.)<br><br>Verify that appropriate controls and practices are used to prevent spills and overflows from tanks.<br><br>Verify that these controls and practices, at a minimum, include:<br><br>- spill prevention controls (e.g., check valves, dry disconnect couplings)<br>- overflow controls for continuously fed tanks (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standing tank) and/or<br>- freeboard controls in open tanks designed to maintain sufficient freeboard to prevent overfilling or overtopping by wave action, wind action, or precipitation. |
| **PO.75.2.AL.** Storage of ignitable used oil at transfer facilities must satisfy certain special requirements (ADEM Admin. Code R. 335-14-17-.05(6)(b)(3)). | Determine if the Federal facility stores ignitable used oil at a transfer facility.<br><br>Verify that installations comply with regulations for hazardous waste treatment, storage, and disposal facilities.<br><br>Verify that containers holding ignitable used oil are located at least 15 m (50 ft) from the facility's property line.<br><br>Verify that, where ignitable used oil is stored in a tank, the installation complies with the requirements for the maintenance of protective distances between the used oil management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the NFPA's *Flammable and Combustible Liquids Code*, (1977 or 1981). |
| **PO.75.3.AL.** Transfer | Verify that, at closure of the tank system, the following is removed or |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| facilities that store used oil in aboveground tanks must comply with certain closure requirements (ADEM Admin. Code R. 335-14-17-.05(6)(i)(1)). | decontaminated:<br><br>- used oil residues in tanks<br>- contaminated containment system components<br>- contaminated soils<br>- structures and equipment contaminated with used oil.<br><br>Verify that these substances are managed as hazardous waste, unless the materials are not identified as hazardous waste.<br><br>Verify that, if it cannot be demonstrated that all of the soils can be practicably removed or decontaminated, the tank system is closed and postclosure care requirements that apply to hazardous waste landfills are performed. |
| **PO.75.4.AL.** Transfer facilities that store used oil in containers must comply with certain closure requirements (ADEM Admin. Code R. 335-14-17-.05(6)(i)(2)). | Verify that containers holding used oil or residues of used oil are removed from the site.<br><br>Verify that the following is removed or decontaminated:<br><br>- used oil residues<br>- contaminated containment systems components<br>- contaminated soils<br>- structures and equipment contaminated with used oil.<br><br>Verify that these substances are managed as hazardous waste, unless the materials are not identified as hazardous waste. |
| **PO.75.5.AL.** Used oil transporters are required to take specific actions if there is a discharge of used oil during transportation (ADEM Admin. Code R. 335-14-17-.05(4)(c)(3) and -.05(4)(c)(4)). | Verify that an air, rail, highway, or water transporter who has discharged used oil:<br><br>- provides a copy of the report required by the DOT to the Land Division, Alabama Department of Environmental Management no later than 14 days after any such discharge and<br>- gives notice to the Alabama Department of Public Safety.<br><br>Verify that a water transporter who has discharged used oil gives notice to the Alabama Department of Public Safety. |
| **PO.75.6.AL.** Transporters are required to determine if the total halogen content of used oil being transported or | Verify that the transporter determines the total halogen content of the used oil by one of the following methods:<br><br>- testing the used oil, or |

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| stored at a transfer facility is above or below 1000 ppm (ADEM Admin. Code R. 335-14-17-.05(5)). | - obtaining certification of the halogen content of the used oil from the generator in light of the materials or processes used. |
| **PO.75.7.AL.** Transfer facilities which store used oil in containers, must provide secondary containment that meet specific requirements (ADEM Admin. Code R. 335-14-17-.05(6)(d)(3) through (6)(d)(6)). | (NOTE: The following requirements apply to secondary containment systems for containers which store used oil at transfer facilities. These requirements are in addition to the requirements contained in the U.S. TEAM Guide.)<br><br>Verify that the floor is sloped or the containment system is otherwise designed, constructed, and operated to drain and remove liquids resulting from leaks, spills, or precipitation.<br><br>(NOTE: This requirement does not apply if the containers are elevated or otherwise protected from contact with accumulated liquids.)<br><br>Verify that the containment system has sufficient capacity to contain 10 percent of the volume of the containers or the volume of the largest container, whichever is greater.<br><br>Verify that run-on, and the entrance of precipitation, into the containment system is prevented.<br><br>(NOTE: This requirement does not apply if the collection system has sufficient excess capacity (in addition to the greater of: 10 percent of the volume of the containers, or the volume of the largest container) to contain any run-on or precipitation which might enter the system.)<br><br>Verify that spilled or leaked used oil and accumulated precipitation is removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system. |
| **PO.75.8.AL.** Transfer facilities, which store used oil in tanks, must provide secondary containment that meet specific requirements (ADEM Admin. Code R. 335-14-17-.05(6)(e) and -.05(6)(f)). | (NOTE: The following requirements apply to secondary containment systems for new and existing aboveground tanks which store used oil at transfer facilities. These requirements are in addition to the requirements contained in the U.S. TEAM Guide.)<br><br>Verify that the containment system is designed, constructed, and operated to contain 100 percent of the capacity of the largest tank within its boundary.<br><br>Verify that the containment system is designed, constructed, and operated to prevent run-on, or entrance of precipitation, into the secondary containment |

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| | system.<br><br>(NOTE: This requirement does not apply if the collection system has sufficient excess capacity to contain run-on or precipitation. Such additional capacity must be sufficient to contain precipitation from a 25-yr, 24-h rainfall event.)<br><br>Verify that the containment system is sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation.<br><br>Verify that spilled or leaked used oil and accumulated precipitation is removed from the containment system in as timely a manner as necessary to prevent overflow of the system.<br><br>Verify that labels are legible from a distance of at least 25 ft. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **PO.80.<br>USED OIL BURNERS** | |
| **PO.80.1.AL.** Used oil burners are required to store used oil in containers that meet specific requirements (ADEM Admin. Code R. 335-14-17-.07(5)(a)). | Verify that containers holding used oil are always closed during storage.<br><br>(NOTE: This requirement does not apply when it is necessary to add or remove used oil.)<br><br>Verify that appropriate controls and practices are used to prevent spills and overflows from tanks.<br><br>Verify that these controls and practices, at a minimum, include:<br><br>- spill prevention controls (e.g., check valves, dry disconnect couplings)<br>- overflow controls for continuously fed tanks (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standing tank)<br>- freeboard controls in open tanks designed to maintain sufficient freeboard to prevent overfilling or overtopping by wave action, wind action, or precipitation. |
| **PO.80.2.AL.** Used oil burner facilities, which store used oil in containers, must provide secondary containment that meet specific requirements (ADEM Admin. Code R. 335-14-17-.07(5)(c)(3) through -.07(5)(c)(6)). | (NOTE: The following requirements apply to secondary containment systems for containers which store used oil at burner facilities. These requirements are in addition to the requirements contained in the U.S. TEAM Guide.)<br><br>Verify that the floor is sloped or the containment system is otherwise designed, constructed, and operated to drain and remove liquids resulting from leaks, spills, or precipitation.<br><br>(NOTE: This requirement does not apply if the containers are elevated or otherwise protected from contact with accumulated liquids.)<br><br>Verify that the containment system has sufficient capacity to contain 10 percent of the volume of the containers or the volume of the largest container, whichever is greater.<br><br>Verify that run-on, and the entrance of precipitation, into the containment system is prevented.<br><br>(NOTE: This requirement does not apply if the collection system has sufficient excess capacity (in addition to the greater of: 10 percent of the volume of the containers, or the volume of the largest container) to contain any run-on or |

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| | precipitation which might enter the system.)<br><br>Verify that spilled or leaked used oil and accumulated precipitation is removed from the sump or collection area in as timely a manner as necessary to prevent overflow of the collection system. |
| **PO.80.3.AL.** Used oil burner facilities, which store used oil in new or existing above-ground tanks, must provide secondary containment that meet specific requirements (ADEM Admin. Code R. 335-14-17-.07(5)(d) and (5)(e)). | (NOTE: The following requirements apply to secondary containment systems for new and existing aboveground tanks which store used oil at burner facilities. These requirements are in addition to the requirements contained in the U.S. TEAM Guide.)<br><br>Verify that the containment system is designed, constructed and operated to contain 100 percent of the capacity of the largest tank within its boundary.<br><br>Verify that the containment system is designed, constructed and operated to prevent run-on, or entrance of precipitation, into the secondary containment system.<br><br>(NOTE: This requirement does not apply if the collection system has sufficient excess capacity to contain run-on or precipitation. Such additional capacity must be sufficient to contain precipitation from a 25-yr, 24-h rainfall event.)<br><br>Verify that the containment system is sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation<br><br>Verify that spilled or leaked used oil and accumulated precipitation is removed from the containment system in as timely a manner as necessary to prevent overflow of the system. |
| **PO.80.4.AL.** Labels on used oil containers and tanks must be legible (ADEM Admin. Code R. 335-14-17--.07(5)(f)). [Revised July 1997] | Verify that labels are legible from a distance of at least 25 ft.<br><br>Verify that containers and aboveground tanks used to store used oil at burner facilities are labeled or marked clearly with the words "Used Oil".<br><br>Verify that fill pipes used to transfer used oil into underground storage tanks at burner facilities are labeled or marked clearly with the words "Used Oil". |
| **PO.80.5.AL.** Before a burner can accept the first shipment of off-specification used oil fuel from a generator, | Verify that (before a burner accepts the first shipment of off-specification used oil fuel from a generator, transporter, or processor/rerefiner) the burner provides to the generator, transporter, or processor/rerefiner a one time written and signed notice certifying that: |

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| transporter, or processor/re-refiner, the burner must provide a one time written notice (ADEM Admin. Code R. 335-14-17-.07(7)). | notice certifying that:<br><br>- the burner has notified the Department stating the location and general description of the used oil management activities<br>- the burner will burn the used oil only in an industrial furnace or boiler. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **PO.85.**<br>**USED OIL MARKETING** | |
| **PO.85.1.AL.** Before a used oil generator, transporter, or processor/re-refiner directs the first shipment of off-specification used oil fuel to a burner, they must obtain a one-time written and signed notice from the burner (ADEM Admin. Code R. 335-14-17-.08(6)(a)). | Verify that (before a used oil generator, transporter, or processor/re-refiner directs the first shipment of off-specification used oil fuel to a burner) they obtain a one-time written and signed notice from the burner certifying that:<br>- the burner has notified the Department stating the location and general description of used oil management activities<br>- the burner will burn off-specification used oil only in an industrial furnace or boiler. |

**SECTION 9**

**SOLID WASTE MANAGEMENT**

**Alabama Supplement, July 2000**

This section covers the state requirements for Solid Waste Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

**Definitions**

- *Act* - the *Solid Waste Disposal Act, Act* No. 771 (Regular Session, 1969), as amended by *Act* No. 2247 (Regular Session, 1971) Code of Alabama 1975, section 22-27-1 et. seq. (Alabama Department of Environmental Management (ADEM) Administrative Code Rule (R.) 335-13-1-.03).

- *Active Collection System* - a gas collection system that uses gas mover equipment (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Active Landfill* - a landfill in which solid waste is being placed or a landfill that is planned to accept waste in the future (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Active Life* - the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities (ADEM Admin. Code R. 335-13-1-.03).

- *Active Portion (or Active Footprint)* - that part of a facility or unit that has received or is receiving wastes and that has not been closed (ADEM Admin. Code R. 335-13-1-.03).

- *Agency* - any controlling agency, public or private, elected, appointed or volunteer utilizing methods approved by the State Health Department, for the purpose of regulating the collection of solid wastes, and approved by the Department, for regulating the disposal of solid wastes (ADEM Admin. Code R. 335-13-1-.03).

- *Airport* - public-use *airport* open to the public without prior permission and without restrictions within the physical capacities of available facilities (ADEM Admin. Code R. 335-13-1-.03 [Added November 1996]).

- *Ambient* - normal atmospheric conditions (ADEM Admin. Code R. 335-13-1-.03).

- *Animal Carcasses* - see Medical Waste (ADEM Admin. Code R. 335-13-1-.03 [Added November 1996]).

- *Annular Space of a Well* - the space between the bore hole and the casing (ADEM Admin. Code R. 335-13-1-.03)

- *Approved* - to be either authorized, certified or permitted by, or meet standards of, a regulatory authority (ADEM Admin. Code R. 420-3-5-.03(2)).

- *Aquifer* - a geologic formation, group of formations or part of a formation capable of yielding a significant amount of groundwater to wells, springs, or waters of the state (ADEM Admin. Code R. 335-13-1-.03).

- *Areas Susceptible to Mass Movement* - those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the

landfill unit, because of natural or man-induced events results in the downslope transport of soil and rock material by means of gravitational influence. These areas include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall (ADEM Admin. Code R. 335-13-1-.03).

- *Ashes* - the solid residue from the burning of wood, coal, coke or other combustible material used for heating or the burning or incineration of solid wastes. The terms "solid waste," "garbage," and "ash," as defined in this Chapter, do not include fly ash waste, bottom ash waste, boiler slag waste, or flue gas emission control waste which result from the combustion of coal or other fossil fuels at electric or steam generating plants (ADEM Admin. Code R. 335-13-1-.03).

- *ASTM* - American Society for Testing and Materials (ADEM Admin. Code R. 335-13-1-.03).

- *Baling* - a volume reduction technique whereby solid waste containing garbage, or scrap tires, is compressed into bales (ADEM Admin. Code R. 420-3-5-.03(3)).

- *Beach* - a sandy shoreline area characterized by low relief, generally of gentle slope, and some vegetation. The beach extends from the waterline to a change in physiographic form such as a dune or bluff, a change in sediment type, such as clay from sand, and/or a change in vegetation type. Gulf Beaches are those sand beaches of the mainland and islands in Alabama which are subjected to the direct wave action of the Gulf of Mexico. Estuarine beaches are narrow, low energy beaches occurring along the protected margins of Mobile Bay, Perdido Bay, Mississippi Sound, and their various tributaries. The upper limit of estuarine beaches in Alabama can be distinguished easily by any or all of three boundaries previously mentioned, that is a change in physiographic form, a change in sediment type, or a change in vegetation type (ADEM Admin. Code R. 335-13-1-.03).

- *Bedrock* - the solid rock underlying unconsolidated surface materials such as soil. Boulders and soft sandstone, which are capable of being removed or easily ripped with conventional backhoe equipment, are not considered bedrock (ADEM Admin. Code R. 420-3-5-.03(5)).

- *Bladeable* - the physical condition of a sludge or similar waste, including, but not limited to, the absence of free liquids and of a consistency that can be easily managed by heavy equipment normally utilized at a landfill unit (ADEM Admin. Code R. 335-13-1-.03).

- *Biological Waste* - see medical waste (ADEM Admin. Code R. 335-13-1-.03).

- *Bird Hazard* - an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants (ADEM Admin. Code R. 335-13-1-.03).

- *Board* - the State Board of Health as constituted by the Code of Alabama, 1975, Section 22-2-1, and includes the Committee of Public Health or State Health Officer when acting as the Board (ADEM Admin. Code R. 420-3-5-.03(6)).

- *Bore Hole* - a manmade hole in a geological formation that has been drilled, jetted, driven, or made by other similar techniques (ADEM Admin. Code R. 335-13-1-.03).

- *Cell* - a volume of compacted solid waste that is covered by means of compacted earth or some other approved alternative cover usually on a daily or weekly basis in a landfill unit (ADEM Admin. Code R. 335-13-1-.03).

- *Certification* - a statement of professional opinion based upon knowledge and belief (ADEM Admin. Code R. 335-13-1-.03).

- *CFR* - Code of Federal Regulations (ADEM Admin. Code R. 335-13-1-.03).

- *Chemotherapy Waste* - see medical waste (ADEM Admin. Code R. 335-13-1-.03).

- *Closed Landfill* - a landfill in which solid waste is no longer being placed, and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed under 60.7(a)(4), 40 CFR. Once a notification of modification has been filed, and additional solid waste is placed in the landfill, the landfill is no longer closed (ADEN Code R. 335-3-19-.01) [Added August 1998; Revised July 2000].

- *Closure* - that point in time when a landfill becomes a closed landfill (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Closure* - the process by which a landfill unit permanently ceases to accept waste, to include those actions taken by the permittee or owner of the facility to prepare the site for postclosure monitoring and maintenance or to make it suitable for other uses (ADEM Admin. Code R. 335-13-1-.03).

- *Closure* - the act of terminating all operations at a solid waste facility or rendering such facility suitable for other uses, pursuant to a plan approved by the Local Health Officer (ADEM Admin. Code R. 420-3-5-.03(9)).

- *Coastal Area* - coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder) strongly influenced by each and in proximity to the shorelines of Alabama, and includes transitional and intertidal areas, salt marshes, wetlands, and beaches. The area extends seaward to the outer limit of the United States territorial sea and extends inland from the shorelines only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters. The inland boundaries of the coastal area are described as follows: begin at the southernmost point on the Mississippi-Alabama state line where the land surface elevation reaches 10 ft above mean sea level and continue in a general easterly direction along the 10-ft contour to the proximity of Mobile Bay; continue in a northerly direction on the 10-ft contour along the western shore of Mobile Bay and the Mobile River delta to the north line of Mobile County; thence southeastward along the north line of Mobile County to the intersection with the Baldwin County lines in the Mobile River; thence along the west and north lines of Baldwin County in the Mobile and Alabama Rivers to the intersection of the southwest corner of Monroe County; thence eastward along the Baldwin County line to the intersection of the western-most point of Baldwin County where the land surface altitude reaches 10 ft above mean sea level; thence along the 10-ft contour in a southwesterly and southern direction along the Alabama River, the Mobile River delta and the east shore of Mobile Bay to the proximity of Bon Secour; thence continue along the 10-ft contour in an easterly and northeasterly direction to the Alabama-Florida state line (ADEM Admin. Code R. 335-13-1-.03).

- *Coastal Waters* - those waters adjacent to the shoreline, which contain a measurable quantity or percentage of seawater, including but not limited to, sounds, bays, lagoons, bayous, ponds and estuaries (ADEM Admin. Code R. 335-13-1-.03).

- *Collect* - to gather solid waste containing garbage, or scrap tires, from one or more persons generating such waste (ADEM Admin. Code R. 420-3-5-.03(10)).

- *Collection Facility* - lands, buildings, and other appurtenances used to house or maintain vehicles or equipment used for the collection or transportation of solid waste containing garbage, or scrap tires (ADEM Admin. Code R. 420-3-5-.03(11)).

- *Collector* - a person who collects and transports solid waste containing garbage, or scrap tires, generated by others for monetary compensation or other considerations (ADEM Admin. Code R. 420-3-5-.03(12)).

- *Commercial Medical Waste Treatment Facility* - a facility, other than an incinerator, used to treat more than 220 lb of medical waste per month (ADEM Admin. Code R. 335-13-1-.03).

- *Commercial Solid Waste* - all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Commercial Solid Waste* - all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes (ADEM Admin. Code R. 335-13-1-.03).

- *Composite Liner* - a system consisting of two components; the upper component must consist of a minimum 40 mil flexible membrane liner (FML), and the lower component must consist of at least a 2-ft layer of compacted soil with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec. FML components consisting of high density polyethylene (HDPE) will be at least 60 mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component (ADEM Admin. Code R. 335-13-1-.03).

- *Composting or Compost Plant* - an officially controlled method or operation whereby putrescible solid wastes are broken down through microbic action to a material offering no hazard or nuisance factors to public health or well-being (ADEM Admin. Code R. 335-13-1-.03).

- *Construction/Demolition Landfill Unit (C/DLF)* - a discrete area of land or an excavation that receives construction/demolition waste, and/or rubbish and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined in this rule (ADEM Admin. Code R. 335-13-1-.03).

- *Construction/Demolition Waste* - waste building materials, packaging, and rubble resulting from construction, remodeling, repair, or demolition operations on pavements, houses, commercial buildings, and other structures. Such wastes include, but are not limited to, masonry materials, sheet rock, roofing waste, insulation (not including asbestos) rubber, scrap metal, paving materials, and wood products. Uncontaminated concrete, soil, brick, rock, and similar materials are excluded from this definition (ADEM Admin. Code R. 335-13-1-.03).

- *Container* - any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled. The term container, when describing the packaging requirements, does not include items that are classified as medical waste (ADEM Admin. Code R. 335-13-1-.03).

- *Controlled Landfill* - any landfill at which collection and control systems are required under this Chapter as a result of the nonmethane organic compounds emission rate. The landfill is considered controlled at the time a collection and control system design plan is submitted in compliance with Rule 335-3-19-.03(1)(b)2.(i) (ADEN Code R. 335-3-19-.0) [Added August 1998; Revised July 2000].

- *Decontamination* - a process of reducing or eliminating the presence of harmful substances, such as infectious agents, so as to reduce the likelihood of disease transmission from those substances (ADEM Admin. Code R. 335-13-1-.03).

- *Department* - Alabama Department of Environmental Management (ADEM Admin. Code R. 335-13-1-.03).

- *Design Capacity* – the maximum amount of solid waste a landfill can accept, as indicated in terms of volume or mass in the most recent permit issued by the Department, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation must include a site specific density, which must be recalculated annually (ADEN Code R. 335-3-19-.01) [Added August 1998; Revised July 2000].

- *Destruction or Adverse Modification* - a direct or indirect alteration of critical habitat that appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat (ADEM Admin. Code R. 335-13-1-.03).

- *Director* - the Director of the Alabama Department of Environmental Management, or designee (ADEM Admin. Code R. 335-13-1-.03).

- *Discarded Material* - material thrown away, abandoned, disposed of, or otherwise given up without intent to reuse or reclaim (ADEM Admin. Code R. 335-13-1-.03).

- *Disease Vector* - an organism that is capable of transmitting a disease from one host to another (ADEM Admin. Code R. 335-13-1-.03).

- *Displacement* - the relative movement of any two sides of a fault measured in any direction (ADEM Admin. Code R. 335-13-1-.03).

- *Disposal* - the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that such waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters (ADEM Admin. Code R. 335-13-1-.03; 420-3-5-.03(17)).

- *Disposal Facility* - the location of a disposal site where any ultimate disposal of solid waste occurs (ADEM Admin. Code R. 420-3-5-.03(18)).

- *Drill Cuttings* - solid materials generated by subsurface drilling operations (ADEM Admin. Code R. 335-13-1-.03).

- *Drilling Fluids* - any fluid used in drilling operations that is sent down the well bore, including drilling muds and any specialty products, from the time a well is begun until final cessation of drilling in that well (ADEM Admin. Code R. 335-13-1-.03).

- *Dune* - see primary dune system (ADEM Admin. Code R. 335-13-1-.03).

- *Emission Rate Cutoff* - the threshold annual emission rate to which a landfill compares its estimated emission rate to determine if control under the regulation is required (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Enclosed Combustor* - an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. An enclosed flare is considered an enclosed combustor (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Existing MSWLF Unit* - any municipal solid waste landfill (MSWLF) unit that is receiving solid waste as of October 9, 1993, or the effective date of section 258.1 of 40 CFR 258, Solid Waste Disposal Criteria, whichever is later. Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management (ADEM Admin. Code R. 335-13-1-.03).

- *Explosive Gas* - a gas that is explosive under ordinary conditions as used herein generally refers to methane (CH(4)) (ADEM Admin. Code R. 335-13-1-.03).

- *Explosive Material or Debris* - any material whose nature or character is to violently release mechanical or chemical energy, including any residual materials or byproducts of the manufacture of such material which exhibit the same nature or character (ADEM Admin. Code R. 420-3-5-.03(21)).

- *Facility* - all contiguous land. structures and other appurtenances thereto used for the processing, treatment, or disposal of solid waste, including waste disposal areas and waste disposed therein (ADEM Admin. Code R. 335-13-1-.03; 420-3-5-.03(22)).

- *Fault* - a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to the other side (ADEM Admin. Code R. 335-13-1-.03).

- *Flare* - an open combustor without enclosure or shroud (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Floodplain* - the lowland and relatively flat areas adjoining inland and coastal waters, including flood prone areas of offshore islands, which are inundated by the 100-yr flood (ADEM Admin. Code R. 335-13-1-.03).

- *Foundry Sand* - granular particles composed of grains of mineral matter ranging from 2 mm to 0.5 mm in diameter used for molding in a metal casting process (ADEM Admin. Code R. 335-13-1-.03).

- *Free Liquids* - liquids that readily separate from the solid portion of a waste under ambient temperature and pressure as determined by the Paint Filter Test referenced in USEPA Publication SW-846, Method 9095 (ADEM Admin. Code R. 335-13-1-.03).

- *Garbage* - putrescible animal and vegetable waste resulting from the handling, preparation, cooking, and consumption of food, including, but not limited to, waste from markets, storage facilities, handling and sale of produce and other food products and excepting such materials that may be serviced by garbage grinders and handled as household sewage (ADEM Admin. Code R. 335-13-1-.03; 420-3-5-.03(26)).

- *Gas Condensate* - the liquid generated as a result of the gas collection and recovery process at the landfill unit (ADEM Admin. Code R. 335-13-1-.03).

- *Gas Mover Equipment* - the equipment (i.e., fan, blower, compressor) used to transport landfill gas through the header system (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Generate* - the act or process of producing solid waste containing garbage or scrap tires. Such waste will be considered to be generated at the point that such materials are first discarded or collected, regardless of any subsequent transportation, transfer, reclamation, or other handling (ADEM Admin. Code R. 420-3-5-.03(27)).

- *Generator* -
    1. any person who utilizes any process which produces solid waste (ADEM Admin. Code R. 335-13-1-.03)
    2. any person who produces solid waste containing garbage or scrap tires (ADEM Admin. Code R. 420-3-5-.03(28)).

- *Groundwater* - water below the land surface in the zone of saturation (ADEM Admin. Code R. 335-13-1-.03; 420-3-5-.03(29)).

- *Handling* - the systematic control of solid waste containing garbage, or scrap tires, including the collection, storage, processing, transportation, treatment, or recovery of materials from such waste (ADEM Admin. Code R. 420-3-5-.03(30)).

- *Hazardous Waste* - defined in the same manner as that term is defined in the Alabama Hazardous Wastes Management and Minimization Act, Code of Alabama 1975, Sec. 22-30-3 (5) and the regulations promulgated thereunder. See regulated hazardous waste (ADEM Admin. Code R. 335-13-1-.03).

- *Holocene* - the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present (ADEM Admin. Code R. 335-13-1-.03).

- *Household Waste* - any solid waste including garbage and trash derived from households (including, but not limited to, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas) (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Household Waste* - any solid waste including garbage and trash derived from households including, but not limited to, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, parks, campgrounds, picnic grounds, and day-use recreation areas (ADEM Admin. Code R. 335-13-1-.03).

- *Incinerator or Combustion Unit* - any equipment, device, or contrivance and all appurtenances thereof used for the destruction by burning of solid, semisolid, liquid, or gaseous combustible waste (ADEM Admin. Code R. 335-13-1-.03).

- *Industrial Solid Waste* - solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of the Resource Conservation and Recovery Act. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include fly ash waste, bottom ash waste, boiler slag waste, or flue gas emission control waste which result from the combustion of coal or other fossil fuels at electric or steam generating plants. Additionally, this term does not include mining waste or oil and gas wastes, or small quantity generator waste as defined in ADEM Admin. Code R. 335-14-2-.01(5). Uncontaminated concrete, soil, brick, rock, and similar materials are excluded from this definition (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Imported Solid Waste* - solid waste containing garbage generated outside of the State of Alabama and transported into the state for handling or disposal (ADEM Admin. Code R. 420-3-5-.03(33)).

- *Industrial Landfill (ILF) Unit* - a discrete area of land or an excavation that receives industrial solid waste and may in addition receive construction/demolition waste and/or rubbish and that is not a land application unit, surface impoundment, injection well, or waste pile (ADEM Admin. Code R. 335-13-1-.03).

- *Industrial Solid Waste* - a solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products/byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include fly ash waste, bottom ash waste, boiler slag waste, or flue gas emission control waste which result from the combustion of coal or other fossil fuels at electric or steam generating plants. Additionally, this term does not include mining waste or oil and gas wastes, or small quantity generator waste as defined in Rule 335-14-2-.01(5). Uncontaminated concrete, soil, brick, rock, and similar materials are excluded from this definition (ADEM Admin. Code R. 335-13-1-.03).

- *Infectious Agent* - any organism, such as a virus or a bacterium, that is capable of causing disease or adverse health impacts in humans by invasion and multiplication in body tissues, fluids, or secretions (ADEM Admin. Code R. 335-13-1-.03).

- *Infectious Waste* - see medical waste (ADEM Admin. Code R. 335-13-1-.03).

- *Injection Well* - a bored, drilled, or driven shaft or dug hole that is used for the injection of pollutants (ADEM Admin. Code R. 335-13-1-.03).

- *Interior Well* - any well or similar collection component located inside the perimeter of the landfill waste. A perimeter well located outside the landfilled waste is not an interior well (ADEN Code R. 335-3-19-.01) [Added August 1998; Revised July 2000].

- *Isolation Waste* - see medical waste (ADEM Admin. Code R. 335-13-1-.03).

- *Karst Terrains* - areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terrains include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys (ADEM Admin. Code R. 335-13-1-.03).

- *Laboratory Waste* - see Medical Waste (ADEM Admin. Code R. 335-13-1-.03).

- *Land Application Unit* - an area where wastes are applied onto or incorporated into the soil surface, excluding manure spreading operations, for agricultural purposes or for treatment and disposal (ADEM Admin. Code R. 335-13-1-.03).

- *Land Surveyor* - a person currently registered as a land surveyor with the State of Alabama Board of Registration for Professional Engineers and Land Surveyors (ADEM Admin. Code R. 335-13-1-.03).

- *Landfill* - an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under ADEM Admin. Code R. 335-13-1-.03 (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Landfill (LF)* - an area of land or an excavation in which wastes are placed for disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile (ADEM Admin. Code R. 335-13-1-.03).

- *Landfill (LF) Unit* - this term includes MSWLF, C/DLF, and ILF units (ADEM Admin. Code R. 335-13-1-.03).

- *Lateral Expansion* - a horizontal expansion of the waste boundaries of an existing MSW landfill. A lateral expansion is not a modification unless it results in an increase in the design capacity of the landfill (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Lateral Expansion* - a horizontal expansion of the waste boundaries of an existing LF unit (ADEM Admin. Code R. 335-13-1-.03).

- *Leachate* - any liquid, including any soluble, suspended, or miscible components in the liquid, that has percolated through or emerged from solid waste (ADEM Admin. Code R. 335-13-1-.03).

- *Lift* - the compacted vertical thickness of a horizontal series of cells that have been accumulated and covered with earth or some other approved alternative cover (ADEM Admin. Code R. 335-13-1-.03).

- *Liquid Waste* - any waste material that is determined to contain “free liquids” as defined by Method 9095 (Paint Filter Liquids Test), as described in “Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (USEPA Pub. No. SW-846), and is not considered bladeable (ADEM Admin. Code R. 335-13-1-.03).

- *Lithified Earth Material* - all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose

sediments. This term does not include manmade materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface (ADEM Admin. Code R. 335-13-1-.03).

- *Local Health Officer* - the County, District, or Area Health Officer of a Local Health Department, or designee (ADEM Admin. Code R. 420-3-5-.03(36)).

- *Lower Explosive Limit* - the lowest percent by volume of a mixture of explosive gases that will propagate a flame in air at 25 °C and atmospheric pressure (ADEM Admin. Code R. 335-13-1-.03).

- *Materials Recovery Facility* - a facility that provides for the extraction from solid waste containing garbage, or scrap tires, of recyclable materials, materials suitable for use as a fuel or soil amendment, or any combination of those materials (ADEM Admin. Code R. 420-3-5-.03(37)).

- *Maximum Horizontal Acceleration in Lithified Earth Material* - the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 yr, or the maximum expected horizontal acceleration on a site-specific seismic risk assessment (ADEM Admin. Code R. 335-13-1-.03).

- *Medical Waste* - medical waste includes the following:
    1. Animal Waste - carcasses and body parts of animals exposed to human infectious agents as a result of the animal being used for the production and/or testing of biologicals and pharmaceuticals or in research. Bulk blood, blood components and potentially infectious body fluids from these animals must be handled as specified in subparagraph 2 regarding human blood and body fluids. All materials discarded from surgical procedures involving these animals which are grossly contaminated with bulk blood, blood components, or body fluids must be treated as specified in subparagraph 7 regarding surgical waste.
    2. Blood and Body Fluids - all human bulk blood, bulk blood components (e.g., serum and plasma), and bulk laboratory specimens of blood, tissue, semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, and amniotic fluid. Precautions do not apply to feces, nasal secretions, sputum, sweat, tears, urine, or vomitus unless they contain visible blood. Free-flowing material or items saturated to the point of dripping liquids containing visible blood or blood components are treated as specified in subparagraph 7 regarding surgical waste.
    3. Microbiological Waste - discarded cultures and stocks of human infectious agents and associated microbiologicals; human and animal cell cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; waste form the production of biologicals; discarded live and attenuated vaccines; culture dishes and devices used to transfer, inoculate and mix cultures. Only those animal vaccines which are potentially infectious to humans (Strain 19 Brucellosis Vaccine, Feline Pneumonitis Vaccine, contagious Eczema Vaccine for sheep, Newcastle Disease Vaccine, Anthrax Spore Vaccine, and Venezuelan Equine Encephalitis Vaccine) must be considered microbiological waste.
    4. Pathological Waste - all discarded human tissues, organs, and body parts which are removed during surgery, obstetrical procedures, autopsy, laboratory, embalming, or other medical procedures, or traumatic amputation. Extracted teeth are not included in this definition.
    5. Renal Dialysis Waste - all liquid waste from renal dialysis contaminated with peritoneal fluid or with human blood visible to the human eye. Solid renal dialysis waste is considered medical waste if it is saturated, having the potential to drip or splash regulated blood or body fluids contained in subparagraph 2.
    6. Sharps - any used or unused discarded article that may cause punctures or cuts and which has been or is intended for use in animal or human medical care, medical research, or in laboratories utilizing microorganisms. This waste includes, but is not limited to, hypodermic needles, IV tubing with needles attached, scalpel blades, and syringes (with or without a needle attached). Items listed above that have been removed from their original sterile containers are included in this definition. Glassware, blood vials, pipettes, and similar items are to be handled as sharps if they are contaminated with blood or body fluids.

7. Surgical Waste - all materials discarded from surgical procedures which are contaminated with human bulk blood, blood components, or body fluids, including but not limited, to disposable gowns, dressings, sponges, lavage tubes, drainage sets, underpads, and surgical gloves. Discarded surgical material is considered medical waste if it is saturated, having the potential to drip or splash regulated blood or body fluids contained in subparagraph 2. Extracted teeth are not included in this definition (ADEM Admin. Code R. 335-13-1-.03).

- *Medical Waste Generator* - a medical facility or person who produces or generates medical waste. The term includes, but is not limited to, hospitals, nursing or convalescent facilities, intermediate care facilities, clinics, dialysis clinics, blood banks, dental offices, surgical clinics, medical buildings, health maintenance organizations, home health agencies, physicians offices, laboratories, emergency medical services, veterinary clinics, research and manufacturing facilities, and funeral homes. In the case where more than one person (e.g., doctors with separate medical practices) is located in the same building, each individual business entity is a separate generator. In no case shall a person be classified as a medical waste generator if those wastes are generated from a single-family residential dwelling by someone other than a health care professional (ADEM Admin. Code R. 335-13-1-.03).

- *Medical Waste Storage Facility* - a facility or part thereof at which medical waste is placed in storage. The storage facility includes loading docks and parking areas where shipments of medical waste are held during the normal course of transportation (ADEM Admin. Code R. 335-13-1-.03).

- *Medical Waste Transport Vehicle* - a motor vehicle, barge, airplane or rail car used for the transportation of medical waste by any mode. Each cargo-carrying body (trailer, railroad car, etc.) is a separate transport vehicle. A vehicle used to transport less than 220 lb of medical waste per month is exempt (ADEM Admin. Code R. 335-13-1-.03).

- *Medical Waste Transporter* - a person engaged in the offsite transportation of medical waste. Medical waste generators who generate less than 220 lb (100 kg) of medical waste per month and transport their own waste is exempt from the transporter requirements (ADEM Admin. Code R. 335-13-1-.03).

- *Medical Waste Treatment* - any process, including incineration or steam sterilization, that changes the character or composition of medical waste in order for decontamination to take place. Additional treatment measures may include melting, shredding, grinding, tearing, or breaking, so that it is no longer generally recognizable as medical waste (ADEM Admin. Code R. 335-13-1-.03).

- *Modification* - an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion based on its design capacity as of May 30, 1991. Modification does not occur until the owner or operator commences construction on the horizontal or vertical expansion (ADEM Admin. Code R. 335-3-19-.01) [Added July 2000].

- *Municipal Solid Waste Landfill or MSW Landfill* - an entire disposal facility in a contiguous geographic space where household waste is placed in or on land. An MSW landfill may also receive other types of RCRA Subtitle D wastes (ADEM Admin. Code R. 335-13-1-.03) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned. An MSW landfill may be a new MSW landfill, an existing MSW landfill, or a lateral expansion (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Municipal Solid Waste Landfill Emissions* or *MSW Landfill Emissions* - gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Municipal Solid Waste Landfill (MSWLF) Unit* - a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile. These sites may also receive other types of solid wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, industrial solid waste, construction/ demolition waste, and/or rubbish (ADEM Admin. Code R. 335-13-1-.03).

- *New MSWLF Unit* - any municipal solid waste landfill unit that has not received waste prior to October 9, 1993, or the effective date of Section 258.1 of 40 CFR 258, Solid Waste Disposal Criteria, whichever is later (ADEM Admin. Code R. 335-13-1-.03).

- *NMOC* - nonmethane organic compounds, as measured according to the provisions of Rule 335-3-19-.03(3) (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Nondegradable Waste* any waste that does not decompose through chemical breakdown or microbiological activity. Examples are, but are not limited to, concrete, municipal waste combustor ash, and metals (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *100-Yr Flood* - a flood that has a 1 percent or greater chance of recurring in any given year or a flood of a magnitude equaled or exceeded once in 100 yr on the average over a significantly long period (ADEM Admin. Code R. 335-13-1-.03).

- *Onsite* - the same or geographically contiguous property which may be divided by public or private right-of-way. Noncontiguous properties owned by the same person connected by a right-of-way which he controls and to which the public does not have access, is also considered onsite property (ADEM Admin. Code R. 335-13-1-.03).

- *Open Burning* - the combustion of any material without the following characteristics:
    1. control of combustion air to maintain adequate temperature for efficient combustion
    2. containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion
    3. control of emission of the gaseous combustion products (ADEM Admin. Code R. 335-13-1-.03).

- *Open Dump* - any officially recognized place, land or building that serves as a final depository for solid wastes, whether or not burned or buried, that does not meet the minimum requirements for a landfill unit except approved incinerators, compost plants, and salvage yards (ADEM Admin. Code R. 335-13-1-.03; 420-3-5-.03(39)).

- *Passive Collection System* - a gas collection system that solely uses positive pressure within the landfill to move the gas rather than using gas mover equipment (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Pathological Waste* - see medical waste (ADEM Admin. Code R. 335-13-1-.03).

- *Permit* - a formal written authorization, license, or equivalent control document granted by the Department (or other appropriate regulatory authority) to operate a solid waste management facility for the processing or disposal of solid waste, or to implement the requirements of an environmental regulation (ADEM Admin. Code R. 335-13-1-.03 and 420-3-5-.03(40)).

- *Permittee* - any person possessing a valid permit issued by the Department to process, recycle, and/or dispose of solid waste or possess a permit to manage medical waste. This person is responsible for the overall operation of a solid waste facility or a medical waste facility (ADEM Admin. Code R. 335-13-1-.03).

- *Person* - any individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, state, municipality, commission, political subdivision of a state, any interstate body, or any other private or public legal entity (ADEM Admin. Code R. 335-13-1-.03; 420-3-5-.03(41)).

- *Petroleum Contaminated Waste (PCW)* - any material including, but not limited to, soil, debris, absorbent pads/booms, oil dry, etc., that has been exposed to petroleum products in such a manner that the petroleum product can be detected by a total petroleum hydrocarbon (TPH) analysis using Standard Method 503 D & E, USEPA Methods 9071 or 418.1 Infra Red, and that analysis exceeds 10 ppm TPH (ADEM Admin. Code R. 335-13-1-.03).

- *Poor Foundation Conditions* - those areas where features exist that indicate a natural or man-induced event may result in inadequate foundation support for the structural components of a landfill unit (ADEM Admin. Code R. 335-13-1-.03).

- *Postclosure* - the activities, including monitoring and maintenance at the site following closure if solid waste will remain at the site after closure (ADEM Admin. Code R. 335-13-1-.03).

- *Primary Dune System* - a ridge or series of ridges of unconsolidated and usually mobile sands lying landward of the upper limit of Gulf beaches that serves as the principal defense against storm wave attack (ADEM Admin. Code R. 335-13-1-.03).

- *Processing Facility* - any facility or site employed in the handling of solid waste prior to its arrival at an approved disposal site, including, but not limited to, tire processors, material recovery facilities and sorters, reclamation centers, shredders and grinders, and volume reducers (ADEM Admin. Code R. 420-3-5-.03(43)).

- *Putrescible* - solid waste that is capable of being decomposed by micro-organisms with sufficient rapidity to cause nuisances (ADEM Admin. Code R. 420-3-5-.03(45)).

- *Reclamation* - a controlled method of collection and storing of, or sorting from, solid waste for future use (ADEM Admin. Code R. 420-3-5-.03(46)).

- *Recycling* - any process by which solid waste, or materials that would otherwise become solid waste, are collected, separated, or processed then reused or transformed into raw materials or new products in such a manner that the original products lose their identity (ADEM Admin. Code R. 335-13-1-.03, 420-3-5-.03(48)).

- *Registered Engineer* - a person registered as a professional engineer with the State of Alabama Board of Registration for Professional Engineers and Land Surveyors, practicing under the rules of Professional Conduct (ADEM Admin. Code R. 420-3-5-.03(49)).

- *Relevant Point of Compliance* - that point within the first saturated zone at which groundwater quality must be in compliance with water quality standards (ADEM Admin. Code R. 335-13-1-.03).

- *Rubbish* - nonputrescible solid wastes, excluding ashes, consisting of both combustible and noncombustible wastes. Combustible rubbish includes paper, rags, cartons, wood, furniture, rubber, plastics, yard trimmings, leaves, and similar materials. Noncombustible rubbish includes glass, crockery, metal cans, metal furniture, and like materials that will not burn at ordinary incinerator temperatures, not less than 1600 °F (ADEM Admin. Code R. 335-13-1-.03; 420-3-5-.03(51)).

- *Runoff* - any rainwater, leachate, or other liquid that drains over land from any part of a facility (ADEM Admin. Code R. 335-13-1-.03).

- *Run-On* - any rainwater, leachate, or other liquid that drains over land onto any part of a facility (ADEM Admin. Code R. 335-13-1-.03).

- *Salvaging* - the controlled removal for reuse of material from a solid waste landfill unit that is approved by the Department in advance (ADEM Admin. Code R. 335-13-1-.03).

- *Sanitary Landfill* - a controlled area of land upon which solid waste is deposited and is compacted and covered with compacted earth each day as deposited, with no onsite burning of wastes, and so located, contoured and drained that it will not constitute a source of water pollution as determined by the Water Division of the Department (ADEM Admin. Code R. 335-13-1-.03).

- *Sanitary Sewer* - any device or system used in the treatment of municipal sewage or industrial waste of a liquid nature. This includes sewers, pipes or other conveyances only if they convey wastewater to a facility providing treatment (ADEM Admin. Code R. 335-13-1-.03).

- *Saturated Zone* - that part of the earth's crust in which all voids are filled with water (ADEM Admin. Code R. 335-13-1-.03).

- *Scavenging* - the unauthorized or uncontrolled searching through, removal, or reclamation of waste materials from a solid waste handling or disposal facility (ADEM Admin. Code R. 335-13-1-.03, 420-3-5-.03(52)).

- *Scrap Tire* - a tire that has been discarded (ADEM Admin. Code R. 420-3-5-.03(53)).

- *Seismic Impact Zone* - an area with a 10 percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 250 yr (ADEM Admin. Code R. 335-13-1-.03).

- *Sharps* - see medical waste (ADEM Admin. Code R. 335-13-1-.03).

- *Shredding* - a process of reducing the particle size of solid waste containing garbage, or scrap tires (ADEM Admin. Code R. 420-3-5-.03(55)).

- *Sinkhole* - a depression in the topography without a surface outlet from the low point. Sinkholes are common in areas continuing limestone and generally result from the collapse of solution cavities (ADEM Admin. Code R. 420-3-5-.03(58)).

- *Sludge* - any nonhazardous solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Sludge* - any nonhazardous, solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant (ADEM Admin. Code R. 335-13-1-.03).

- *Solid Waste* - any garbage or rubbish, construction/demolition debris, ash, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities or materials intended for or capable of recycling, but which have not been diverted or removed from the solid waste stream. The term "solid waste" does not include recovered material, solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to National Pollutant Discharge permits under the Federal Water Pollution Control Act 33 U.S.C. 1342, as amended, or source, special nuclear, or by-product material as

defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.). Also excluded from this definition are wastes from silvicultural operations, land application of crop residues, animal residues, animal manure and ash resulting exclusively from the combustion of fossil fuels or wood during normal agricultural operations or mining refuse as defined and regulated pursuant to the Alabama Mining Act (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Solid Waste* - any garbage, rubbish, construction/demolition debris, ash, sludge from a wastewater treatment facility, water supply treatment, or air pollution control facility, and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities or materials intended for or capable of recycling, but which have not been diverted or removed from the solid waste stream. The term "solid waste" does not include recovered material, solid or dissolved materials in domestic sewage, solid or dissolved materials in irrigation return flows, or industrial discharges which are point sources subject to National Pollutant Discharge Elimination System permits under the Federal Water Pollution Control Act (33 U.S.C. 1342), as amended, or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923). Also excluded from this definition are wastes from silvicultural operations, land application of crop residues, animal manure and ash resulting exclusively from the combustion of fossil fuels or wood during normal agricultural operations or mining refuse as defined and regulated pursuant to the Alabama Mining Act (ADEM Admin. Code R. 335-13-1-.03).

- *Special Waste* - those waste requiring specific processing, handling, or disposal techniques as determined necessary by the Department that are different from the techniques normally utilized for handling or disposal. Examples of such waste types may include, but are not limited to: mining waste; fly ash; bottom ash; sludges; asbestos; industrial waste; liquid waste; large dead animals or large quantities of dead animals and residue, medical waste, foundry sand, debris, petroleum contaminated wastes, municipal solid waste ash, or contaminated soil and water from the cleanup of a spill (ADEM Admin. Code R. 335-13-1-.03).

- *Speculative Accumulation* - solid waste stored or accumulated for a period exceeding 1 yr, unless permitted or approved by the Department, the State Health Department, or governing agency with authority, constitutes disposal and is subject to the Rules of the Division. A person may demonstrate to the Department that storage or accumulation for greater than 1 yr is not disposal if the material is potentially recyclable and has a feasible means of being recycled and, that during the calendar year (commencing January 1), the material has in fact been recycled (ADEM Admin. Code R. 335-13-1-.03).

- *Spill* - the unplanned, accidental, or unpermitted discharge, deposit, injection, leaking, pumping, pouring, emitting, dumping, placing, or releasing of solid waste, or materials that when spilled become solid, or medical waste, into or on the land, the air or the water (ADEM Admin. Code R. 335-13-1-.03).

- *State Health Department* - the Alabama Department of Public Health (ADEM Admin. Code R. 335-13-1-.03).

- *Structural Components* - liners, leachate collection systems, final covers, run-on/runoff systems, and any other component used in the construction and operation of the landfill unit that is necessary for the protection of human health and the environment (ADEM Admin. Code R. 335-13-1-.03).

- *Sufficient Density* - any number, spacing, and combination of collection system components, including vertical wells, horizontal collectors, and surface collectors, necessary to maintain emission and migration control as determined by measures of performance set forth in this Chapter (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Sufficient Extraction Rate* - a rate sufficient to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions, for the life of the blower (ADEN Code R. 335-3-19-.01) [Added August 1998].

- *Surface Impoundment or Impoundment* - a facility or part of a facility that is a natural topographic depression, human-made excavation, or diked area formed primarily of earthen materials, that is designed to hold an accumulation of liquid wastes or wastes containing free liquids and that is not an injection well (ADEM Admin. Code R. 335-13-1-.03).

- *Surgical Waste* - see medical waste (ADEM Admin. Code R. 335-13-1-.03).

- *Taking* - harassing, harming, pursuing, hunting, wounding, killing, trapping, capturing or collecting or attempting to engage in such conduct (ADEM Admin. Code R. 335-13-1-.03).

- *10-Yr, 24-H Precipitation Event* - the maximum 24-h precipitation event with a probable recurrence interval of once in 10 yr as defined by the National Weather Service and Technical Paper No. 40, Rainfall Frequency Atlas of the U.S., May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed therefrom (ADEM Admin. Code R. 335-13-1-.03).

- *Tire* - a continuous solid or pneumatic rubberlike covering that is designed for encircling the wheel of a vehicle (ADEM Admin. Code R. 420-3-5-.03(62)).

- *Transfer Station* - any combination of structures, land, machinery, or devices at a place or facility at which solid waste containing garbage, or scrap tires, is taken from transportation units and placed in other transportation units for movement to a solid waste handling or disposal facility (ADEM Admin. Code R. 420-3-5-.03(63)).

- *Transportation* - the movement of solid waste containing garbage, or scrap tires, by rail, air, water, or overland by vehicle from the point of generation to a handling or disposal facility or from one handling or disposal facility to another (ADEM Admin. Code R. 420-3-5-.03(64)).

- *Transportation Unit* - the smallest containment housing that collectively makes up the whole of a shipment, into which solid waste containing garbage, or scrap tires, is placed for transporting by rail, air, water, or overland by vehicle (ADEM Admin. Code R. 420-3-5-.03(65)).

- *Transporter* - a person engaged in the offsite transportation of solid waste containing garbage, or scrap tires, by air, rail, overland by vehicle, or water. A person transporting his own such waste pursuant to a Certificate of Exception is not included (ADEM Admin. Code R. 420-3-5-.03(66)).

- *Unauthorized Dump* - any collection of solid waste either dumped or caused to be dumped or placed on any property either public or private, whether or not regularly used, and not under the control and supervision of any person or agency (ADEM Admin. Code R. 335-13-1-.03, 420-3-5-.03(67)).

- *Unstable Area* - a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains (ADEM Admin. Code R. 335-13-1-.03).

- *Uppermost Aquifer* - the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary (ADEM Admin. Code R. 335-13-1-.03).

- *Vector* - an organism that is capable of carrying or transmitting a human pathogen, or human disease-causing agent, from one host to another (ADEM Admin. Code R. 420-3-5-.03(68)).

- *Vermin* - any of various small animals or insects that are destructive, annoying, or injurious to health, including, but not limited to flies, cockroaches, rats, foxes, and weasels (ADEM Admin. Code R. 420-3-5-.03(69)).

- *Washout* - the carrying away of solid waste or earth cover by waters of the 100-yr flood (ADEM Admin. Code R. 335-13-1-.03).

- *Waste Pile or Pile* - any noncontainerized accumulation of solid, nonflowing waste that is used for treatment or storage. (ADEM Admin. Code R. 335-13-1-.03).

- *Waters* - all waters of any river, stream, watercourse, pond, lake, coastal, ground, or surface water, wholly or partially within the State, natural or artificial (ADEM Admin. Code R. 420-3-5-.03(71)).

- *Wetlands* - those areas that are inundated or saturated by surface groundwater (salt and fresh) at a frequency and duration sufficient to support, and/or under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (ADEM Admin. Code R. 335-13-1-.03).

**SOLID WASTE MANAGEMENT**
**GUIDANCE FOR ALABAMA CHECKLIST USERS**

| | **REFER TO CHECKLIST ITEMS:** |
|---|---|
| Missing Checklist Items | SO.2.1.AL. |
| General | SO.5.1.AL. and SO.5.2.AL. |
| Permits/Notifications/Exemptions | SO.6.1.AL. |
| Operations | SO.8.1.AL. |
| Storage/Collection of Solid Waste | |
| Storage | SO.10.1.AL. and SO.10.2.AL. |
| Collection | SO.10.3.AL. through SO.10.7.AL. |
| Transfer Facilities | SO.15.1.AL. through SO.15.7.AL. |
| Transportation | SO.20.1.AL. through SO.20.3.AL. |
| Municipal Solid Waste Landfills | |
| Operating Criteria | SO.65.1.AL. through SO.65.5.AL. |
| Emissions | SO.67.1.AL. through SO.67.11.AL. |
| Groundwater Monitoring Criteria | SO.70.1.AL. and SO.70.2.AL. |
| Medical Waste | |
| Generators | SO.105.1.AL. and SO.105.2.AL. |
| Containers/Labeling/Storage Areas: | SO.110.1.AL. through SO.110.4.AL. |
| Handling of Untreated Waste | |
| Containers/Labeling/Storage Areas: | SO.110.5.AL. |
| Collection of Treated Waste | |
| Containers/Labeling/Storage Areas: | SO.110.6.AL. and SO.110.7.AL. |
| Storage of Untreated Waste | |
| Transportation | SO.115.1.AL. through SO.115.4.AL. |
| Treatment/Disposal | SO.120.1.AL. through SO.120.7.AL. |
| Landfills | |
| Location Restrictions | SO.135.1.AL. |
| See SO.70 for groundwater monitoring criteria for all types of landfill units. | |
| Design Criteria | SO.135.2.AL. through SO.135.5.AL. |
| Operating Criteria: | |
| General Requirements | SO.135.6.AL. through SO.135.12.AL. |
| Disposal of Special Waste | SO.135.13.AL. through SO.135.17.AL. |
| Closure Criteria | SO.135.18.AL. through SO.135.24.AL. |
| Postclosure Care Requirements | SO.135.25.AL. through SO.135.30.AL. |
| Documentation | SO.135.31.AL. |
| Construction/Demolition Landfills | SO.140.1.AL. through SO.140.5.AL. |
| Waste Tires Facilities | SO.160.1.AL. |
| Other Treatment/Processing Units | |
| Treatment and Processing Facilities | SO.175.1.AL. and SO.175.2.AL. |
| Shredding Facilities and Bailing Facilities | SO.175.3.AL. |
| Experimental Facilities | SO.175.4.AL. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **SO.2.**<br>**MISSING CHECKLIST ITEMS** | |
| **SO.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **SO.5.**<br>**GENERAL** | |
| **SO.5.1.AL** Unauthorized dumps must close in accordance with Department requirements (ADEM Admin. Code R. 335-13-1-.13) [Moved in structural reorganization of SO.5 October 1999]. | (NOTE: Municipal solid waste landfill units that fail to comply with this protocol or that fall under the definition of unauthorized/open dumps, for the purposes of this protocol, constitute open dumps.)<br><br>Verify that unauthorized dumps are closed.<br><br>Verify that the entrance to closed unauthorized dumps is barricaded and secured.<br><br>Verify that closed unauthorized dumps meet the following rodent or vector control to prevent rodent migration to adjacent properties:<br><br>- baiting for at least 2 wk after closing<br>- spraying of containers to control mosquitoes<br>- other measures determined necessary by the Department or State Health Department.<br><br>Verify that existing solid waste is compacted at closed unauthorized dumps.<br><br>Verify that cover is applied to closed authorized dumps that meets the following requirements:<br><br>- at least 2 ft of compacted earth (unless otherwise instructed by the Department)<br>- a quality easily managed<br>- sufficient clay content to provide an adequate seal on the waste<br>- uppermost 6 in. is capable of supporting an adequate stand of vegetation<br>- vegetative or some other appropriate cover is established within 30 days after completion of final grading to minimize erosion and, when applicable, maximize evapotranspiration.<br><br>Verify that the following preparation is taken to establish vegetative cover at closed unauthorized dumps:<br><br>- appropriate species of grass seed, fertilizer and mulch are applied<br>- the cover is watered and maintained in a manner that germination can be reasonably anticipated<br>- erosion control measures are implemented and maintained by grading and re-establishing vegetative cover as needed or determined necessary.<br><br>Verify that signs are posted indicating the dump site closure and location of the nearest approved disposal site. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **SO.5.2.AL** Persons creating open dumps or unauthorized dumps are responsible for abatement action (ADEM Admin. Code R. 420-3-5-.09) [Moved in structural reorganization of SO.5 October 1999]. | Verify that persons who create an unauthorized or open dump, or who own the property upon which it is located, are responsible for the disposal of the solid waste.<br><br>(NOTE: The Local Health Officer may require either removal of all or part of the solid waste to an approved handling or disposal facility, or burial of the solid waste according to a plan approved by the Department.)<br><br>Verify that any requirements of the Local Health Officer for removal or burial of the solid waste are met. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **SO.6. PERMITS/ NOTIFICATIONS/ EXEMPTIONS** | |
| **SO.6.1.AL.** Solid waste must only be deposited in a permitted landfill (ADEM Admin. Code R. 335-13-5-.01) [Moved in structural reorganization of SO.5 October 1999]. | Verify that any landfill unit accepting solid waste is permitted by the Department. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **SO.8.**<br>**OPERATIONS** | |
| **SO.8.1.AL.** Septic tank pumpings and sewage sludge must not be deposited in landfill units (ADEM Admin. Code R. 335-13-4-.24) [Moved in structural reorganization of SO.5 October 1999]. | Verify that septic tank pumpings and sewage sludge are not accepted at landfill units unless specifically approved in writing by the Department. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **SO.10.**<br>**STORAGE/ COLLECTION OF SOLID WASTE** | |
| **SO.10.1.AL.** Solid waste must be stored in accordance with specific requirements (ADPH, Admin. Code R. 420-3-5-.10 (1) through (8)) [Citation Revised August 1998]. | Verify that each generator of solid waste complies with the following storage requirements:<br><br>- in compliance with local law<br>- does not constitute a nuisance or health hazard<br>- does not provide food or harborage for vermin or vectors<br>- is contained or bundled to prevent litter or the contamination of ground or surface water.<br><br>Verify that solid waste storage systems include containers of adequate size and strength, and in sufficient numbers to contain all solid waste generated in the period of time between collections or disposal.<br><br>Verify that solid waste containing putrescible materials is collected and transported to a handling or disposal facility at a frequency adequate to meeting the following criteria:<br><br>- prevent propagation and attraction of vermin or vectors<br>- prevent the creation of a public health nuisance<br>- at least once per week.<br><br>Verify that garbage or rubbish containing garbage is stored in containers that are:<br><br>- rigid<br>- large enough to hold the generated waste<br>- durable<br>- rust resistant, washable, and nonabsorbent<br>- watertight<br>- vermin proof<br>- easily cleaned<br>- secured with close fitting fly-tight lids or covers<br>- easily handled<br>- otherwise approved by the local health officer.<br><br>(NOTE: Rubbish too large or otherwise unsuitable for storage containers may be stored otherwise, in a nuisance-free manner consistent with this protocol.)<br><br>Verify that the site where solid waste storage containers are located meet the following requirements: |

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| | - readily accessible for disposal and collection, including during inclement weather<br>- maintained in a sanitary manner which includes:<br>- regular cleaning of the site and containers<br>- prompt remediation of spillage or leakages of waste<br>- controlling vegetation around the site<br>- establishing vermin and vector controls. |
| **SO.10.2.AL.** Roadside container sites must be managed in a specified manner (ADPH, Admin. Code R. 420-3-5-.11 (9)) [Citation Revised August 1998]. | Verify that roadside container sites, where they are an integral part of the local solid waste collection service, meet the following requirements:<br>- fenced in to prevent windblown litter and nuisances to public health<br>- large enough enclosed area to allow servicing<br>- openings and gates constructed and managed in a manner acceptable to the local health officer. |
| **SO.10.3.AL.** Solid waste collectors must have a permit (ADPH, Admin. Code R. 420-3-5-.11 (1)) [Citation Revised August 1998]. | Verify that solid waste collectors have a valid permit for the geographic area of operation.<br>(NOTE: A collection and/or transportation permit for tires is required for persons who:<br>- transport more than 10 tires at a time or more than 120 tires a year<br>- collect and/or transport solid waste and a large portion of the waste is tires.) |
| **SO.10.4.AL.** Solid waste collection operations must meet specific requirements (ADPH, Admin. Code R. 420-3-5-.11 (2)(a) through (f) and (l) [Revised August 1998]. | Verify that solid waste containing garbage, or scrap tires, are collected at the frequency specified in contracts or agreements.<br>Verify that all spillages of solid, semi-solid, or liquid waste resulting from, or which occur during, the collection operation is promptly remediated by the collector to the satisfaction of the Local Health Officer.<br>Verify that all solid waste containing garbage, or scrap tires, is collected and transported in vehicles approved by the Local Health Officer, and deposited at an approved facility.<br>Verify that solid waste containing garbage, or scrap tires, is not unloaded from any collection vehicle except for transferring to another vehicle, unloading at an approved facility, or due to emergency situations.<br>(NOTE: When a vehicle is unloaded due to an emergency situation, the waste must be reloaded and removed promptly, and the site cleaned of all residue resulting |

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| | from the unloading, promptly after the emergency no longer exists.)<br><br>Verify that solid waste containing garbage is not stored after collection in a collection vehicle or other equipment for more than 24 hours before disposal or delivery to an approved facility.<br><br>Verify that collection vehicles are not parked overnight in an area which is predominantly residential, unless one of the following requirements is met:<br><br>- the vehicle has been emptied of all waste and has been thoroughly flushed and cleaned<br>- the vehicle is parked at an approved collection facility.<br><br>Verify that solid waste collected or transported under a permit does not contain any regulated hazardous waste, infectious waste, or explosive waste. |
| **SO.10.5.AL.** Solid waste collectors and transporters must keep specific records (ADPH, Admin. Code R. 420-3-5-.11 (2)(g)) [Revised August 1998]. | Verify that solid waste collectors and transporters keep manifests containing the place, date, and times of collection of solid waste containing garbage (except from individual households) for two weeks after collection or transportation.<br><br>Verify that collectors/transporters keep summaries of the manifests for 1 yr, which include the following:<br><br>- name of the person responsible for the waste's collection and transportation<br>- receipts verifying the name and location of facilities where waste is deposited<br>- date and time of each deposit<br>- weight of the waste deposited. |
| **SO.10.6.AL.** Vehicles and equipment used for the collection and/or transportation of solid waste containing garbage must meet specific operating requirements (ADPH, Admin. Code R. 420-3-5-.11 (3)(a), (b), (d), and (e)) [Revised August 1998]. | Verify that all vehicles and equipment used for collecting and/or transporting of solid waste containing garbage meet the following requirements:<br><br>- annually inspected and approved by local health officer<br>- display a current Health Department decal in the specified location<br>- surfaces that come in contact with waste are smooth, nonabsorbent, and washable<br>- all drain holes and valves are properly closed, plugged, or sealed<br>- seals, gaskets, or other devices are installed and maintained, where necessary, to prevent the escape of liquids<br>- truck body, holding area, and hopper are free of holes, cracks, resting, corrosion, or other evidence of damage or weakness<br>- the holding area, including the hopper and around the packer blade, if so equipped, is cleaned of debris regularly<br>- the sides, bottom, top, and cab of the vehicle are free of loose litter |

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| | - the vehicle is serviced, repaired, and cleaned on a regular basis to:<br>- preserve the integrity of the door seal<br>- prevent the accumulation of mechanical fluids, dirt, or filth on the exterior<br>- adequate restraints, including tarps, are utilized where necessary to control windblown litter while the vehicle is in operation or contains waste. |
| **SO.10.7.AL.** Solid waste collection facilities must meet specific requirements (ADPH, Admin. Code R. 420-3-5-.11 (2)(h), (i), and (j)) [Added August 1998]. | Verify that collection facilities are operated, maintained, and closed in a sanitary manner, to include control of vegetation, windblown litter, and the harborage of vermin and vectors.<br><br>Verify that public access to collection facilities is minimized.<br><br>Verify that wastewater resulting from flushing or cleaning of the facility, equipment, or collection or transportation vehicles is disposed of by methods as approved under the permit, whether the process is performed on the collection facility grounds or at other locations. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **SO.15.<br>TRANSFER FACILITIES** | |
| **SO.15.1.AL.** All transfer stations must be permitted (ADPH Admin. Code R. 420-3-5-.12 (1)) [Citation Revised August 1998]. | Verify that the transfer station has a valid permit prior to construction, operation, or material modification.<br><br>Verify that the permit application is prepared by a registered engineer. |
| **SO.15.2.AL.** Transfer stations must meet specific buffer requirements (ADPH Admin. Code R. 420-3-5-.12 (2)(a) through (c)) [Citation Revised August 1998]. | Verify that transfer stations meet the following buffer requirements unless located in an area zoned industrial or commercial use:<br><br>- 100 ft between the area of transfer activities and all public roads and other property boundaries<br>- 500 ft between the area of transfer activities or storage of garbage and the nearest residence, school, or recreational park in existence at the time the application is filed<br>- a sufficient distance from the nearest well, surface water, sinkhole, or cave to protect against water contamination, at least 500 ft, unless approved otherwise by the Department.<br><br>(NOTE: The Board may approve alternative setback requirements.) |
| **SO.15.3.AL.** Roads adjacent to transfer stations must be of adequate quality (ADPH Admin. Code R. 420-3-5-.11 (2)(g) and (4)(g)) [Revised August 1998]. | Verify that access roads adjacent to transfer stations are capable of withstanding anticipated load limits under all weather conditions and maintained in good repair. |
| **SO.15.4.AL.** Transfer stations must meet specific design requirements (ADPH Admin. Code R. 420-3-5-.11 (3)). | Verify that transfer stations meet the following design requirements:<br><br>- will not contaminate ground or surface waters, nor create a nuisance or public hazard<br>- has sufficient capability to handle all waste unloaded at the facility at all times<br>- enclosed within a chain link fence or comparable fencing, with a securable lock to keep out unauthorized persons and contain windblown litter |

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| | - has sufficient access and traffic flow to minimize traffic congestion, dust, and noise at all times, even during adverse weather conditions<br>- sanitary facilities, including rest rooms and handwash basins, are provided for use by transfer station personnel<br>- compactors and other equipment are cleanable and equipped with drains which connect to a sanitary sewer system or equivalent<br>- waste tipping, loading, and unloading are to have:<br>  - roofs to prevent exposure of the below waste to the elements<br>  - floors constructed of an impervious material which is readily cleanable and equipped with drains connected to a sanitary sewer system. |
| **SO.15.5.AL.** Transfer stations must meet specific operating requirements (ADPH Admin. Code R. 420-3-5-.12 (4)(a) through (q) and (u) through (w)). | Verify that transfer stations comply with the following operating requirements:<br><br>- do not accept or receive waste from unpermitted or uncertified persons<br>- do not accept or receive waste composed or containing any of the following:<br>  - regulated hazardous waste<br>  - infectious waste<br>  - explosive material or debris<br>- immediately notify the local health officer and appropriate regulatory authorities upon disposal or discovery of any unauthorized waste at the transfer station<br>- store waste in compliance with storage requirements<br>- manage and dispose of all washdown water, leachate, wastewater, and storm and surface waste in compliance with the permit<br>- provide sufficient equipment to handle all solid waste received at the station and maintain it in good operating condition, with backup equipment available<br>- provide a trained attendant on duty during all operating hours<br>- prepare an operating manual<br>- provide instruction for station personnel at least semiannual on operating procedure and health and safety matters<br>- take measures to prevent the transmission of human pathogens, including:<br>  - prohibit eating, drinking, and use of tobacco where employees have physical contact with waste<br>  - post signs in prominent locations stating the above prohibition and reminding employees to wash hands prior to eating, drinking or using tobacco<br>  - provide and require use of protective clothing and gear in areas where employees come into direct contact with waste<br>- provide sufficient fire extinguishing equipment and adopt fire prevention practices<br>- maintain adequate plumbing and drainage for floors to prevent standing water<br>- post hours and days of operation at the entrance of the station and limit access to times when authorized personnel are on duty<br>- operated and managed under the direct supervision and control of an individual qualified in operating transfer stations |

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| | - prohibit the following:<br>- open burning<br>- scavenging<br>- not retain solid waste containing garbage for more than 24 h after it is received or deposited, unless approved otherwise by the local health officer. |
| **SO.15.6.AL.** Transfer stations must take specific actions when closing the station (ADPH Admin. Code R. 420-3-5-.12 (4)(r) and (s)) {Revised August 1998]. | Verify that, at least 90 days before the proposed closure date, the local health officer and facility users are notified and that a closure plan is submitted to the local health officer.<br><br>Verify that the closure plan is approved prior to closure and the closure is certified by a registered engineer.<br><br>Verify that solid waste is removed to an approved solid waste handling or disposal facility.<br><br>Verify that access to the site is restricted after closure.<br><br>(NOTE: Solid waste deposited at the facility after closure is the responsibility of the permit holder or the property owner.) |
| **SO.15.7.AL.** Transfer stations must keep specific records (ADPH Admin. Code R. 420-3-5-.12 (4)(t)) [Citation Revised August 1998]. | Verify the following records are retained for at least 2 yr:<br><br>- the quantity of solid waste, in tons per day, delivered to and received by the transfer station each day<br>- the quantity of solid waste, in tons per day, moved from the transfer station each day for delivery to a handling or disposal facility<br>- the point of generation, date, and quantity in tons, of each shipment of solid waste deposited at the facility, and the name and permit number of the solid waste collector or authorized user who deposited the waste<br>- receipts (containing quantities and dates) from handling or disposal facilities which accept waste from the transfer station<br>- facility sanitation and management practices which substantiate fulfillment of the operations plan<br>- other operational and management information as it relates to additional requirements of the local health officer. |

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| **SO.20. TRANSPORTATION** | (NOTE: Solid waste transporters must comply with specified collection requirements in SO.10 in addition to the requirements in this section.) |
| **SO.20.1.AL.** Solid waste transporters must be permitted (ADPH Admin. Code R. 420-3-5-.11 (1) and (1)(c)) [Citation Revised August 1998]. | Verify that persons who transfer solid waste containing garbage or scrap tires have a valid permit. |
| **SO.20.2.AL.** Transporters of scrap tires must comply with specific handling requirements (ADPH Admin. Code R. 420-3-5-.11 (2)(k) and (m)) [Citation Revised August 1998]. | Verify that scrap tire transporters keep manifests detailing the chain-of-custody for each shipment of tires including the following information:<br>- location(s) from which the tires were collected (retail outlet, landfill, etc.)<br>- date when the scrap tires were collected by the transporter<br>- identifying numbers or letters of the alphabet assigned to each shipment, and the number and type of individual units shipped<br>- name, telephone number, and address of the person(s) responsible for the transport and disposal or deposit of the tires<br>- date when the tires were deposited or disposed of<br>- (for scrap tires imported from out of state) date, time, and a certification that tires were treated for mosquito control prior to entry into the state. |
| **SO.20.3.AL.** Importers of solid waste or scrap tires must comply with specific requirements (ADPH Admin. Code R. 420-3-5-.11 (4)) [Citation Revised August 1998]. | Verify that persons who import solid waste containing garbage or scrap tires into the state have a permit to import waste.<br>Verify that importers keep a manifest containing the following information:<br>- place(s) of generation<br>- date of collection<br>- identifying numbers or letters of the alphabet assigned to each shipment, and the number and type of individual units shipped<br>- names of collectors, transporters, transfer stations, and all others who handled the solid waste containing garbage, or scrap tires, en route to the disposal facility<br>- name, telephone number, and address of the person(s) responsible for the transport and disposal<br>- name and location of the disposal site. |

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| | Verify that importers posses proof that imported waste or tires were collected or transported in accordance with all rules and regulations of the state from which the waste was generated, collected, or imported. |

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| **MUNICIPAL SOLID WASTE LANDFILLS**<br><br>**SO.65.<br>OPERATING CRITERIA** | |
| **SO.65.1.AL.** MSWLFs must comply with specific cover requirements (ADEM Admin. Code R. 335-13-4-.22 (1)(a)). [Cite Revised July 1997] | Verify that to control disease vectors, fires, odors, blowing litter, and scavenging, all waste is covered in accordance with the following criteria:<br><br>- composed of a minimum of 6 in. of compacted earth or other Department-approved alternative cover material that includes but is not limited to:<br>  - foams<br>  - geosynthetic or waste products<br>- applied at the end of each day's operations or as otherwise approved by the Department. |
| **SO.65.2.AL.** All waste must be spread and compacted (ADEM Admin. Code R. 335-13-4-.22 (2) and (3)). | Verify that all waste is confined to as small an area as possible and spread to a depth not exceeding 2 ft prior to compaction.<br><br>Verify that compaction does not occur on a face slope exceeding 4 to 1 (25 percent) or as otherwise determined by the Department.<br><br>Verify that all waste is thoroughly compacted with adequate landfill equipment before the daily cover is applied.<br><br>Verify that a completed daily cell does not exceed 8 ft in vertical thickness measured perpendicular to the slope of the preceding cell. |
| **SO.65.3.AL.** MSWLFs must comply with operating requirements to protect public health and the environment (ADEM Admin. Code R. 335-13-4-.22 (4) through (7), (12) through (14), (16), (17), (19), and (23)). | Verify that the following operating requirements are met to protect public health and the environment:<br><br>- scavenging is prohibited<br>- salvaging operations are controlled in accordance with plans approved by the Department<br>- litter is controlled along the access roads, over the landfill unit, and adjoining property<br>- adequate fire control measures are established and followed<br>- measures are taken to prevent the breeding or accumulation of disease vectors |

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| | - the site is adequately secured by use of artificial barriers, natural barriers, or both to prevent entry of unauthorized vehicular traffic<br>- environmental monitoring and treatment structures are protected and maintained in good repair<br>- completed sites or portions of sites are properly closed in accordance with approved plans<br>- special provisions are made for handling large dead animals or highly putrescible waste which includes:<br>  - disposal in a designated area of the facility<br>  - immediate covering<br>  - a minimum of 12 in. of soil cover<br>- measures are taken to ensure the facility does not violate requirements under a State Implementation Plan (SIP) approved pursuant to the Section 110 of the *Clean Air Act*<br>- provisions are made for disposal in adverse weather conditions. |
| **SO.65.4.AL.** MSWLFs must meet operating requirements to insure smooth and continued operations (ADEM Admin. Code R. 335-13-4-.22 (8) through (11), (15), and (18)). | Verify that the following operating requirements are met to insure smooth and continued operation of the facility:<br><br>- adequate personnel are provided and are trained in MSWLF techniques<br>- personnel facilities (shelter, communications, lavatory, and toilet) are provided for employees' use and kept in clean and good repair<br>- adequate equipment is provided and suitable stand-by equipment is available within 24 h in case of prolonged breakdown of primary equipment<br>- an all-weather access road, wide enough to allow passage of collection vehicles, is provided to the dumping face<br>- provisions are included for disposal activities in adverse weather conditions<br>- at the entrance of the facility, a sign outlining instructions for use of the site is posted which includes the following information:<br>  - name of facility<br>  - name of permittee and/or operating agency or person<br>  - days and hours of operation<br>  - disposal fees<br>  - types of waste accepted if the site is available to the general public or commercial haulers<br>- records are maintained on the daily volume of waste received by the facility<br>- a quarterly report summarizing the daily volumes of waste is submitted to the Department and a copy placed in the operating record. |
| **SO.65.5.AL.** MSWLFs must take precautions to prevent disposal of unapproved liquid waste (ADEM Admin. Code | Verify that the facility takes the following required measures to prevent disposal of unapproved liquid waste:<br><br>- bulk or noncontainerized liquid waste, or containers capable of holding |

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| R. 335-13-4-.22 (20) through (22)). | liquids, are not accepted at the facility unless:<br>- the liquid is household waste other than septic waste<br>- the liquid is leachate or gas condensate derived from the MSWLF unit, and the MSWLF unit is designed with a minimum composite liner and leachate collection system or approved equivalent liner and leachate collection system<br>- the containers:<br>- are similar in size to that normally found in household waste<br>- are designed to hold liquids for use other than storage<br>- contain household wastes<br>- empty containers larger in size than normally found in household waste are rendered unsuitable for holding liquids prior to delivery to the facility unless otherwise approved by the Department. |

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| **MUNICIPAL SOLID WASTE LANDFILLS**<br><br>**SO.67. EMISSIONS** | |
| **SO.67.1.AL.** MSW landfill emissions requirements must be followed (ADEM Admin. Code R. 335-3-19-.02) [Added June 1998] | (NOTE: These requirements apply to each existing MSW landfill for which construction, reconstruction or modification was commenced before 30 May 1991. Physical or operational changes made to an existing MSW landfill solely to comply with these requirements are not considered a modification or reconstruction and would not subject an existing MSW landfill to the requirements of Subpart WWW as incorporated by reference in Rule 335-3-10-.02(75), [see section SO.67 in the U.S. TEAM Guide].)<br><br>Verify that MSW landfill emissions are controlled at each MSW landfill that meets the following 3 conditions:<br><br>- the landfill has accepted municipal solid waste at any time since 8 November 1987<br>- the landfill has a design capacity greater than or equal to 2.5 million megagrams or 2.5 million cubic meters<br>- the landfill has a nonmethane organic compound emission rate of 50 megagrams per year or more.<br><br>(NOTE: The landfill may calculate design capacity in either megagrams or cubic meters for comparison with the exemption values. Any density conversions must be documented and submitted with the report.) |
| **SO.67.2.AL.** MSW landfills with a design capacity less than 2.5 million megagrams must submit a design capacity report (ADEM Admin. Code R. 335-3-19-.03(1)(a)) [Added June 1998; Revised July 2000]. | Verify that MSW landfills having a design capacity less than 2.5 million megagrams by mass or 2.5 million cubic meters by volume submit an initial design capacity report to the Director. |
| **SO.67.3.AL**. MSW landfills with a design capacity equal | Verify that, if the calculated NMOC emission rate is less than 50 megagrams per year, the owner or operator is required to: |

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| to or greater than 2.5 million megagrams must calculate NMOC emission rates and meet applicable requirements (ADEM Admin. Code R. 335-3-19-.03(1)(b)) [Added June 1998; Revised July 2000]. | year, the owner or operator is required to:<br><br>- submit an annual emission report to the Director<br>- recalculate the NMOC emission rate annually until such time as the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, or the landfill is closed.<br><br>Verify that, if the landfill is permanently closed, a closure notification is submitted to the Director.<br><br>Verify that, if the initial or annual calculated NMOC emission rate is equal to or greater than 50 megagrams per year:<br><br>- a collection and control system design plan prepared by a professional engineer is submitted to the Director within 1 yr<br>- a collection and control system that captures the gas generated within the landfill is installed within 30 mo after the first annual report in which the emission rate equals or exceeds 50 megagrams/yr (unless subsequent sampling shows that the emission rate does not exceed 50 megagrams/yr). |
| **SO.67.4.AL.** MSW landfills with active collection systems must meet specific requirements (ADEM Admin. Code R. 335-3-19-.03(8)) [Added June 1998]. | (NOTE: The following procedures must be met unless alternative procedures have been approved by the Director.)<br><br>Verify that the collection devices within the interior and along the perimeter areas are certified to achieve comprehensive control of surface gas emissions by a professional engineer.<br><br>(NOTE: Any segregated area of asbestos or nondegradable material may be excluded from collection if it is documented. The documentation must provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and be provided to the Director upon request.)<br><br>(NOTE: Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented and provided to the Director upon request. A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill.) |
| **SO.67.5.AL.** MSW landfill gas collection and control systems must meet specific | Verify that the collection system is operated so that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for: |

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| operational requirements (ADEM Admin. Code R. 335-3-19-.03(2)) [Added June 1998]. | place for:<br><br>- 5 years or more if active; or<br>- 2 years or more if closed or at final grade.<br><br>Verify that the collection system is operated with negative pressure at each wellhead except under the following conditions:<br><br>- a fire or increased well temperature<br>- use of a geomembrane or synthetic cover<br>- a decommissioned well.<br><br>Verify that each interior wellhead in the collection system is operated with a landfill gas temperature less than 55°C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent.<br><br>(NOTE: The a higher operating temperature, nitrogen, or oxygen value may be established at a particular well. A higher operating value demonstration must show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.)<br><br>Verify that the collection system is operated so that the methane concentration is less than 500 parts per million above background at the surface of the landfill.<br><br>Verify that the system is operated so that all collected gases are vented to a control system.<br><br>Verify that, if the event the collection or control system is inoperable, the gas mover system is shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere are closed within 1 hour.<br><br>Verify that the control or treatment system is operated at all times when the collected gas is routed to the system.<br><br>Verify that, if monitoring demonstrates that the operational requirement are not met, corrective action is taken.<br><br>(NOTE: If corrective actions are taken, the monitored exceedance is not a violation of the operational requirements.) |
| **SO.67.6.AL.** MSW landfills with active gas collection systems must meet monitoring requirements (ADEM Admin. Code R. 335-3-19-.03(5)) | Verify that a sampling port and a thermometer, other temperature measuring device, or access port for temperature measurement is installed at each wellhead to monitor the following:<br><br>- measure the gauge pressure in the gas collection header on a monthly basis |

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| [Added June 1998]. | - monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis<br>- monitor temperature of the landfill gas on a monthly basis.<br><br>Verify that for enclosed combustors the following equipment is calibrated, maintained, and operated according to the manufacturer's specifications:<br><br>- a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in °C or ±0.5°C, whichever is greater<br>- either of the following:<br>- a gas flow rate measuring device that records the flow to the control device at least every 15 minutes<br>- secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration<br><br>(NOTE: A visual inspection of any seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.)<br><br>Verify that for open flares the following equipment is installed, calibrated, maintained, and operated according to the manufacturer's specifications:<br><br>- a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame<br>- either of the following:<br>- a gas flow rate measuring device that records the flow to the control device at least every 15 minutes<br>- secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration.<br><br>Verify that any monitoring procedures required by the Director are met.<br><br>(NOTE: Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.) |
| **SO.67.7.AL.** MSW landfills calculating NMOC emission rates must meet reporting requirements (ADEM Admin. Code R. 335-3-19-.03(6)(a) | Verify that an NMOC emission rate report is submitted to the Director initially and then annually.<br><br>Verify that, if the owner/operator elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis and the resulting rate is less than 50 |

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| through (c) [Added June 1998]. | megagrams per year, annual periodic reporting is resumed until the calculated emission rate is equal to or greater than 50 megagrams per year or the landfill is closed.<br><br>Verify that an revised NMOC emission rate report, with the recalculated emission rate based on NMOC sampling and analysis, is submitted within 180 days of the first calculated exceedance of 50 megagrams per year.<br><br>Verify that, if the owner/operator elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant and the resulting NMOC emission rate is less than 50 Mg/yr, annual periodic reporting is resumed.<br><br>Verify that the initial design capacity report has been submitted to the Director.<br><br>Verify that an amended design capacity report is submitted to the Director providing notification of any increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to or above 2.5 million megagrams and 2.5 million cubic meters.<br><br>(NOTE: This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation.)<br><br>Verify that an NMOC emission rate report has been submitted to the Director initially and annually thereafter and contains an annual or 5-yr estimate of the NMOC emission rate calculated using the required formula and procedures.<br><br>Verify that the NMOC emission rate report includes all the data, calculations, sample reports and measurements used to estimate the annual or 5-yr emissions.<br><br>(NOTE: The NMOC emission rate report is not required after the installation of a collection and control system and the collection and control system is in compliant operation.) |
| **SO.67.8.AL.** MSW landfills installing an active collection system must meet initial reporting requirements (ADEM Admin. Code R. 335-3-19-.03(6)(g)) [Added June 1998]. | Verify that each owner or includes the following information with the initial performance test report:<br><br>- a diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion<br>- the data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based<br>- the documentation of the presence of asbestos or nondegradable material for |

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| | each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material<br>- the sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area<br>- the provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill<br>- the provisions for the control of off-site migration. |
| **SO.67.9.AL.** MSW landfills with an active collection system must submit annual reports (ADEM Admin. Code R. 335-3-19-.03(6)(f)) [Added June 1998]. | Verify that the initial annual report is submitted within 180 days of installation and start-up of the collection and control system, and includes the initial performance test report required under 40 CFR 60.8.<br><br>Verify that annual reports are submitted and include the following:<br><br>- value and length of time for exceedance of applicable monitored parameters<br>- description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow<br>- description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating<br>- all periods when the collection system was not operating in excess of 5 days<br>- location of each exceedance of the 500 parts per million methane concentration and the concentration recorded at each location for which an exceedance was recorded in the previous month<br>- date of installation and the location of each well or collection system expansion. |
| **SO.67.10.AL.** MSW landfills using an active collection system must meet closure reporting requirements (ADEM Admin. Code R. 335-3-19-.03(6)(d) and (e)) [Added June 1998]. | Verify that a closure report is submitted to the Director within 30 days of waste acceptance cessation.<br><br>Verify that, if additional waste is to be placed in the landfill, a notification of modification is filed.<br><br>Verify that a controlled landfill submits an equipment removal report to the Director 30 days prior to removal or cessation of operation of the control equipment.<br><br>Verify that each owner or operator of a landfill using an active collection system submits to the Director annual reports of the recorded information. |

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| **SO.67.11.AL.** MSW landfills subject to air emission standards must follow recordkeeping requirements (ADEM Admin. Code R. 335-3-19-.03(7)) [Added June 1998]. | Verify that, for at least 5 years, up-to-date, readily accessible, on-site records of the design capacity report which triggered the need to prepare annual emission reports, the current amount of solid waste in-place, and the year-by-year waste acceptance rate are kept for MSW landfills having a design capacity to or greater than 2.5 million megagrams or 2.5 million cubic meters.<br><br>Verify that each controlled landfill keeps up-to-date, readily accessible records for the life of the control equipment for NMOC emission.<br><br>Verify that each controlled landfill keeps records of the equipment operating parameters specified to be monitored and records of the periods of operation during which the parameter boundaries are exceeded.<br><br>Verify that up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines are kept.<br><br>Verify that, for boiler or process heater with a design heat input capacity of 44 megawatts or greater keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State regulatory requirements.)<br><br>Verify that, for open flares, up-to-date, readily accessible continuous records are kept of the flame or flare pilot flame monitoring and all periods of operation in which the flame or flare pilot flame is absent.<br><br>Verify that, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system is kept and provides a unique identification location label for each collector.<br><br>Verify that an up-to-date, readily accessible record of the installation date and location of all newly installed collectors is kept.<br><br>Verify that readily accessible documentation is kept of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection, as well as any nonproductive areas excluded from collection.<br><br>Verify that, for at least 5 years, records are kept of all collection and control system exceedances of the operational standards, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. |

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| | Verify that landowners who convert design capacity from volume to mass (or vice versa) maintain on-site records of the annual recalculation and supporting documentation. |

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| **MUNICIPAL SOLID WASTE LANDFILLS** | (NOTE: For the purpose of this section (SO.70), requirements apply to all MSWLF units and when determined necessary by the Department to protect public health and the environment, to C/DLF units and ILF units.) |
| **SO.70. GROUNDWATER MONITORING CRITERIA** | |
| **SO.70.1.AL.** All MSWLFs must meet specific ground-water monitoring and corrective action requirements (ADEM Admin. Code R. 335-13-4-.27). | (NOTE: State groundwater monitoring criteria are the functional equivalent of the Federal regulations. See U.S. Team Guide SO.70.1 through SO.70.12.) |
| **SO.70.2.AL.** Abandoned wells and bore holes must be abandoned in compliance with specific criteria (ADEM Admin. Code R. 335-13-4-.27(8)(c)) [Revised July 1997]. | Verify that abandoned wells and bore holes are abandoned in compliance with a Department-approved plan which includes:<br>- measuring the well for depth prior to sealing<br>- filling with neat cement<br>- records of the abandonment procedure<br>- removal of the liner pipe. |

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| **MEDICAL WASTE**<br><br>**SO.105.<br>GENERATORS** | |
| **SO.105.1.AL.** Generators of medical waste must prepare and maintain a Medical Waste Management Plan (ADEM Admin. Code R. 335-13-7-.01 (1)). | Verify that generators of medical waste prepare and maintain a written Medical Waste Management Plan to ensure proper management of medical waste, which is available to the Department upon request and contains information, as applicable, on the following:<br><br>- the type of medical waste generated<br>- segregation, packaging and labeling procedures of untreated medical waste intended for offsite transportation<br>- treatment method utilized onsite<br>- transporter of an untreated medical waste transported offsite, including:<br>  - name, address and telephone of a person responsible<br>  - ADEM permit number<br>- storage facilities utilized both onsite and offsite, including:<br>  - name, address and telephone number of a person responsible for all offsite storage facilities<br>  - ADEM permit number for all offsite storage facilities<br>- all treatment/processing facilities utilized, including:<br>  - name, address and telephone number of all offsite facilities<br>  - ADEM permit numbers for all offsite facilities<br>- all disposal facilities utilized, including:<br>  - name of disposal facility as it appears on their permit<br>  - permittee of disposal facility<br>  - ADEM permit number<br>- frequency medical waste is removed offsite from generator's facility<br>- training of employees:<br>  - steps that will be taken to minimize the exposure of employees to infectious agents<br>  - name of the individual who is responsible for training. |
| **SO.105.2.AL.** Medical waste generators must notify the Department (ADEM Admin. Code R. 335-13-7-.01 (2)). | Verify that generators of medical waste notify the Department in writing of the following information:<br><br>- name and mailing address of generator<br>- name and telephone number of responsible person<br>- street address, including nearest city, of generator's facility. |

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| | Verify that the above information and the Medical Waste Management Plan are submitted to the Department by new generators of medical waste prior to initiating any waste generation, treatment, transportation, or disposal activity. |

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| **MEDICAL WASTE**<br><br>**SO.110. CONTAINERS/ LABELING/STORAGE AREAS** | |
| **SO.110.1.AL.** Untreated medical waste intended to be transported offsite must meet specific storage requirements (ADEM Admin. Code R. 335-13-7-.02 (1), (2), (4), (5), (8) and (9)). | Verify that untreated medical waste intended for transport offsite, except where interment will be utilized, is stored in containers meeting following labeling requirements:<br><br>- the outermost layer of packaging for waste, except sharps, is containers which have either a red background color or utilize red lettering with contrasting background color and is conspicuously labeled with any of the following:<br><br>- Infectious<br>- Medical Waste<br>- Bio-Hazardous<br>- the International Biological Hazardous Symbol<br>- the labeling is either printed on the container or securely attached by label on two or more sides<br>- the wording is in letters 2 in. or larger and the International Biological Hazardous Symbol is 6 in. or larger in diameter<br>- the ink is indelible and considered permanent when exposed to the environment under normal weather conditions.<br><br>Verify that small containers, used to collect untreated medical waste and which will be placed inside larger containers, meet the above labeling requirements with 1 in. and 3 in. minimum size requirements for the lettering and International Biological Hazardous Symbol, respectively.<br><br>Verify that the containers meet the following structural criteria:<br><br>- are impermeable to moisture<br>- have a strength which prevents ripping, tearing, or bursting under normal conditions of use.<br><br>Verify that disposable single use containers used for the storage and transportation of untreated medical waste, under normal conditions of handling and use, meet the following criteria:<br><br>- rigid |

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| | - leak resistant<br>- puncture resistant<br>- burst resistant<br>- tear resistant.<br><br>Verify that containers utilized for collection, storage, and transportation are constructed of materials compatible with the treatment method to be utilized, for example:<br><br>- single-use containers destined for incinerators are burnable<br>- containers destined for steam sterilization allow the waste to be treated at required temperatures and pressure<br>- reusable containers are decontaminated after each use with an approved treatment method<br>- reusable containers are not used for other purposes unless the following conditions are met:<br>- containers are decontaminated by an approved method<br>- all labeling, symbols or other identifications normally used are removed.<br><br>Verify that the outermost layer of packaging for all medical waste, including sharps, contains the following information securely attached or permanently printed and clearly legible:<br><br>- the generator's name and address<br>- the date the waste was packaged in its outermost container<br>- any one of the following words or phrases:<br>- MEDICAL WASTE<br>- BIO-HAZARDOUS<br>- INFECTIOUS<br>- the International Biological Hazardous Symbol. |
| **SO.110.2.AL.** Sharps containers must meet specific requirements (ADEM Admin. Code R. 335-13-7-.02(3)). | Verify that sharps are placed directly into leak proof, rigid, puncture-resistant containers and sealed to prevent loss of contents under normal handling procedures. |
| **SO.110.3.AL.** Containers of medical waste must be handled in a specific manner (ADEM Admin. Code R. 335-13-7-.02 (6) and (7)). | Verify that containers of medical waste remain intact without signs of leakage until treatment.<br><br>Verify that containers of medical waste are handled in a manner that does not affect the integrity of the packaging. |

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| **SO.110.4.AL.** Sanitary sewer systems must meet specific requirements for liquid medical waste disposal (ADEM Admin. Code R. 335-13-7-.02(10)). | Verify that medical waste, such as liquids which are amenable to disposal by sanitary sewer, are not discharged into the system unless the following requirements are met:<br><br>- sanitary system provides secondary treatment<br>- solid and liquid waste removed from systems which do not provided secondary treatment (e.g., holding tanks) is further processed in a sanitary sewer system that provides secondary treatment<br>- prior approval is obtained from the local health officer for sewer systems not regulated by the Water Division of the Department<br>- sanitary system is operated in a manner that medical waste will not bypass the treatment facility during normal operating conditions. |
| **SO.110.5.AL.** Collection of treated waste must comply with specific requirements (ADEM Admin. Code R. 335-13-7-.03). | Verify that collection of treated medical waste intended for transport offsite complies with the following requirements:<br><br>- no container is red in color<br>- all containers display one of the following:<br>- the International Biological Hazard Symbol<br>- MEDICAL WASTE<br>- INFECTIOUS or INFECTIOUS WASTE<br>- BIO HAZARDOUS.<br><br>(NOTE: Containerized treated medical waste may be mixed with other solid waste for transportation to an approved disposal facility in vehicles where compaction of the waste will take place.) |
| **SO.110.6.AL.** Storage areas for untreated medical waste must comply with specific requirements (ADEM Admin. Code R. 335-13-7-.04 (1) through (13) and 335-13-7-.06(18)). | (NOTE: Containerized treated medical waste may be mixed with other solid waste for storage prior to transportation to an approved disposal facility.)<br><br>Verify that storage areas for untreated medical waste meet the following requirements:<br><br>- if not an integral part of the generator's facility, has been granted a permit<br>- fully enclosed<br>- not utilized for other purposes<br>- surfaces potentially exposed to medical waste are smooth, easily cleanable, and impervious to liquids<br>- conspicuously identified with signs containing any of the following:<br>the International Biological Hazard Symbol<br>MEDICAL WASTE |

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| | INFECTIOUS WASTE<br>BIO HAZARDOUS<br>- secured to prevent entry of unauthorized persons<br>- operated in a manner to minimize entry by rodents or vectors and prevent objectionable odors from migrating offsite.<br><br>Verify that if the facility accepts a container that is damaged, leaking, or improperly labeled, the container is overpacked into another container or properly labeled, as appropriate.<br><br>Verify that personnel manually handling untreated medical waste at the storage facility wear impermeable gloves and protective clothing to minimize exposure<br><br>Verify that monthly generators of more than 220 lb of medical waste store their untreated medical waste at a temperature less than 45 °F if it is stored for more than 7 days.<br><br>Verify that when untreated medical waste has been or is anticipated to be out of compliance with the above refrigeration requirement, the following measures are taken:<br><br>- the Department is immediately notified by telephone<br>- a written report is submitted to the Department within seven calendar days of noticing the violation which includes the following:<br>- why the waste was kept without refrigeration longer than 7 days<br>- what impact, if any, it had on the environment<br>- how the occurrence was corrected<br>- what steps will be taken in the future to minimize a similar occurrence.<br><br>Verify that the following records are maintained for a minimum of 3 yr:<br><br>- information on any generator or transporter utilizing the storage facility - which includes the following:<br>- (for generators) name and street address of business, name and telephone number of a contact person<br>- (for transporters) name and street address of business, name and telephone number of a contact person and list of any permits obtained from a regulatory agency for the transportation of untreated medical waste<br>- quantity of medical waste stored from each generator or transporter per month (in tons, pounds, cubic yards, cubic feet, or gallons)<br>- date the waste was accepted from the generator or transporter for storage and the date it was removed from the storage facility<br>- name and telephone number of a contact person for the transporter removing the waste to another facility and any permits that have been issued to that transporter<br>- quantity of medical waste removed from the storage facility (in tons, pounds, |

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| | cubic yards, cubic feet, or gallons). |
| **SO.110.7.AL.** Medical waste storage facilities must prepare a Management Plan (ADEM Admin. Code R. 335-13-7-.04 (14)). | Verify that medical waste storage facilities prepare a management plan which is maintained at the facility and contains the following information:<br><br>- types of medical waste handled<br>- storage procedures that will be followed<br>- treatment facilities that will be utilized<br>- steps that will be taken to minimize the exposure of employees to untreated medical waste<br>- name of the individual responsible for the storage facility. |

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| **MEDICAL WASTE** | |
| **SO.115. TRANSPORTATION** | (NOTE: As long as treated medical waste is separated from and distinguishable from untreated medical waste, is may be delivered to an approved sanitary landfill for disposal.) |
| **SO.115.1.AL.** Medical waste transporters must comply with specific handling requirements (ADEM Admin. Code R. 335-13-7-.04(11)(b) and 335-13-7-.06 (1) through (13,) and (16)). | Verify that medical waste transporters comply with the following requirements:<br>- do not accept untreated medical waste which contains hazardous waste or radioactive waste<br>- do not transport untreated medical waste in the same transport vehicle with other solid waste unless all the waste in the vehicle is managed as untreated medical waste<br>- do not accept any container of untreated medical waste which shows visible signs of leakage, or which is not properly sealed and labeled<br>- do not compact untreated medical waste in a transport vehicle<br>- do not allow untreated medical waste to escape from a transport vehicle into the environment (i.e., all transport vehicles must be enclosed)<br>- do not deliver untreated medical waste to an unapproved storage, treatment, or disposal facility in Alabama<br>- coordinate out-of-state shipments of untreated medical waste with the appropriate regulatory authority of the receiving state<br>- wear impermeable gloves and protective clothing when manually loading or unloading containers of untreated medical waste.<br><br>Verify that medical waste transport vehicles meet the following criteria:<br><br>- have a permit, issued by the Department, to transport untreated medical waste within the state<br>- surfaces that might come in contact with medical waste are constructed of durable, easily cleanable materials<br>- surfaces that have come in contact with untreated medical waste are decontaminated<br>- display the following:<br>  - business name of the permitted transporter<br>  - telephone number of a contact person for the transporter<br>  - at least one of the following:<br>  - the International Biological Hazard Symbol<br>  - MEDICAL WASTE<br>  - INFECTIOUS WASTE<br>  - ADEM permit number<br>- are fully enclosed and secured when unattended |

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| | - if transportation takes more than 4 h, are equipped with refrigeration to keep a temperature below 45 °F. |
| **SO.115.2.AL.** Specific measures must be taken if a spill occurs of medical waste during transportation (ADEM Admin. Code R. 335-13-7-.04 (14)). | Verify that the following measures are taken by the medical waste transporter if a spill occurs:<br>- the Solid Waste Program of the Department is immediately notified by telephone<br>- within 7 calendar days of the spill, a report is filed with the Department addressing all the of the following:<br>- how the spill occurred<br>- what impact, if any, it had on the environment<br>- any injury to individuals<br>- method of clean-up<br>- final disposition of the waste<br>- measures that will be taken to minimize the chance of a repeat occurrence. |
| **SO.115.3.AL.** Medical waste transporters must maintain specific records (ADEM Admin. Code R. 335-13-7-.06 (15)). | Verify that medical waste transporters maintain for 3 yr records regarding the following:<br>- quantity of untreated medical waste transported from each generator or storage facility per month (in tons, pounds, cubic yards, cubic feet, or gallons)<br>- name and location of any storage facilities utilized by the transporters prior to delivery to a treatment facility and the period of time the waste remained in storage<br>- date the waste was accepted from the generator or storage facility, and the date it was delivered to a treatment facility or another storage facility. |
| **SO.115.4.AL.** Medical waste transporters must prepare a Management Plan (ADEM Admin. Code R. 335-13-7-.04 (16)). | Verify that medical waste transporters prepare a Management Plan which includes information on the following:<br>- types of medical waste handled<br>- transportation procedures<br>- storage, treatment and disposal facilities that will be utilized<br>- steps that will be taken to minimize the exposure of employers to untreated medical waste throughout the process of transporting and handling the waste<br>- name of the individual responsible for the transportation and management of medical waste. |

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| | Verify that the plan is:<br><br>- stored at the permittee's principal place of business<br>- available to the Department upon request<br>- updated as needed. |

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| **MEDICAL WASTE**<br><br>**SO.120. TREATMENT/DISPOSAL** | |
| **SO.120.1.AL.** Medical waste must be treated prior to transfer (ADEM Admin. Code R. 335-13-7-.08). | Verify that medical waste is treated by an appropriate method prior to disposal (see chart below). |

| Type of Waste | Steam Incineration | Sterilization | Sanitary Sewer |
|---|---|---|---|
| Animal | X | X* | |
| Blood/Body Fluids | X | X | X |
| Micro-biological | X | X | |
| Pathological | X | X* | |
| Renal Dialysis | X | X* | X |
| Sharps | X* | X* | |
| Surgical | X | X | |

* Indicates waste must be rendered unrecognizable prior to final disposal.

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| **SO.120.2.AL.** Incinerators used for medical waste must comply with specific requirements (ADEM Admin. Code R. 335-13-7-.08 (1)) [Revised June 1999]. | Verify that incinerators used to treat medical waste comply with the requirements for incinerators under section AE.30.AL. in the *Air Emissions Management* chapter.<br><br>Verify that untreated and treated waste (i.e., ash residue) are stored in compliance with their respective requirements.<br><br>Verify that all combustible medical waste is rendered unrecognizable during incineration or further processed, utilizing, for example, grinding or shredding prior to disposal. |
| **SO.120.3.AL.** Steam sterilizers must comply with specific treatment requirements (ADEM Admin. Code R. 335-13-7-.08 (2)(a) through (d)). | Verify that steam sterilizers have a valid permit prior to treatment of waste.<br><br>Verify that steam sterilizers meet the following requirements:<br><br>- medical waste containing hazardous chemical or radioactive waste are not accepted<br>- specific medical waste, including sharps and recognizable human tissue, organs, body parts, and infected animals are further processed after steam |

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| | sterilization by the following methods:<br>- sharps: grinding, incineration, or packaging in puncture-proof containers are suggested methods<br>- recognizable human tissue, organs, or body parts: incineration, grinding, and/or interment are suggested methods (waste must be rendered unrecognizable prior to containment for shipment to disposal site).<br><br>Verify that steam sterilizers use one of the following monitoring methods:<br><br>- equipped to continuously monitor and record temperature and pressure during the entire length of each cycle<br>- temperature sensitive tape is affixed to each bag or container<br>- some other Department-approved monitoring method.<br><br>Verify that each bag or container is exposed to a minimum temperature of 250 °F and at least 15 lb of pressure for 30 min.<br><br>Verify that each sterilizer is evaluated for effectiveness under full loading by an approved method at least once for each 40 h of combined operation.<br><br>(NOTE: Biological indicators such as spores of *Bacillus stearothemophilus* may be utilized with Departmental approval.) |
| **SO.120.4.AL.** Steam sterilizers must meet specific operational requirements (ADEM Admin. Code R. 335-13-7-.08 (2)(e) through (h)). | Verify that steam sterilization units maintain a written log or other approved means of documentation which contains the following information:<br><br>- date, time (including duration), and operator for each cycle<br>- approximate weight of volume of medical waste treated during each cycle<br>- temperature and pressure maintained during each cycle<br>- temperature and pressure maintained during each cycle<br>- method utilized for confirmation of temperature and pressure<br>- dates and results of calibration and maintenance.<br><br>Verify that untreated regulated medical waste is not placed in areas or containers designated for pickup and delivery to a solid waste disposal facility.<br><br>Verify that sterilizers used for waste treatment are not used for sterilization of equipment, food, or other related items. |
| **SO.120.5.AL.** Treatment methods not explicitly mentioned in this section must | Verify that any treatment method for medical waste not explicitly mentioned in this section is approved by the Department prior to treatment. |

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| be authorized (ADEM Admin. Code R. 335-13-7-.08(3)). | |
| **SO.120.6.AL.** Medical waste must be treated prior to disposal (ADEM Admin. Code R. 335-13-7-.09). | Verify that medical waste is treated prior to delivery to a solid waste disposal facility.<br><br>(NOTE: The Department may grant a variance if it determines that a generator or treater of medical waste cannot comply with this requirement.) |
| **SO.120.7.AL.** Treated medical waste must meet specific disposal requirements (ADEM Admin. Code R. 335-13-7-.10). | Verify that treated medical waste containing liquids is further processed to eliminate free liquids and further reduce the liquid consistency to the point where the waste would be considered bladeable by disposal facility personnel.<br><br>Verify that written certification is provided to the disposal facility, as required by the Department, verifying proper treatment of the waste.<br><br>Verify that the solid waste disposal facility maintains records in an approved format for each transporter for a minimum of 3 yr.<br><br>Verify that only treated and properly packaged medical waste is accepted at the solid waste disposal facility. |

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| **SO.135.<br>LANDFILLS**<br><br>**Location Restrictions** | |
| **SO.135.1.AL.** All landfill units must comply with specific siting standards to prevent adverse effects on health or the environment (ADEM Admin. Code R. 335-13-4-.01). | Verify that the facility, if located in a floodplain, does not create the following effects which might pose a hazard to human health and the environment:<br><br>- restricts the flow of the 100-yr flood<br>- reduces the temporary water storage capacity of the floodplain<br>- results in washout of solid waste.<br><br>Verify that the facility meets the following conservation requirements:<br><br>- does not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife<br>- does not result in the destruction or adverse modification of the critical habitat of Federally identified endangered or threatened species.<br><br>Verify that the facility meets the following water protection requirements:<br><br>- located in a manner protective of water quality<br>- does not cause a discharge of pollutants into waters of the state, including wetlands, which in violation of Alabama *Water Pollution Control Act*, 1975 (Section 22-22-1 through 22-22-14)<br>- does not cause a discharge of dredged material or fill material into waters of the state that is in violation of Section 404 of the *Clean Water Act*<br>- does not cause nonpoint source pollution of waters of the state, including wetlands, that violates any requirements of an area wide and statewide water quality management plan that has been approved under the Alabama *Water Pollution Control Act*<br>- not located in wetlands, beaches, or dunes<br>- is not located where the disposal of solid waste would degrade wetlands, beaches, dunes, or coastal waters<br>- not located within the boundaries of the coastal area unless both of the following are met:<br>  - no other reasonable alternative is available<br>  - Department approval is obtained for the siting, design, construction, and operation.<br><br>Verify that the facility takes the following measures to prevent unpermitted discharges to waters of the state: |

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| | discharges to waters of the state:<br><br>- the bottom elevation of the cell for unlined landfill units and the bottom elevation of the liner system for lined landfill is a minimum of 5 ft above the seasonal high groundwater table or bedrock or as determined by the Department<br>- alternative measures specified by the Department to protect the groundwater.<br><br>Verify that a MSWLF unit meets siting restrictions when locating near an airport:<br><br>- is not located within 10,000 ft of any airport runway end<br>- notifies the affected airport and the Federal Aviation Administration if proposing to renew an existing or site a new MSWLF unit within a 5 mi radius of an airport runway.<br><br>Verify that facilities are not sited in zones of active faults, seismic impact zones, unstable areas, sink holes, and karst terrain unless a site specific evaluation demonstrates minimum potential for adverse effects upon waters of the state in accordance with the following requirements:<br><br>- landfill units are not located within 200 ft of a fault that has had displacement within the Holocene epoch unless the Department approves an alternative setback distance<br>- landfill units are not located in seismic impact zones, unless the Department approves that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site<br>- landfill units are not located in an unstable area unless engineering measures have been incorporated in the design of the facility to ensure that the integrity of the structural components of the facility will not be disrupted.<br><br>Verify that the landfill unit has a certification from the State Historic Preservation Officer confirming the site is not in archaeologically or historically sensitive areas.<br><br>Verify that the solid waste disposal facility complies with any other applicable state or Federal rules, laws, regulations, or other requirements. |
| **Design Criteria** | |
| **SO.135.2.AL.** Plans and operational reports for landfill units must be approved by the Department (ADEM Admin. | Verify that the Department approves the landfill unit plans and operational reports. |

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| Code R. 335-13-4-.11). | |
| **SO.135.3.AL.** Landfill units must maintain drainage systems (ADEM Admin. Code R. 335-13-4-.17). | Verify that facilities construct and maintain the following drainage systems:<br>- a run-on control system to prevent flow onto the active and/or closed portion of the landfill during the peak discharge from a 25-yr storm<br>- a runoff control system from the active and/or closed portions of the landfill to collect and control at least the water volume resulting from a 24-h, 25-yr storm<br>- onsite drainage structures to carry incident precipitation from the disposal site so as to minimize the generation of leachate, erosion, and sedimentation<br>- a settling basin or other sedimentation control structure to ensure containment of runoff from the active and/or closed portion of the landfill unit and removal of sediment prior to release onto adjacent properties or waters. |
| **SO.135.4.AL.** Landfill units must use a liner if determined necessary by the Department (ADEM Admin. Code R. 335-13-4-.18) [Revised July 1997]. | Determine if the Department has required a liner for the facility and if so, what type.<br>Verify that if a composite liner is required it complies with the following criteria:<br>- permeability is $1x10^{-7}$ cm/s or less for soil liners<br>- liner is resistant to physical and chemical attack by leachate<br>- liner is capable of maintaining integrity for the design life which is determined on a site specific basis<br>- minimum allowable thickness of each layer of the composite liner is:<br>- 40 mil for the flexible membrane liner component unless it consists of HDEP which requires 60 mil and 2 ft, compacted, for the natural soil liner component<br>- installation is in accordance with manufacture's recommendation and under the supervision of an engineer<br>- design and installation of soil liners and the properties of soil used in a soil liner meet the following criteria:<br>- soil liner(s) are designed by a qualified soils engineer, geotechnical engineer or geologist<br>- soil liner is compacted in lifts of 4 to 6 in. within 2 percent of optimum moisture content to a field density which correlates with a laboratory permeability of $1x10^{-7}$ cm/s or less<br>- soil liner(s) is installed under the supervision of a soils engineer, geotechnical engineer or geologist who certifies compliance with approved design plans<br>- soils used in the soil liners meet the following criteria:<br>- free of oversized particles, such as rocks, roots, limbs and other foreign substances which alter the design integrity of the liner |

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| | - classified under the Unified Soil Classification System as CL, CH, or SC (ASTM Standard D2 487-69)<br>- allow greater than 30 percent passage through a No. 200 sieve (ASTM Test D-1140)<br>- have a liquid limit equal to or greater than 30 units (ASTM Test D-423)<br>- have a plasticity equal to or greater than 15 units (ASTM Test D-424)<br>- synthetic liner is installed in direct contact with the soil liner.<br><br>(NOTE: MSWLFs are required to have composite liners or approved alternative.)<br><br>Verify that a leachate collection system is designed and constructed to maintain less that a 30 cm depth of leachate over the liner.<br><br>(NOTE: The Department may approve an alternative liner designs.) |
| **SO.135.5.AL.** Public access to landfill units must be controlled (ADEM Admin. Code R. 335-13-4-.19). | Verify that public access to the facility is controlled to prevent unauthorized vehicular traffic and illegal dumping of wastes by use of artificial and natural barriers as appropriate to protect human health and the environment. |
| **Operating Criteria:<br>General Requirements** | |
| **SO.135.6.AL.** All landfill units must comply with general operating requirements (ADEM Admin. Code R. 335-13-4-.21 (1)). | Verify that open burning of solid waste is prohibited unless the following requirements are met:<br><br>- approval is obtained from the Department and the Alabama Forestry Commission prior to burning clearing debris at the landfill unit such as trees and stumps<br>- approval is obtained from the Department and other appropriate agencies prior to burning emergency clean-up debris resulting from catastrophic incidents<br>- approved burning does not occur over previously filled area or within 200 ft of existing disposal operations unless specified otherwise by the Department and the burning will not cause a public nuisance or a threat to public health. |
| **SO.135.7.AL.** The operation and use of the landfill unit must conform to the permit | Verify that the operation and use of the landfill unit are as stipulated in the permit. |

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| (ADEM Admin. Code R. 335-13-4-.21 (2)). | |
| **SO.135.8.AL.** Waste accepted at the landfill units must be strictly controlled to ensure only permitted waste is accepted (ADEM Admin. Code R. 335-13-4-.21 (3)). | Verify that permitted facilities have an approved plan for detecting and preventing the disposal of free liquids, regulated hazardous wastes, medical wastes, and regulated PCB wastes at the facility.<br><br>Verify that facilities provide to the Department and maintain on file in the operating record of the facility certification containing the following information for waste received at the facility:<br><br>- identification of the place of origin (state, county, and municipality)<br>- certification from the generator that the wastes do not contain free liquids, regulated hazardous wastes, medical wastes, or regulated PCB wastes<br>- certification from the collector or generator that the wastes are collected and transported in accordance with all regulatory requirements within the state of origin<br>- if available, certification from a government official of the state or locality of origin where governmental oversite of shipment is involved<br>- contact persons in the state of origin including the collector, transporter, local and state regulatory authorities, etc. (including the current names, addresses, and telephone numbers of all required parties.) |
| **SO.135.9.AL.** The landfill unit must be operated so that there is no water pollution or unauthorized discharge (ADEM Admin. Code R. 335-13-4-.21 (4)). | Verify that the landfill unit is operated in a manner that will not cause water pollution or unauthorized discharge and will not contaminate the groundwater.<br><br>(NOTE: Any discharge resulting from a landfill unit or practice may require any of the following:<br>- a National Pollutant Discharge Elimination System (NPDES) permit under the Alabama *Water Pollution Control Act* as issued by the Department<br>- a dredge or fill permit from the Army Corps of Engineers as required under Section 404 of the *Clean Water Act*<br>- that a nonpoint source of surface waters does not violate an area wide or statewide water quality management plan that has been approved under the Alabama *Pollution Control Act*.) |
| **SO.135.10.AL.** Generators of industrial waste must have valid certification (ADEM Admin. Code R. 335-13-4-.21 (5)). | Verify that prior to disposal, generators of industrial waste submit to the facility a written certification that the material to be disposed does not contain any of the following:<br><br>- free liquids |

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| (5)). | - medical waste<br>- regulated PCB wastes.<br><br>Verify that copies of the certification are submitted to the Department, along with analyses supporting the certification as required by the Department, prior to disposal for approval for disposal and any specific requirements as the method of disposal.<br><br>Verify that certification is renewed annually or more frequent as the Department requires.<br><br>Verify that a copy of the certification is placed in the operating record of the facility. |
| **SO.135.11.AL.** The landfill unit must be clearly identified (ADEM Admin. Code R. 335-13-4-.21 (6)). | Verify that the facility is identified with a sufficient number of permanent markers which are at least visible from one marker to the next. |
| **SO.135.12.AL.** Solid waste not generated by the permittee must be measured or weighed (ADEM Admin. Code R. 335-13-4-.21 (7)) [Revised July 1997]. | Verify that MSWLF and industrial landfill units that accept solid waste not generated by the permittee have measuring or weighing devices.<br><br>Verify that measuring or weighing devices are installed, operated, and maintained at all solid waste landfill facilities. |
| **Operating Criteria:<br>Disposal Of Special Waste** | |
| **SO.135.13.AL.** Disposal of asbestos must comply to specific requirements (ADEM Admin. Code R. 335-13-4-.26 (1)). | Verify that any disposal of asbestos in a landfill complies with the following requirements:<br><br>- disposed of only in a facility permitted by the Department<br>- contained in properly labeled, leak-tight containers<br>- in a form that will not easily become airborne.<br><br>Verify that the sealed containers are placed intact in a specially prepared place and covered with a minimum of 12 in. of earth at the end of each working day.<br><br>(NOTE: The asbestos waste may be landfilled in an excavation at the bottom of |

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| | the operating face if no liner is present or the design depth restriction is not exceeded, or placed in a separately designated area if the area is clearly marked to prevent future excavation into the waste.)<br><br>Verify that proper handling precautions are taken to ensure that containers are not ruptured prior to placing the required daily cover. |
| **SO.135.14.AL.** Foundry ash handling must comply with specific requirements (ADEM Admin. Code R. 335-13-4-.26 (2)). | Verify that only foundry sand which exhibits less than 50 percent of each of the TC Levels for metals as defined by the USEPA's Toxicity Characteristic Leaching Procedure (TCLP) is managed under this protocol.<br><br>Verify that foundry sand is not managed in any of the following areas:<br><br>- flood plains<br>- wetlands<br>- residential zones<br>- areas less than 5 ft above the seasonal high groundwater table. |
| **SO.135.15.AL.** Petroleum contaminated waste disposal must comply with specific requirements (ADEM Admin. Code R. 335-13-4-.26 (3) (a) through (c)) [Revised July 1997]. | (NOTE: Petroleum contaminated waste with a TPH of less than 10 ppm is considered noncontaminated and is not regulated by the Department.)<br><br>Verify that petroleum contaminated waste is only disposed of in a permitted facility with groundwater monitoring wells.<br><br>Verify that prior to disposal of petroleum contaminated waste at a MSWLF, C/DLF, or industrial landfill, the following conditions are met:<br><br>- written certification from generator certifies that petroleum contaminated waste is nonhazardous supported by TPH analysis and/or TCLP analysis according to the following criteria:<br>  - TPH analysis is required for all petroleum contaminated waste certification<br>  - TCLP is required on used heavy petroleum contaminated waste or as determined by the Department<br>  - no TCLP will be required for petroleum contaminated waste containing less than 100 ppm TPH<br>  - TPH and TCLP sampling frequency as determined by the Department<br>- the petroleum contaminated waste is solidified to a bladeable consistency and certified to contain no free liquids (as defined by Method 9095, Paint Filter Liquid Test)<br>- TPH contaminated waste to be disposed of in an unlined, or clay lined, permitted landfill unit do not exceed the following TPH and Total Lead Limits: |

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| | **Petroleum Contaminant** / **TPH (Maximums)** / **Lead Analysis**<br>Light (gasoline and similar weights) / < 250 ppm / < 100 total (or certification < 5.0 TCLP statement that product is unleaded)<br>Medium (diesel and similar weights) / < 500 ppm / Not required<br>Heavy (motor oil and similar weights) / < 3,000 ppm / Used - TCLP required<br><br>written approval from ADEM is obtained prior to disposal.<br><br>(NOTE: Any petroleum contaminated waste in which the original product did not have a flash point < 140 $^{o}$F or would otherwise be classified as a light petroleum product may, upon Departmental approval, be disposed of at a permitted landfill unit which has been synthetically lined. Used heavy petroleum material is still subject to TCLP analysis.) |
| **SO.135.16.AL.** Petroleum contaminated waste from underground storage tanks (UST) must meet specific disposal requirements (ADEM Admin. Code R. 335-13-4-.26 (3) (d) and (e)). | Verify that petroleum contaminated waste from UST removals with a TPH between 10 ppm and 100 ppm meet the following criteria prior to onsite disposal:<br><br>- distance from land surface to existing groundwater is at least 5 ft<br>- soil is placed back in the excavation from which it was removed or spread in a thin layer onsite.<br><br>Verify that petroleum contaminated waste that exceeds the established TPH limits for disposal at a permitted landfill unit is remedied to acceptable levels by aeration, bioremediation, thermal treatment, or other Department-approved remediation method. |
| **SO.135.17.AL.** Municipal solid waste ash must be disposed of at a MSWLF with adequate liners (ADEM Admin. Code R. 335-13-4-.26 (4)) [Revised July 1997]. | Verify that municipal solid waste ash is disposed of at a MSWLF with composite liners. Alternative disposal methods or uses must be approved by the Department prior to implementation. |

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| **Closure Criteria** | |
| **SO.135.18.AL.** The landfill unit must have an approved closure/postclosure plan (ADEM Admin. Code R. 335-13-4-.20 (1)). | Verify that facilities submit a closure/postclosure plan to the Department and enter it into the operating record prior to initial receipt of waste or did so prior to 2 November 1993.<br><br>Verify that the closure/postclosure plan contains the following information:<br><br>- description of the final cover and methods and procedures to be used to install the cover<br>- estimate of the largest area of the landfill unit ever requiring a final cover at any time during the active life<br>- estimate of the maximum inventory of wastes ever onsite over the active life of the facility<br>- schedule for completing all activities necessary to satisfy the closure criteria. |
| **SO.135.19.AL.** Cover specifications in the closure plan must meet specific criteria (ADEM Admin. Code R. 335-13-4-.20 (2) and (3)). | Verify that a final cover system contains an erosion layer(s) underlain by an infiltration layer(s) which comply with the following criteria:<br><br>- infiltration layer is comprised of a minimum of 18 in. of earthen material and/or a synthetic layer that has a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than $1x10^{-5}$ cm/s, whichever is less<br>- erosion layer consists of a minimum 6 in. of earthen material that is capable of sustaining native plant growth.<br><br>(NOTE: The Department may approve an alternative final cover design which provides equivalent protection.)<br><br>Verify that final cover is graded in a manner which complies with the following criteria:<br><br>- surface water does not pond over the landfill unit<br>- maximum final grade of the final cover system does not exceed 25 percent or as specified by the Department to minimize erosion<br>- slopes longer than 25 ft utilize horizontal terraces, of sufficient width for equipment operation, for every 20 ft rise in elevation or utilize other erosion control measures approved by the Department<br>- minimum final grade of the final cover system is at least 5 percent or as specified by the Department to minimize ponding<br>- for a permitted facility utilizing the area-fill method or the trench method, final grading is completed within 90 days after the unity has received the last known receipt of waste. |

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| **SO.135.20.AL.** Vegetative growth or some other appropriate cover must be established on final cover (ADEM Admin. Code R. 335-13-4-.20 (4)). | Verify that a vegetative or some other appropriate cover is established within 90 days after completion of final grading of each phase or trench to minimize erosion and, when applicable, maximize evapotranspiration.<br><br>Verify that if vegetative cover is utilized the following requirements are met:<br><br>- deep rooted vegetation (roots that may grow below the 6 in. erosion layer) are not used<br>- cover is properly prepared for vegetation which includes:<br>- placement of appropriate species of grass seed, fertilizer, and mulch<br>- watering and maintenance necessary to reasonably anticipate germination. |
| **SO.135.21.AL.** Landfill units must notify the Department prior to commencing closure activities (ADEM Admin. Code R. 335-13-4-.20 (5)). | Verify that landfill units, prior to commencing closure activities, submit to the Department and place in the operating record notice of the intent to close. |
| **SO.135.22.AL.** Landfill closure activities must comply with specified deadlines (ADEM Admin. Code R. 335-13-4-.20 (6) and (7)). | Verify that closure activities begin no later than 30 days after the date the landfill unit receives the known final receipt of wastes.<br><br>(NOTE: Extensions may be granted by the Department for landfill units that demonstrate capacity to accept more waste and that steps have been taken to ensure the extension will not create a threat to human health and the environment.)<br><br>Verify that landfill units complete closure activities, in accordance with the closure plan, within 180 days following the last known receipt of waste. |
| **SO.135.23.AL.** Landfill closure activities must be certified (ADEM Admin. Code R. 335-13-4-.20 (8)). | Verify that following closure of the landfill unit, a certification by an independent registered professional engineer which verifies that closure has been completed in accordance with the closure plan is submitted to the Department and a copy is placed in the operating record. |
| **SO.135.24.AL.** After closure activities are complete, a | Verify that within 90 days after permit expiration or revocation or when final closure requirements are achieved as determined by the Department, a notation is |

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| notice must be placed on the property deed disclosing the previous use as a landfill (ADEM Admin. Code R. 335-13-4-.20 (14) and (15)). | recorded onto the land deed and/or some other legal instrument that is normally examined during a title search, that will in perpetuity, notify any potential purchaser of the property of the following information:<br><br>- the land has been used as a solid waste disposal facility landfill unit<br>- the restrictions of current use<br>- the locations and dimensions of the landfill unit with respect to permanently surveyed benchmarks and section corners on a plat prepared and sealed by a land surveyor<br>- the name of the permittee or operating agency, the type of landfill unit, and the beginning and closure dates of the disposal activity, all prominently displayed<br>- certification by an engineer or land surveyor that all closure requirements have been completed as determined necessary by the Department.<br><br>Verify that, within 120 days of recordation, a certified copy of the recording instrument is submitted to the Department and a copy is placed in the operating record. |
| **Postclosure Care Requirements** | |
| **SO.135.25.AL.** All landfill units must have an approved postclosure plan (ADEM Admin. Code R. 335-13-4-.20 (11)). | Verify that the landfill unit has a postclosure plan which has been submitted to the Department, placed in the operating record, and contains the following information:<br><br>- description of the required monitoring and maintenance activities (see below) and the frequency at which these activities will be performed<br>- name, address, and telephone number of the person or office to contact about the facility during the postclosure period<br>- description of the planned uses of the property during the postclosure period. |
| **SO.135.26.AL.** Specific postclosure monitoring and maintenance activities must be conducted for landfill units (ADEM Admin. Code R. 335-13-4-.20 (9) and (10)). | Verify that postclosure care is conducted for the applicable time period:<br><br>- if closed prior to 9 October 1993, a minimum of 5 yr<br>- if closed after 9 October 1993, a minimum of 30 yr.<br><br>(NOTE: The Department may increase or decrease the required postclosure period.)<br><br>Verify that postclosure care consists of at least the following: |

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| | - eroded areas are filled with suitable soil cover, compacted, graded and appropriate cover is established<br>- areas which provide for ponding of surface water are filled, graded and an appropriate cover is established<br>- landfilled areas with extensive surface cracks in soil cover are corrected as necessary, or as determined by the Department, to prevent infiltration of surface water<br>- appropriate cover is maintained on the facility at all times<br>- access control structures are maintained or erected and signs are posted stating that the facility is closed and giving the location of the nearest permitted landfill unit<br>- any waste dumped at the landfill unit following closure is removed to an approved landfill unit<br>- Department-determined deficiencies, such as vector control, are corrected monitoring devices and pollution control equipment (such as groundwater monitoring wells, explosive gas monitoring systems, erosion, and surface water control structures, and leachate facilities) are maintained.<br><br>(NOTE: Monitoring requirements continue in effect throughout the active life and postclosure care period as determined by the Department unless all solid waste is removed and no unpermitted discharge to waters has occurred.) |
| **SO.135.27.AL.** Postclosure use of the property must not disturb the integrity of the closure measures (ADEM Admin. Code R. 335-13-4-.20 (12)). | Verify that postclosure use of the property does not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the postclosure monitoring systems.<br><br>(NOTE: The Department may approve disturbances, including removal of waste, as long as no threat to human health or the environment are created or the activity is necessary to reduce such a threat.) |
| **SO.135.28.AL.** Department approval must be obtained prior to disturbance of any closure provisions or any deposited waste (ADEM Admin. Code R. 335-13-4-.20 (16)). | Verify that Department approval is obtained prior to any disturbance of the closure provisions, including removing waste, waste residues, the liner, or any contaminated soils.<br><br>(NOTE: The property owner may ask permission to remove the notation from the recording instrument if all waste and contaminated soils are removed from the property and no unpermitted discharges to waters have occurred.) |
| **SO.135.29.AL.** Upon | Verify that upon completion of the post-closure care period, certification is |

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| completion of the landfill unit postclosure care period, compliance with the postclosure requirements must be certified (ADEM Admin. Code R. 335-13-4-.20 (13)). | submitted to the Department, signed by an independent registered professional engineer verifying that postclosure care has been completed in accordance with the postclosure plan.<br><br>Verify that a copy of the certification is placed in the operating record. |
| **SO.135.30.AL.** A detailed design for landfill unit closure must be shown on a final contour and drainage plan (ADEM Admin. Code R. 335-13-4-.20 (17)). | Verify that a detail design for the closure of existing and proposed landfill units is shown on a final contour and drainage plan which includes closure and postclosure care requirements. |
| **Documentation** | |
| **SO.135.31.AL.** Landfill units must maintain a current operating record (ADEM Admin. Code R. 335-13-4-.29). | Verify that landfill units maintain at the facility or approved alternative location an operating record which contains the following information:<br><br>- Solid Waste Disposal Facility Permit issued by the Department<br>- permitted application, operational narrative, and engineering drawings, which may include:<br>  - any location restriction demonstration<br>  - any MSWLF unit design documentation for placement of leachate or gas condensate<br>- closure and postclosure care plans<br>- explosive gas monitoring plans<br>- corrective action plan which, if necessary, includes detection in assessment monitoring<br>- any other documentation submitted to the Department during the permitting process.<br>  - (NOTE: The Department must be notified when the above information is placed in the operating record.)<br>- required cost estimates and financial assurance documentation<br>- reports or documentation generated during the normal operation of the facility, which may include:<br>  - gas monitoring results from monitoring and any remediation plans<br>  - inspection records, training procedures, notification procedures<br>- any monitoring, testing, or analytical data concerning closure<br>- any demonstration, certification, finding monitoring, testing, or analytical data concerning groundwater monitoring and corrective action |

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| | - quarterly volume reports<br>- waste certifications<br>- any other report or document generated in the normal operation of the facility that is submitted to the Department. |

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| **SO.140.<br>CONSTRUCTION/<br>DEMOLITION<br>LANDFILLS** | (NOTE: These provisions include requirements for industrial landfills in addition to construction and demolition landfills. These provisions are in addition to those in SO.135.) |
| **SO.140.1.AL.** Construction and demolition landfills and industrial landfills must comply with specific cover requirements (ADEM Admin. Code R. 335-13-4-.23 (1)). | Verify that to control disease vectors, fires, odors, blowing litter, and scavenging, all waste is covered in accordance with the following criteria:<br>- a minimum of 6 in. of compacted earth or other Department-approved alternative cover material that includes but is not limited to:<br>- foams<br>- geosynthetic or waste products<br>- applied at the end of each week's operations or as otherwise approved by the Department. |
| **SO.140.2.AL.** All waste must be spread and compacted at construction and demolition landfills and industrial landfills (ADEM Admin. Code R. 335-13-4-.23 (2) and (3)). | Verify that all waste is confined to as small an area as possible and spread in layers not exceeding 2 ft.<br>Verify that waste is thoroughly compacted daily prior to placing additional layers of waste or weekly cover.<br>Verify that all waste is confined to as small an area as possible and placed on an appropriate slope of 4 to 1 (25 percent). |
| **SO.140.3.AL.** Construction and demolition landfills and industrial landfills must comply with operating requirements to protect public health and the environment (ADEM Admin. Code R. 335-13-4-.23 (4) through (8), (13),(15), and (17)). | Verify that the following operating requirements are met to protect public health and the environment:<br>- scavenging is prohibited<br>- salvaging operations are controlled in accordance with plans approved by the Department<br>- litter is controlled along the access roads, over the landfill unit, and adjoining property<br>- adequate fire control measures are established and followed<br>- site is adequately secured to prevent entry except when a trained operator or caretaker is onsite<br>- environmental monitoring and treatment structures are protected and maintained in good repair<br>- completed sites or portions of sites are properly closed in accordance with approved plans<br>- special provisions are made for handling large dead animals or highly |

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| | putrescible waste which includes:<br>- disposal in a designated area of the facility<br>- immediate covering<br>- a minimum of 12 in. of soil cover<br>- measures are taken to prevent the breeding or accumulation of disease vectors. |
| **SO.140.4.AL.** Construction and demolition landfills and industrial landfills must meet operating requirements to insure smooth and continued operations (ADEM Admin. Code R. 335-13-4-.23 (9) through (12),(14), and (16)). | Verify that the following operating requirements are met to insure smooth and continued operation of the facility:<br>- if the site is available to the general public or commercial haulers, at the entrance of the facility a sign outlining instructions for use of the site is posted which includes the following information:<br>- name of facility<br>- name of permittee and/or operating agency or person<br>- days and hours of operation<br>- disposal fees<br>- types of waste accepted<br>- an all-weather access road, wide enough to allow passage of collection vehicles, is provided to the dumping face<br>- provisions are included for disposal activities in adverse weather conditions<br>- adequate personnel are provided and are trained in landfill techniques<br>- if specifically required by the Department, personnel facilities (shelter, communications, lavatory, and toilet) are provided for employees' use and kept in clean and good repair<br>- if specifically required by the Department, equipment allocated to the landfill is properly maintained<br>- records are maintained on the daily volume of waste received by the C/DLF or ILF<br>- a quarterly report summarizing the daily volumes of waste is submitted to the Department and a copy placed in the operating record. |
| **SO.140.5.AL.** Construction and demolition landfills and industrial landfills must take precautions to prevent disposal of unapproved liquid waste (ADEM Admin. Code R. 335-13-4-.23 (18) and (19)). | Verify that the facility takes required measures to prevent disposal of unapproved liquid waste:<br>- bulk or noncontainerized liquid waste, or containers capable of holding liquids, are not accepted at the C/DLF or ILF unless either of the following are met:<br>- the liquid is leachate or gas condensate derived from the landfill, and the landfill is designed with a minimum single liner and leachate collection system or approved equivalent liner and leachate collection system<br>- the containers are designed to hold liquids for use other than storage |

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| | - empty containers larger than 10 gal are rendered unsuitable for holding liquids prior to delivery to the facility unless otherwise approved by the Department. |

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| **SO.160.<br>WASTE TIRES FACILITIES** | |
| **SO.160.1.AL.** The management of scrap tires must meet specific requirements (420-3-5-.12(5)). | (NOTE: Any site where more than 100 scrap tires are stored or placed for more than 10 days is in violation of Chapter 420-3-4-.12(5). Operational scrap tire processing or storage facilities must have filed an application for an exemption with the Local Health Board by 30 November 1994.)<br><br>Verify that scrap tires (unless stored at an operational tire processing facility) are stored under protective cover or shelter as approved by the local health officer. |

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| **SO.175.<br>OTHER TREATMENT/ PROCESSING UNITS** | (NOTE: The requirements of 420.3.5-.13 applies to any facility that shreds, grinds, bales, reclaims, recycles, or otherwise processes scrap tires or solid waste containing garbage prior to ultimate disposal or reuse. All processing facilities must be designed, located, constructed, operated, maintained, and closed in a sanitary manner that will not provide harborage for vermin or vectors, or create a nuisance menacing public health. These facilities are subject to inspection by the Local Health Officer or the Board, at least semiannually, including inspections performed at the time a permit is renewed or issued. More frequent inspections may be performed, if deemed necessary by the Local Health Officer.) |
| **SO.175.1.AL.** Processing must have a permit issued by the local health officer (ADPH Admin. Code R. 420-3-5-.13(1) [Citation Revised August 1998]. | (NOTE: Persons who process only their own solid waste containing garbage or scrap tires may not be required to have a permit. However, the processing activity must be conducted in a sanitary manner and adhere to the sanitary requirements for processing facilities.)<br><br>Verify that the processing facility has a permit and is operating within the conditions of the permit.<br><br>Verify that the permit is renewed annually.<br><br>(NOTE: The services of a registered engineer are required for the preparation of the permit application.) |
| **SO.175.2.AL.** Processing facilities must meet the same location and design requirements as for transfer stations (ADPH Admin. Code R. 420-3-5-.13 (2) and (3)) [Citation Revised August 1998]. | Verify that the processing facility meets the location and design requirements specified in SO.15.2 through SO.15.4. |
| **SO.175.3.AL.** Processing facilities are prohibited from processing specific wastes (ADPH Admin. Code R. 420-3-5-.13(4)(a) and (b)) [Citation Revised August | Verify that the processing facility does not receive or accept regulated hazardous waste, infectious waste, or explosive material or debris.<br><br>Verify that the processing facility notifies the local health office immediately if any prohibited waste is delivered or discovered at the facility and records complete information about the prohibited waste. |

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| 1998]. | information about the prohibited waste. |
| **SO.175.4.AL.** Processing facilities must meet specific operating requirements (ADPH Admin. Code R. 420-3-5-.13(4)(e) through (g), (i) through (m), (o), (p), (v), and (x) through (aa)) [Citation Revised August 1998]. | Verify that the following operational requirements are met:<br>- macerators, hammer mills, grinders, compactors, and other equipment is cleaned regularly and equipped with drains which connect to an approved sanitary sewer system or equivalent<br>- windblown litter and other debris is cleaned from around the facility on a daily basis<br>- weeds, grass, and other vegetation is trimmed regularly<br>- dust, noise, and odor is minimized to the extent possible during hours of operation<br>- plumbing is properly maintained and floors are well drained and free from standing water<br>- the facility and equipment are maintained and cleaned regularly<br>- all washdown water, leachate, wastewater, and storm and surface water are managed and disposed of by the methods approved in the facility permit<br>- access roads are maintained in good repair<br>- days and hours of operation are posted at the entrance and limited to times when authorized personnel are on duty<br>- appropriated onsite fire control equipment is available and additional fire-fighting equipment is available in emergencies through prior arrangements with the local fire department<br>- open burning of any type is prohibited<br>- solid waste containing garbage does not remain at the processing facility longer than 24 hr after it is received or deposited unless the local health officer approves<br>- scavenging is prohibited<br>- sanitary facilities and hand washing basins are maintained in good operational condition<br>- solid waste storage and containers meet the requirements of SO.10.1.AL. |
| **SO.179.5.AL.** Processing facilities must meet specific requirements in regard to public health and the environment (ADPH Admin. Code R. 420-3-5-.13(4)(c), (d), and (h)) [Citation Revised August 1998]. | Verify that accumulations of solid waste are managed effectively to preclude the creation of fly breeding or mosquito breeding, the harborage of vermin or vectors, or the contamination of ground or surface waters.<br><br>Verify the facility does not accept or receive any additional waste if the accumulation endangers ground or surface water, or creates fly or mosquito breeding conditions.<br><br>Verify that, if a significant work stoppage occurs and it is anticipated to last long enough to create fly breeding or mosquito breeding or harborage of vermin or vectors or other nuisance, the local health officer is notified within 24 hr of the |

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| | stoppage.<br><br>Verify that vermin and vectors control is acceptable to the local health official and accomplished by state certified or licensed pest control services. |
| **SO.179.6.AL.** Processing facilities must meet specific requirements in regard to personnel (ADPH Admin. Code R. 420-3-5-.13 (4)(n), (r) and (s)) [Citation Revised August 1998]. | Verify that an attendant is on duty during all operating hours.<br><br>Verify that attendants are trained to identify prohibited wastes and that their training is acceptable to the Board.<br><br>Verify that the operation and management of the facility is under the direct supervision and control of a individual qualified in operating processing facilities by training, education, or experience, including, but not limited to, the following items:<br><br>- knowledge of the emergency procedures of the local governing body and the local emergency management agency<br>- knowledge of the facility management plan<br>- a certification or license authorizing said person to identify hazardous waste<br>- basic knowledge of the usage of facility equipment<br>- completion of courses or programs as may be developed by organizations or industries that qualify an individual to manage a processing facility, as is determined by the Board.<br><br>Verify that facility personnel receive instruction, at least semiannually, on the operating manual and on worker safety, health, and hygiene. |
| **SO.179.7.AL.** Processing facilities must take specific actions at closure (ADPH Admin. Code R. 420-3-5-.13 (4)(w)) [Citation Revised August 1998]. | Verify that the local health officer is notified at least 90 days before the proposed closure date: verify that a closure plan is submitted at this time.<br><br>Verify that the closure plan is approved prior to closure and that closure is certified by a registered engineer.<br><br>Verify that access to the site is restricted. |
| **SO.179.8.AL.** Processing facilities must meet specific reporting and recordkeeping requirements (ADPH Admin. Code R. 420-3-5-.13(4)(t) and (u)) [Citation Revised August | Verify that an annual report is submitted to the local health officer.<br><br>Verify that the following records are maintained for at least 2 yr:<br><br>- sanitation and management practices that substantiate fulfillment of the operations plan |

| COMPLIANCE CATEGORY:<br>SOLID WASTE MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| 1998]. | - personnel instruction on worker health, safety, and hygiene<br>- county, city, or other point of generation, destination, and the date of each shipment of solid waste deposited at, or removed from, the facility, and the name and permit number (where applicable) of all persons who deposit or remove waste. |

**SECTION 10**

**STORAGE TANK MANAGEMENT**

**Alabama Supplement, July 2000**

This section covers the state requirements for Storage Tank Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

**Definitions**

- *Aboveground Release* - any release to the surface of the land or to the surface water. This includes, but is not limited to, releases from the aboveground portion of an UST system and aboveground releases associated with overfills and transfer operations as the regulated substances moves to or from an UST system (Alabama Department of Environmental Management (ADEM) Administrative Code Rule (Admin. Code R.) 335-6-15-.02).

- *ADEM* - the Alabama Department of Environmental Management (ADEM Admin. Code R. 335-6-15-.02).

- *Air Sticker* - a sticker to be affixed to a gasoline tank truck, representing issuance of an Air Permit and that the gasoline tank truck has been demonstrated during its most recent annual vapor leak testing to be leak-free (ADEM Admin. Code R. 335-3-6-.20(1)(a)).

- *Ancillary Equipment* - any devices, including, but not limited to, piping, fittings, valves, flanges, and pumps used to distribute, meter, or control the flow of regulated substances to and from an UST (ADEM Admin. Code R. 335-6-15-.02).

- *Belowground Release* - any release to the subsurface of the land, including releases to groundwater. This includes, but is not limited to, releases from the belowground releases associated with overfills and transfer operations as the regulated substance moves to or from an UST (ADEM Admin. Code R. 335-6-15-.02).

- *Bottom Filling* - the filling of a tank truck or stationary storage tank through an opening that is flush with the tank bottom (ADEM Admin. Code R. 335-3-6-.05(1)(a)).

- *Bulk Gasoline Plant* - a gasoline storage and distribution facility with an average daily throughput equal to or less than 76,000 L (20,000 gal) in any calendar month that receives gasoline from bulk terminals by trailer transport, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and gasoline dispensing facilities (ADEM Admin. Code R. 335-3-6-.06(1)(b)).

- *Bulk Gasoline Terminal* - a gasoline storage facility that receives gasoline from its supply source primarily by pipelines, ships, barges, and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank trucks and has an average daily throughput of more than 76,000 L (20,000 gal) of gasoline in any calendar month (ADEM Admin. Code R. 335-3-6-.06(1)).

- *Cathodic Protection* - a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. For example, a tank system can be cathodically protected through the application of either galvanic anodes or impressed current (ADEM Admin. Code R. 335-6-15-.02).

- *Compatible* - the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST (ADEM Admin. Code R. 335-6-15-.02).

- *Condensate* - hydrocarbon liquid separated from natural gas that condensates due to changes in the temperature and/or pressure and remains liquid at standard conditions (ADEM Admin. Code R. 335-3-6-.04(1)(a)).

- *Consumptive Use* - with respect to heating oil, means consumed on the premises (ADEM Admin. Code R. 335-6-15-.02).

- *Contaminant* - a regulated substance that has been released into the environment (ADEM Admin. Code R. 335-6-15-.02).

- *Crude Oil* - a naturally occurring mixture that consists of hydrocarbons and sulfur, nitrogen, and/or oxygen derivatives of hydrocarbons and which is a liquid in the reservoir at standard conditions (ADEM Admin. Code R. 335-3-6-.04(1)(b)).

- *Custody Transfer* - the transfer of produced crude oil and/or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other form of transportation (ADEM Admin. Code R. 335-3-6-.04(1)(c)).

- *Deferred USTs* - USTs which are exempt from meeting the requirements in 40 CFR 280 except those concerning release response and corrective action for UST systems containing petroleum or hazardous substances in 40 CFR 280.60 through 280.67. These tanks include: (40 CFR 280.10(c))
    1. wastewater treatment tank systems
    2. any UST systems containing radioactive material that are regulated under the *Atomic Energy Act* of 1954
    3. any UST system that is a part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR 50, Appendix A
    4. airport hydrant fuel distribution systems
    5. UST system with field-constructed tanks.
    (NOTE: See also the definitions for excluded USTs under the definition of underground storage tanks.)

- *Department* - the Alabama Department of Environmental Management (ADEM Admin. Code R. 335-6-15-.02).

- *Dielectric Material* - a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the UST system (e.g., tank from piping) (ADEM Admin. Code R. 335-6-15-.02).

- *Emission* - a release into the outdoor atmosphere of air contaminants (ADEM Admin. Code R. 335-3-1-.02(z)).

- *Excavation Zone* - the volume containing the tank system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation (ADEM Admin. Code R. 335-6-15-.02).

- *Existing Tank System* - a tank system used to contain an accumulation of regulated substances or for which installation has commenced on or before 1 June 1994. Installations are considered to have commenced if:
    1. the owner or operator has obtained all Federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system; and if,
    2. either a continuous onsite physical construction or installation program has begun; or,
    3. the owner or operator has entered into contractual obligations--which cannot be canceled or modified without substantial loss--for physical construction at the site or installation of the tank system to be completed within a reasonable time (ADEM Admin. Code R. 335-6-15-.02).

- *External Floating Roof* - a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck that rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell (ADEM Admin. Code R. 335-3-6-.04(1)(d)).

- *Free Product* - a regulated substance that is present as a nonaqueous phase liquid (e.g., a liquid not dissolved in water) (ADEM Admin. Code R. 335-6-15-.02).

- *Gasoline* - a petroleum distillate having a Reid vapor pressure of 27.6 kPa (4 psia) or greater and used as a fuel for internal combustion engines (ADEM Admin. Code R. 335-3-1-.02(gg)).

- *Gasoline Dispensing Facility* - any outlet where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks (ADEM Admin. Code R. 335-3-6-.07(b)).

- *Gathering Lines* - any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations (ADEM Admin. Code R. 335-6-15-.02).

- *Groundwater* - water below the land surface in a zone of saturation (ADEM Admin. Code R. 335-6-15-.02).

- *Hazardous Substance UST System* - an UST system that contains a hazardous substance defined in Section 101(14) of the *Comprehensive Environmental Response, Compensation and Liability Act* of 1980, (but is not a hazardous waste) or any mixture of such substances and petroleum, and which is not a petroleum UST system (ADEM Admin. Code R. 335-6-15-.02).

- *Heating Oil* - petroleum that is No. 1, No. 2, No. 4 light, No. 4 heavy, No. 5 light, No. 5 heavy, and No. 6 technical grades of fuel oil, other residual fuel oils, including Navy Special Fuel Oil and Bunker C, and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces (ADEM Admin. Code R. 335-6-15-.02).

- *Internal Floating Roof* - a cover or roof in a fixed roof tank that rests upon or is floated upon the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell (ADEM Admin. Code R. 335-3-6-.04(1)(e)).

- *Liquid Trap* - sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations, for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids in a gas stream (ADEM Admin. Code R. 335-6-15-.02).

- *Maintenance* - the normal operational upkeep to prevent an UST system from releasing product (ADEM Admin. Code R. 335-6-15-.02).

- *Motor Fuel* - petroleum or a petroleum based substance that is a motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and is typically used in the operation of a motor engine (ADEM Admin. Code R. 335-6-15-.02).

- *New Tank System* - a tank system that will be used to contain an accumulation of regulated substances and for which installation has commenced after 1 June 1994 (ADEM Admin. Code R. 335-6-15-.02).

- *On the Premises Where Stored* - with respect to heating oil means UST systems located on the same property where the stored heating oil is used (ADEM Admin. Code R. 335-6-15-.02).

- *Operational Life* - the period beginning when installation of the tank system has commenced until the time the tank system is properly closed (ADEM Admin. Code R. 335-6-15-.02).

- *Overfill Release* - a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of the regulated substance to the environment (ADEM Admin. Code R. 335-6-15-.02).

- *Person* - an individual, trust, firm, joint stock company, Federal agency, corporation, state municipality, commission, political subdivision of a state or any interstate body, and the United States Government (ADEM Admin. Code R. 335-6-15-.02).

- *Petroleum UST System* - an underground storage tank system that contains petroleum or a mixture of petroleum with *de minimis* quantities of other regulated substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oil (ADEM Admin. Code R. 335-6-15-.02).

- *Pipeline Facilities* - including gathering lines, are new and existing pipe rights-of-way and any associated equipment, facilities, or buildings (ADEM Admin. Code R. 335-6-15-.02).

- *Regulated Substance* - any substance defined in section 101(14) of the *Comprehensive Environmental response, Compensation, and Liability Act* of 1980 (but not regulated as a hazardous waste), and petroleum, including crude oil or any fraction thereof that is liquid at standard conditions of temperature and pressure. The term includes, but is not limited to, petroleum and petroleum-based substances comprised of a complex blend of separation, conversion, upgrading, and finishing, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils (ADEM Admin. Code R. 335-6-15-.02).

- *Reid Vapor Pressure* - a vapor pressure specification for volatiles crude oil and volatile nonviscous petroleum liquids except liquid petroleum gases as determined by the American Society for Testing and Materials. The pressure approximates the absolute vapor pressure of the liquid (ADEM Admin. Code R. 335-3-1-.02(kkk)).

- *Release* - any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from an UST into groundwater, surface water, or subsurface soils (ADEM Admin. Code R. 335-6-15-.02).

- *Release Detection* - determining whether a release of a regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it (ADEM Admin. Code R. 335-6-15-.02).

- *Repair* - to restore a tank or UST system component that has caused a release of product from the UST system (ADEM Admin. Code R. 335-6-15-.02).

- *Residential Tank* - a tank located on property used primarily for dwelling purposes (ADEM Admin. Code R. 335-6-15-.02).

- *Septic Tank* - a water-tight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility (ADEM Admin. Code R. 335-6-15-.02).

- *Stormwater or Wastewater Collection System* - piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water runoff resulting from precipitation, or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of stormwater and wastewater does not include treatment except where incidental to conveyance (ADEM Admin. Code R. 335-6-15-.02).

- *Submerged Fill Pipe* - any fill pipe, the discharge opening of which is entirely submerged when the liquid level is 6 in. above the bottom of the tank; or when applied to a tank which is loaded from the side, means any fill

pipe, that the tip of the discharge opening is not over 18 in. from the bottom of the tank (ADEM Admin. Code R. 335-3-1-.02(www)).

- *Surface Impoundment* - a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials, although it may be lined with manmade materials, that is not an injection well (ADEM Admin. Code R. 335-6-15-.02).

- *Tank* - a stationary device designed to contain an accumulation of regulated substances and constructed of nonearthen materials (e.g., concrete, steel, plastic) that provide structural support (ADEM Admin. Code R. 335-6-15-.02).

- *True Vapor Pressure* - the equilibrium partial pressure exerted by a stored petroleum liquid at the temperature equal to the highest calendar month average of the liquid storage temperature as determined in accordance with methods described in the American Petroleum Institute Bulletin 2517, *Evaporation Loss from External Floating Roof Tanks*, 1962, Second Edition, February 1980 (ADEM Admin. Code R. 335-3-1-.02(bbbb)).

- *Underground Area* - an underground room, such as a basement, cellar, shaft, or vault, providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor (ADEM Admin. Code R. 335-6-15-.02).

- *Underground Storage Tank or UST* - any one or combination of tanks, including underground pipes connected to it, that is used to contain an accumulation of regulated substances, and the volume of which is 10 percent or more beneath the surface of the ground. This term does not include the following:
    1. farm or residential tanks of 1100 gal or less capacity used for storing motor fuel for noncommercial purposes
    2. tanks used for storing heating oil for consumptive use on the premises where stored
    3. septic tanks
    4. pipeline facilities regulated under the *Natural Gas Pipeline Safety Act* of 1968, the *Hazardous Liquid Pipeline Safety Act* of 1979, or any state laws comparable to those
    5. surface impoundments, pits, ponds, or lagoons
    6. stormwater or wastewater collection systems
    7. flow-through process tanks
    8. liquid traps related to oil or gas production and gathering operations
    9. storage tanks situated in an underground area, if the tank is situated upon or above the surface of the floor
    10. other tanks exempted by the USEPA
    11. piping connected to any of the above exceptions (ADEM Admin. Code R. 335-6-15-.02).

- *Upgrade* - the addition or retrofit of some systems such as cathodic protection, lining, or spill and overfill controls to improve the ability of an UST system to prevent the release of product (ADEM Admin. Code R. 335-6-15-.02).

- *Used Oil* - any oil that has been refined from crude oil or any synthetic oil that has been used, and as a result of such use is contaminated by physical or chemical impurities.

- *Vapor Balance System* - a combination of pipes or hoses that create a closed system between the vapor spaces of an unloading and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded (ADEM Admin. Code R. 335-3-6-.05(1)(d)).

- *Wastewater Treatment Tank* - a tank that is designated to receive and treat an influent wastewater through physical, chemical, or biological methods (ADEM Admin. Code R. 335-6-15-.02).

- *Waxy, Heavy Pour Crude Oil* - a crude oil with a pour point of 10 °C (50 °F) or higher as determined by the American Society for Testing Materials Standard D 97-66, *Test for Pour Point of Petroleum Oils* (ADEM Admin. Code R. 335-3-6-.23(1)(h)).

**STORAGE TANK MANAGEMENT**
**GUIDANCE FOR ALABAMA CHECKLIST USERS**

| | **REFER TO CHECKLIST ITEMS:** |
|---|---|
| Missing Checklist Items | ST.2.1.AL. |
| Aboveground Storage Tanks | ST.5.1.AL. |
| Emissions/Discharges From Bulk Gasoline Terminals | |
| General | ST.10.1.AL. |
| Jefferson County | ST.10.2.AL. |
| Bulk Gasoline Plants: General | ST.10.3.AL. |
| Bulk Gasoline Plants: Jefferson County | ST.10.4.AL. |
| Emissions/Discharges From POL Storage Vessels | |
| Fixed-Roof Petroleum Liquid Storage Vessels: | |
| General | ST.15.1.AL. and ST.15.2.AL. |
| Jefferson County | ST.15.3.AL. |
| Petroleum Liquid Storage in External Floating Roof Tanks: | |
| Jefferson County | ST.15.4.AL. |
| Etowah, Mobile, and Russell Counties | ST.15.5.AL. |
| Gasoline Dispensing Facilities: | |
| General | ST.15.6.AL. |
| Jefferson County | ST.15.7.AL. |
| Leaks from Gasoline Tank Truck and Vapor Collection Systems: | |
| Jefferson County | ST.15.8.AL. |
| Etowah, Mobile, and Russell Counties | ST.15.9.AL. |
| Emissions/Discharges from VOL Storage Vessels | |
| VOC Loading and Storage | ST.20.1.AL.. and ST.20.2.AL.. |
| UST State-Specific | ST.30.1.AL. through ST.30.3.AL. |
| New or Upgraded USTs | ST.35.1.AL. through ST.35.3.AL. |
| UST Filling | ST.45.1.AL. |
| UST Corrosion Protection | ST.50.1.AL. |
| UST Repairs | ST.55.1.AL. |
| Release Detection for USTs | |
| General | ST.60.1.AL. |
| Petroleum USTs | ST.65.1.AL. and ST.65.2.AL. |
| Hazardous Substance USTs | ST.70.1.AL. |
| UST Releases | ST.80.1.AL. through ST.80.5.AL. |
| Deferred USTs | ST.85.1.AL. |
| UST Documentation | ST.90.1.AL. through ST.90.3.AL. |
| Changes in Service or Closure of USTs | ST.95.1.AL. through ST.95.3.AL. |
| Hazardous Waste Storage Tanks | |
| Small Quantity Generators | ST.100.1.AL. |
| Generators | ST.105.1.AL. |
| TSD Facilities | ST.110.1.AL. |
| Used Oil Storage Tanks | |
| Generators | ST.125.1 through ST.125.6 |

**COMPLIANCE CATEGORY:**

| STORAGE TANK MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ST.2.<br>MISSING CHECKLIST ITEMS** | |
| **ST.2.1.AL.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the Federal facility is in compliance with all applicable and newly issued regulations. |

| COMPLIANCE CATEGORY:<br>STORAGE TANK MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ST.5.<br>ABOVEGROUND STORAGE TANKS** | (NOTE: ADEM has adopted the regulations concerning aboveground storage tanks (ASTs) listed in the National Fire Protection Association Codes 30 and 30A (1990 edition). See the U.S. TEAM Guide for regulations concerning AST management.) |
| **ST.5.1.AL.** Aboveground storage tanks must be registered with the Department of Environmental Management (Code of Alabama, Title 22, Chapter 35). | Verify that aboveground storage tanks in use on 1 August 93 or brought into use after 1 August 93 are registered with the Department of Environmental Management. |

| COMPLIANCE CATEGORY:<br>STORAGE TANK MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ST.10. EMISSIONS/ DISCHARGES FROM BULK GASOLINE TERMINALS** | (NOTE: The following are exempt from the requirements for bulk gasoline terminals:<br>- sources in Jefferson County<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month.) |
| **General** | |
| **ST.10.1.AL.** Federal facilities must meet specific requirements for bulk gasoline terminals (ADEM Admin. Code R. 335-3-6-.06). | Verify that all requirements for bulk gasoline terminals are met when gasoline is loaded into any tank truck or trailer from any bulk gasoline terminal.<br><br>Verify that any bulk gasoline terminal is equipped with a vapor recovery system which is properly [not defined] installed, in good working order, and in operation.<br><br>Verify that any vapor recovery system does not allow mass emissions of VOCs from control equipment to exceed 80 mg/L of gasoline loaded.<br><br>Verify that any vapor recovery system consists of one of the following devices:<br><br>- an adsorber or condensation system that processes and recovers at least 90 percent by weight of all vapors and gases from the equipment being controlled<br>- a vapor collection system that directs all vapors to a fuel gas system<br>- an alternative control system of at least equivalent efficiency approved by the Director.<br><br>Verify that all displaced vapors and gases are vented only to the vapor control system.<br><br>Verify that either of the following requirements is met:<br><br>- liquid is prevented from draining from the loading device when it is not in use or<br>- complete liquid drainage is accomplished before loading devices are disconnected. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | Verify that all loading and vapor lines are equipped with fittings making vapor-tight connections and closing automatically when disconnected.<br><br>Verify that the gasoline tank truck or trailer has a valid Department Air Sticker attached and visibly displayed.<br><br>Verify that the pressure in the vapor collection system does not exceed the tank truck or trailer pressure relief settings.<br><br>Verify that the Federal facility does not dispose of waste gasoline in sewers, open containers, or in a manner that would result in evaporation. |
| **Emissions From Bulk Gasoline Terminals** | (NOTE: The following are exempt from the requirements for bulk gasoline terminals in Jefferson County:<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit.) |
| **ST.10.2.AL.** Federal facilities must meet specific requirements for bulk gasoline terminals in Jefferson County (ADEM Admin. Code R. 335-3-6-.29). | Verify that any bulk gasoline terminal is equipped with a vapor recovery equipment system properly [not defined] installed, in good working order, and consisting of one of the following control devices:<br><br>- an adsorber or condensation system which processes and recovers at least 90 percent by weight of all vapors and gases from the equipment being controlled<br>- a vapor collection system which directs all vapors to a fuel gas system<br>- an alternative control equipment system approved by the Director.<br><br>Verify that all displaced vapors and gases are vented only to the vapor control system.<br><br>Verify that either liquid drainage from the loading device does not occur when the device is not in use, or complete drainage is accomplished before the loading service device is disconnected.<br><br>Verify that all loading and vapor lines are equipped with fittings making vapor- |

| COMPLIANCE CATEGORY:<br>STORAGE TANK MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | tight connections and closing automatically when disconnected.<br><br>Verify that any gasoline tank truck or trailer has a valid Jefferson County Department of Health Air Sticker attached and visibly displayed.<br><br>Verify that control devices used in any vapor recovery equipment system does not allow mass emissions of VOCs to exceed 80 mg/L of gasoline loaded.<br><br>Verify that bulk gasoline terminals and the appurtenant equipment necessary to load the gasoline tank truck or trailer compartments do not allow the pressure in the vapor collection system to exceed the gasoline tank truck or trailer pressure relief settings.<br><br>Verify that bulk gasoline terminals and the appurtenant equipment necessary to load the gasoline tank truck or trailer compartments do not dispose of waste gasoline in sewers, open containers, or in a manner that results in evaporation.<br><br>Verify that the following recordkeeping and reporting requirements for gasoline bulk terminals are met:<br><br>- records of the annual throughput quantities and types of volatile petroleum liquids stored in each storage tank are maintained<br>- daily records of all gasoline tank trucks and trailers loaded or unloaded, as well as the Jefferson County Department of Health Air Sticker number of each gasoline tank truck or trailer, are maintained for at least 2 yr.<br><br>Verify that records of the annual throughput quantities and types of volatile petroleum liquids stored in each storage tank are submitted to the Director annually as a summary report.<br><br>(NOTE: Storage tanks of less than 3785 L (1000 gal) capacity are exempt from the requirements for bulk gasoline plants. Also, the following are exempt from the requirements for bulk gasoline plants:<br>- sources in Jefferson County<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month.) |
| **ST.10.3.AL.** Bulk gasoline plants, and tank trucks or trailers delivering gasoline at bulk gasoline plants, must | Verify that each stationary storage tank into which gasoline is dispensed meets the following equipment requirements:<br><br>- has a vapor balance system |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| meet specific requirements (ADEM Admin. Code R. 335-3-6-.05). | - is equipped with one of the following:<br>- a submerged fill pipe, approved by the Director<br>- a fill line with a discharge opening not more than 18 in. from the bottom of the tank.<br><br>Verify that each tank truck or trailer unloading at a bulk gasoline plant is equipped with a vapor balance system and meets the following requirements:<br><br>- has a vapor collection system approved by the Department<br>- has either a valid Department Air Sticker or a valid Jefferson County Department of Health Air Sticker attached and visibly displayed.<br><br>Verify that the following requirements are met when gasoline is transferred from a tank truck or trailer to a stationary storage tank:<br><br>- vapor balance system is in good working order and is connected and operating<br>- gasoline tank truck or trailer hatches are covered at all times during unloading operations<br>- there are no leaks in the following equipment:<br>- pressure/vacuum relief valves and hatch covers on tank trucks or trailers<br>- tank trucks or storage tanks<br>- associated vapor and liquid lines during unloading<br>- the pressure relief valves on aboveground storage vessels and tank trucks or trailers are set to release at no less than 4.8 kPa (0.7 psia) or the highest possible pressure (in accordance with state or local fire codes or the National Fire Prevention Association guidelines)<br>- the gasoline tank truck or trailer has a valid Department Air Sticker attached and visibly displayed.<br><br>Verify that the following requirements are met when gasoline is being loaded into any tank truck or trailer returning with vapors from sources affected by gasoline dispensing facilities requirements:<br><br>- the storage tank is equipped with a vapor balance system<br>- the tank truck or trailer has a vapor collection system approved by the Department<br>- the tank truck or trailer has either a valid Department Air Sticker or a valid Jefferson County Department of Health Air Sticker attached and visibly displayed<br>- equipment is available at the bulk gasoline plant to provide for the submerged filling of each tank truck or trailer<br>- each tank truck or trailer is equipped for bottom filling.<br><br>Verify that the Federal facility does not dispose of waste gasoline in sewers, open containers, or in a manner that would result in evaporation.<br><br>Verify that any vapor balance system used on any stationary storage tank, tank |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| | truck or trailer is approved by the Director and consists of the following major components:<br><br>- a vapor space connection on the stationary storage tank equipped with fittings that are vapor-tight and immediately close upon disconnection so as to prevent the release of organic compounds<br>- a connecting pipe or hose equipped with fittings that are vapor-tight and automatically and immediately close upon disconnection to prevent release of organic compounds<br>- a vapor space connection on the tank truck or trailer equipped with fittings that are vapor-tight and automatically and immediately close upon disconnection so as to prevent release of organic material. |
| **Emissions From Bulk Gasoline Terminals** | (NOTE: The following are exempt from the requirements for bulk gasoline plants in Jefferson County:<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long is the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit<br>- stationary storage tanks of less than 3785 L (1000 gal) capacity.) |
| **Bulk Gasoline Plants: Jefferson County** | |
| **ST.10.4.AL.** Federal facilities must meet specific requirements for the unloading, loading, and storage operations of any bulk gasoline plant (ADEM Admin. Code R. 335-3-6-.28). | Verify that any stationary tank meets the following requirements before it unloads or loads gasoline:<br><br>- is equipped with a vapor balance system approved by the Director<br>- meets either of the following fill requirements:<br>- is equipped with a submerged or bottom fill pipe approved by the Director<br>- is equipped with a fill line with a discharge opening not over 18 in. from the bottom of the tank.<br><br>Verify that any tank truck or trailer meets the following requirements before it unloads or loads gasoline:<br><br>- is equipped with a vapor balance system approved by the Director<br>- meets either of the following fill requirements: |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | - equipment is available at the bulk gasoline plant to allow for the submerged filling of each gasoline tank truck or trailer<br>- each gasoline tank truck or trailer is equipped for bottom filling.<br><br>Verify that the following requirements are met when gasoline is transferred between any gasoline tank truck or trailer and a stationary storage tank:<br><br>- requirements for the unloading and loading of any stationary storage tank and any gasoline tank truck or trailer are met<br>- the vapor balance system is in good working order, connected, and operating<br>- gasoline tank truck or trailer hatches are closed and vapor-tight at all times during loading operations<br>- there are no leaks in any gasoline tank truck's or trailer's pressure/vacuum relief valves, hatch covers, truck tank, storage tank, or associated vapor and liquid lines during loading and unloading<br>- the pressure relief valves on stationary storage vessels and gasoline tank trucks or trailers are set to release at least 4.8 kPa (0.7 psia) or the highest possible pressure (in accordance with the state or local fire codes or the National Fire Prevention Association guidelines)<br>- the gasoline tank truck or trailer has a valid Jefferson County Department of Health Air Sticker attached and visibly displayed.<br><br>Verify that any vapor balance system consists of the following major components:<br><br>- a vapor space connection on the stationary storage tank equipped with fittings that are vapor-tight and automatically and immediately close upon disconnection to prevent the release of organic compounds<br>- a connecting pipe or hose equipped with fittings which are vapor-tight and automatically and immediately close upon disconnection to prevent release of organic compounds<br>- a vapor space connection on the gasoline tank truck or trailer equipped with fittings that are vapor-tight and automatically and immediately close upon disconnection to prevent release of organic material.<br><br>Verify that no bulk gasoline plant disposes waste gasoline in sewers, open containers, or in a manner that results in evaporation.<br><br>Verify that the following recordkeeping and reporting requirements for gasoline bulk plants are met:<br><br>- records of the annual throughput quantities and types of volatile petroleum liquids stored in each storage tank are maintained<br>- daily records of all gasoline tank trucks and trailers loaded or unloaded, as well as the Jefferson County Department of Health Air Sticker number of each gasoline tank truck or trailer, are maintained for at least 2 yr.<br><br>Verify that records of the annual throughput quantities and types of volatile petroleum liquids stored in each storage tank are submitted to the Director |

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| | annually as a summary report. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **ST.15. EMISSIONS/ DISCHARGES FROM POL STORAGE VESSELS** | |
| **Fixed-Roof Petroleum Liquid Storage Vessels: General** | (NOTE: The following sources are exempt from requirements for fixed-roof petroleum liquid storage vessels:<br>- sources in Jefferson County<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month<br>- vessels containing petroleum liquids with a true vapor pressure equal to or less than 10.5 kPa (1.52 psia), as long as records of the average monthly storage temperature than the true vapor pressure of the liquid stored are maintained if the product has a stored true vapor pressure greater than 7.0 kPa<br>- petroleum liquid storage vessels that meet either of the following criteria:<br>- are equipped with external floating roofs before 1 July 1979<br>- have capacities less than 1,600,000 L (423,000 gal) used to store produced crude oil and condensate prior to lease custody transfer. |
| **ST.15.1.AL.** Federal facilities must meet specific requirements for fixed-roof petroleum liquid storage vessels (ADEM Admin. Code R. 335-3-6-.04). | Verify that any fixed-roof petroleum storage vessel with a capacity greater than 150,000 L (40,000 gal) containing petroleum liquids with a true vapor pressure greater than 10.5 kPa (1.52 psia) meets the following requirements:<br>- routine inspections are conducted through roof hatches once every 6 mo<br>- a complete inspection is conducted whenever the vessel is emptied for nonoperational reasons<br>- one of the following retrofit requirements is met:<br>- the source has been retrofitted with an internal floating roof equipped with a closure seal(s) to close the space between the roof edge and tank wall<br>- the source has been retrofitted with equally effective alternative control, approved by the Director<br>- there are no visible holes, tears, or other openings in the seal or any seal fabric or materials<br>- all openings (except stub drains) are equipped with covers, lids, or seals to insure the following:<br>- the cover, lid, or seal is in the closed position at all times (except when in actual use) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS: July 2000** |
| | - automatic bleeder vents are closed at all times (except when the roof is floated off or landed on the roof leg support)<br>- rim vents, if provided, are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting. |
| **ST.15.2.AL.** [Deleted November 1996]. | |
| **Emissions From POL Storage Vessels** | (NOTE: The following are exempt from the requirements for fixed-roof petroleum liquid storage vessels in Jefferson County:<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long is the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit<br>- liquid storage vessels equipped with external floating roofs before 1 July 1979<br>- liquid storage vessels with capacities less than 1,601,224 L (423,000 gal) used to store produced crude oil and condensate prior to lease custody transfer<br>- liquid storage vessels containing petroleum liquids with a true vapor pressure is equal to or less than 10.5 kPa (1.5 psia), as long as records of the following are maintained:<br>- the average monthly storage temperature<br>- the true vapor pressure of the petroleum liquid stored if the product has a stored true vapor pressure greater than 7.0 kPa (1.0 psia).) |
| **Fixed-Roof Petroleum Liquid Storage Vessels: Jefferson County** | |
| **ST.15.3.AL.** Federal facilities must meet specific requirements for fixed-roof petroleum liquid storage vessels in Jefferson County (ADEM Admin. Code R. 335-3-6-.27). | Verify that any fixed-roof storage vessel with a capacity greater than 151,416 L (40,000 gal) containing petroleum liquids whose true vapor pressure is greater than 10.5 kPa (1.52 psia) under actual storage conditions meets all requirements for fixed-roof petroleum liquid storage vessels in Jefferson County.<br><br>Verify that the following operating requirements are met:<br><br>- the vessel is retrofitted with either of the following:<br>- an internal floating roof equipped with a closure seal(s) to close the |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| | space between the roof edge and the tank wall<br>- alternative control equipment approved by the Director<br>- the vessel is maintained so that there are no visible holes, tears, or other openings in the seal or seal fabric and materials<br>- all openings (except stub drains) are equipped with covers, lids, or seals so that the following requirements are met:<br>- the cover, lid, or seal is closed at all times (except when in actual use)<br>- automatic bleeder vents are closed at all times (except when the roof is floated off or landed on the roof leg support)<br>- rim vents, if present, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.<br><br>Verify that routine inspections are conducted through roof hatches once every 6 mo.<br><br>Verify that a complete inspection of cover and seals is conducted whenever the tank is emptied for nonoperational reasons.<br><br>(NOTE: The following are exempt from the requirements for petroleum liquid storage in external floating roof tanks in Jefferson County:<br>- petroleum liquid storage vessels used to store waxy, heavy pour crude oil<br>- petroleum liquid storage vessels with capacities less than 1,601,224 L (423,000 gal) and are used to store produced crude oil and condensate prior to custody transfer<br>- petroleum liquid storage vessels that contain a petroleum liquid with a true vapor pressure of less than 10.5 kPa (1.5 psia)<br>- petroleum liquid storage vessels that meet one of the following construction criteria:<br>- contain a petroleum liquid with a true vapor pressure less than 27.6 kPa (4.0 psia) and meet both of the following criteria:<br>- are of welded construction<br>- presently possess a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid filled type seal, or other equivalent device approved by the Director<br>- are of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal)<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long is the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit.) |

| COMPLIANCE CATEGORY:<br>STORAGE TANK MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **Petroleum Liquid Storage In External Floating Roof Tanks: Jefferson County** | |
| **ST.15.4.AL.** Federal facilities must meet specific requirements for petroleum liquid storage in external floating roof tanks in Jefferson County (ADEM Admin. Code R. 335-3-6-.44). | Verify that the Federal facility meets all the requirements for petroleum liquid storage vessels equipped with external floating roofs with capacities greater than 150,146 L (40,000 gal).<br><br>Verify that any petroleum liquid storage vessel equipped with an external floating roof and with a capacity greater than 150,146 L (40,000 gal) meets the following requirements:<br><br>- vessel has been fitted with one of the following control devices:<br>  - a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal), or<br>  - a closure or other device to control VOC emissions, approved by the Director<br>- seal closure devices meet the following requirements:<br>  - there are no visible holes, tears, or other openings in the seal(s) or seal fabric<br>  - the seals are intact and uniformly in place around the circumference of the floating roof between the floating roof and tank wall<br>- for vapor mounted seals, the area of accumulated gaps between the secondary seal and the tank wall do not exceed 21.2 $cm^2$/m (1.0 $in.^2$/ft) of tank diameter<br>- all openings in the external floating roof (except for automatic bleeder vents, rim space vents, and leg sleeves) are equipped with the following:<br>  - covers, seals, or lids in the closed position (except when the openings are in actual use)<br>  - projections into the tank which remain below the liquid surface<br>- automatic bleeder vents are closed at all times (except when the roof is floated off or landed on the leg supports)<br>- rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting<br>- emergency roof drains with slotted membrane fabric covers or their equivalent, covering at least 90 percent of the area of the opening are present.<br><br>Verify that any petroleum liquid storage vessel equipped with an external floating roof and with a capacity greater than 150,146 L (40,000 gal) meets the following inspection, measuring, and recordkeeping requirements:<br><br>- vessels are inspected semiannually, including a visual inspection of the secondary seal gap<br>- the secondary seal gap is measured annually when the floating roof is equipped with a vapor-mounted primary seal<br>- records of the throughput quantities and types of volatile petroleum liquids stored are maintained. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | Verify that the following records are maintained for any petroleum liquid external floating roof tank containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia) (even if the vessel is not required to meet other Alabama requirements):<br><br>- average monthly storage temperature<br>- type of liquid<br>- throughput quantities<br>- maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 7.0 kPa.<br><br>Verify that the following data are submitted to the Director at least once/yr:<br><br>- results of routine monthly inspections<br>- secondary seal gap measurements<br>- amounts and physical properties of stored liquids.<br><br>Verify that copies of all records and annual reports are maintained for at least 2 yr. |
| **Emissions From POL Storage Vessels** | (NOTE: The following are exempt from the requirements for petroleum liquid storage in external floating roof tanks:<br>- petroleum liquid storage vessels used to store waxy, heavy pour crude oil<br>- petroleum liquid storage vessels with capacities less than 1,600,000 L (423,000 gal) and are used to store produced crude oil and condensate prior to custody transfer<br>- petroleum liquid storage vessels that contain a petroleum liquid with a true vapor pressure of less than 10.5 kPa (1.5 psia)<br>- petroleum liquid storage vessels that meet one of the following construction criteria:<br>- contain a petroleum liquid with a true vapor pressure less than 27.6 kPa (4.0 psia) and meet both of the following criteria:<br>- are of welded construction<br>- presently possess a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted, liquid-filled type seal, or other equivalent device approved by the Director<br>- are of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal)<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **Petroleum Liquid Storage In External Floating Roof Tanks: Etowah, Mobile, And Russell Counties** | |
| **ST.15.5.AL.** Federal facilities must meet specific requirements for petroleum liquid storage in external floating roof tanks located in Etowah, Mobile, and Russell Counties (ADEM Admin. Code R. 335-3-6-.23). | Verify that the Federal facility meets all the requirements for petroleum liquid storage vessels equipped with external floating roofs with capacities greater than 150,000 L (40,000 gal).<br><br>Verify that any petroleum liquid storage vessel equipped with an external floating roof and with a capacity greater than 150,000 L (40,000 gal) meets the following requirements:<br><br>- vessel has been fitted with one of the following control devices:<br>  - a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal)<br>  - a closure or other device to control VOC emissions, approved by the Director<br>- seal closure devices meet the following requirements:<br>  - there are no visible holes, tears, or other openings in the seal(s) or seal fabric<br>  - the seals are intact and uniformly in place around the circumference of the floating roof between the floating roof and tank wall<br>  - for vapor mounted seals, the area of accumulated gaps between the secondary seal and the tank wall do not exceed 21.2 cm2/m (1.0 in.2/ft) of tank diameter<br>- all openings in the external floating roof (except for automatic bleeder vents, rim space vents, and leg sleeves) are equipped with the following:<br>  - covers, seals, or lids in the closed position (except when the openings are in actual use)<br>  - projections into the tank which remain below the liquid surface<br>  - automatic bleeder vents are closed at all times (except when the roof is floated off or landed on the leg supports)<br>- rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting<br>- emergency roof drains with slotted membrane fabric covers or their equivalent, covering at least 90 percent of the area of the opening are present.<br><br>Verify that any petroleum liquid storage vessel equipped with an external floating roof and with a capacity greater than 150,000 L (40,000 gal) meets the following inspection, measuring, and recordkeeping requirements:<br><br>- vessels are inspected semiannually, including a visual inspection of the secondary seal gap<br>- the secondary seal gap is measured annually when the floating roof is |

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| | equipped with a vapor-mounted primary seal<br>- records of the throughput quantities and types of volatile petroleum liquids stored are maintained.<br><br>Verify that the following records are maintained for any petroleum liquid external floating roof tank containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia) (even if the vessel is not required to meet other Alabama requirements):<br><br>- average monthly storage temperature<br>- type of liquid<br>- throughput quantities<br>- maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 7.0 kPa.<br><br>Verify that the following data are submitted to the Director at least once/yr:<br><br>- results of routine monthly inspections<br>- secondary seal gap measurements<br>- amounts and physical properties of stored liquids.<br><br>Verify that copies of all records and annual reports are maintained for at least 2 yr. |
| **Emissions From POL Storage Vessels** | (NOTE: The following are exempt from the requirements for gasoline dispensing facilities:<br>- sources in Jefferson County<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance, as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from the source do not exceed 363 kg (800 lb) in any calendar month<br>- transfers made to storage tanks or gasoline dispensing facilities equipped with floating roofs or their equivalent<br>- transfers made to stationary gasoline storage tanks of less than 11,356 L (3000 gal) capacity<br>- stationary gasoline storage containers of less than 2082 L (550 gal) capacity used exclusively for the fueling of implements of husbandry, as long as the containers are equipped with submerged fill pipe<br>- any new or modified existing facility, regardless of tank upgrade, with an actual or expected throughput of gasoline of less than 4000 gal/mo for the months of June, July, and August during full operation, as long as gasoline storage tanks that are not otherwise exempted are equipped with a submerged fill pipe.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **Gasoline Dispensing Facilities: General** | |
| **ST.15.6.AL.** Federal facilities must meet specific requirements for gasoline dispensing facilities (ADEM Admin. Code R. 335-3-6-.07). | Verify that the Federal facility meets all the requirements for any gasoline dispensing facility meeting either of the following criteria:<br><br>- construction commenced after 1 October 1990<br>- tanks were replaced, upgraded, modified, reconstructed, altered, or removed after 1 October 1990.<br><br>Verify that any storage tank into which gasoline is being transferred from a gasoline tank truck is equipped with a submerged fill pipe and a vapor control system that processes vapors displaced from the storage tank during filling.<br><br>Verify that no transfer of gasoline between a gasoline tank truck and a stationary storage occurs unless the gasoline tank truck meets the following requirements:<br><br>- has a vapor control system which is connected and operating<br>- has an Air Permit and Air Sticker from the Jefferson County Department of Health or ADEM.<br><br>Verify that any vapor control system includes at least one of the following:<br><br>- a vapor balance system (stage I) between the stationary storage tank and the gasoline tank truck and a system that insures the vapor line is connected before gasoline is transferred into the tank<br>- a refrigeration condensation system or equivalent designed to recover at least 90 percent by weight of the organic compounds in displaced vapor<br>- an alternative control system of at least equivalent efficiency approved by the Director.<br><br>Verify that the Federal facility meets the following requirements for gasoline dispensing facilities:<br><br>- written records of monthly throughput quantities in gallons and types of petroleum distillates in all stationary storage tanks are maintained<br>- records are maintained for at least 2 yr.<br><br>Verify that the Federal facility does not allow gasoline to be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation of the gasoline to the atmosphere.<br><br>Verify that vapor control systems are maintained in proper [not defined] working order even if the average monthly throughput of gasoline decreases to less than |

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| | 4000 gal. |
| **Emissions From POL Storage Vessels** | (NOTE: The following are exempt from the requirements for gasoline dispensing facilities in Jefferson County:<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long is the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit<br>- transfers made to storage tanks or gasoline dispensing facilities equipped with floating roofs or their equivalent<br>- transfers made to stationary gasoline storage tanks of less than 3785 L (1000 gal) capacity in place before 1 July 1979 and of less than 946 L (250 gal) installed after 1 July 1979<br>- stationary gasoline storage containers of less than 2082 L (550 gal) capacity used exclusively for the fueling of implements of husbandry, as long as the containers are equipped with a submerged fill pipe<br>- any existing facility (i.e., in operation or the construction of which began prior to 9 June 1987) with an average monthly throughput of gasoline of less than 4000 gal, as long as all gasoline storage tanks otherwise not exempted are equipped with a submerged fill pipe.) |
| **Gasoline Dispensing Facilities: Jefferson County** | |
| **ST.15.7.AL.** Federal facilities must meet specific requirements for gasoline dispensing facilities in Jefferson County (ADEM Admin. Code R. 335-3-6-.30). | Verify that during the transfer of gasoline from any gasoline tank truck into any stationary storage tank occurs only if the tank is equipped with a submerged fill pipe and the vapors collected during filling are processed by a vapor control system.<br><br>Verify that any vapor control system consists of one of the following:<br><br>- a vapor balance system (stage I) between the stationary storage tank and the gasoline tank truck and a system ensuring that the vapor line is connected before gasoline is transferred into the tank<br>- a refrigeration condensation system or equivalent designed to recover at least 90 percent by weight of the organic compounds in the displaced vapor<br>- any alternative control equipment approved by the Director. |

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| | Verify that gasoline is not transferred between any gasoline tank truck and any stationary storage tank unless the following requirements are met:<br><br>- the gasoline tank truck meets the requirements to prevent leaks from gasoline tank trucks and vapor collection systems in Jefferson County<br>- the vapor control system is connected and operating.<br><br>Verify that written records of the monthly throughput quantities in gallons and types of petroleum distillates in all stationary storage tanks are maintained and submitted to the Director at least annually.<br><br>Verify that written records are maintained for at least 2 yr.<br><br>Verify that the Federal facility does not allow gasoline to be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation of the gasoline to the atmosphere.<br><br>Verify that, regardless of exemption status, any gasoline dispensing facility does not disconnect an existing vapor balance system.<br><br>Verify that any existing vapor balance system is maintained in proper working order, even if the facility's average monthly throughput of gasoline decreases to less than 4000 gal. |
| **Emissions From POL Storage Vessels** | (NOTE: The following are exempt from the requirements for Leaks from Gasoline Tank Trucks and Vapor Collection Systems in Jefferson County:<br>- sources with a potential VOC emission rate of less than 100 tons/yr<br>- sources used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance as long as the following criteria are met:<br>- the operation of the source is not an integral part of the production process<br>- the emissions from sources do not exceed 363 kg (800 lb) in any calendar month<br>- other sources exempted by the Director or through a permit.) |
| **Leaks From Gasoline Tank Trucks And Vapor Collection Systems: Jefferson County** | |
| **ST.15.8.AL.** Federal facilities must meet specific requirements to prevent leaks | Verify that each vapor-laden gasoline tank truck is maintained to be vapor-tight during loading, unloading operations, and transport. |

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| from gasoline tank trucks and vapor in Jefferson County (ADEM Admin. Code R. 335-3-6-.41(7)) [Moved from A.160.20.AL]. | (NOTE: The requirement for maintaining vapor-tightness is not applicable for normal pressure/vacuum venting as required by DOT regulations.)<br><br>Verify that each vapor-laden gasoline tank truck is, if refilled in Jefferson County, filled only at either:<br><br>- bulk gasoline plants in compliance with state requirements, or<br>- bulk gasoline terminals in compliance with state requirements. |
| **Leaks From Gasoline Tank Trucks And Vapor Control And Collection Systems: Etowah, Mobile, And Russell Counties** | |
| **ST.15.9.AL.** Federal facilities must meet specific requirements to prevent leaks from gasoline tank trucks and collection and control systems (ADEM Admin. Code R. 335-3-6-.20) [Moved from A.160.7.AL]. | Verify that all vapor control and collection systems at bulk gasoline plants, bulk gasoline terminals, gasoline dispensing facilities, and on gasoline tank trucks required to comply with Alabama air pollution control regulations meets all requirements to prevent leakages.<br><br>Verify that the vapor collection system on any gasoline tank truck meets Alabama testing requirements.<br><br>Verify that any gasoline tank truck (regardless of the county in which it is operated) has a current Air Permit and a valid Department Air Sticker attached and visibly displayed.<br><br>Verify that any gasoline tank truck in Jefferson County has a current Jefferson County Department of Health Air Permit and a valid Jefferson County Department of Health Air Sticker attached and visibly displayed. |

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| **ST.20. EMISSIONS/ DISCHARGES FROM VOL STORAGE VESSELS**<br><br>**VOC Loading And Storage** | (NOTE: Requirements for VOC loading and storage apply to sources that meet one of the following criteria:<br>- all VOC loading and storage facilities in Mobile County<br>- any VOC loading and storage facility constructed after 30 January 1973.) |
| **ST.20.1.AL.** Facilities loading or storing VOCs with a true vapor pressure greater than or equal to 1.5 psia under storage conditions must meet specific requirements (ADEM Admin. Code R. 335-3-6-.03) [Moved from A.160.2.AL]. | (NOTE: Requirements for VOC loading and storage do not apply to crude petroleum produced, separated, treated, or stored in the field.)<br><br>Verify that one of the following requirements is met when any facility loads or stores VOCs with a true vapor pressure greater than or equal to 1.5 psia under storage conditions in any stationary storage vessel of more than 1000-gal capacity:<br><br>- the storage vessel is a pressure tank<br>- the storage vessel is equipped with one of the following vapor loss control devices:<br>- a permanent submerged fill pipe<br>- a floating roof consisting of one of the following:<br>- a pontoon type<br>- a double-deck type<br>- an internal floating cover<br>- a vapor recovery system consisting of the following:<br>- a vapor gathering system capable of collecting the VOC vapors and gases discharged<br>- a vapor disposal system capable of processing VOC vapors and gases so as to prevent their emission into the atmosphere<br>- other Director-approved equipment or means of equal efficiency for controlling air pollution.<br><br>Verify that pontoon types, double-deck types, and internal floating covers rest on the surface of the liquid contents of a storage vessel and are equipped with a closure seal(s) to close the space between the roof edge and tank wall.<br><br>Verify that pontoon types, double-deck types, and internal floating covers are not used on VOC storage vessels with a vapor pressure of 11.0 psia (568 mm Hg) or greater under actual storage conditions.<br><br>Verify that all gauging and sampling devices are gastight except when gauging or sampling is being performed.<br><br>(NOTE: Storage vessels in existence prior to 30 January 1973 may utilize |

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| | portable submerged fill pipes.)<br><br>Verify that one of the following requirements is met when VOCs are loaded into any tank truck or trailer with a capacity greater than 200 gal from any terminal or bulk storage facility:<br><br>- is equipped with a vapor collection and disposal system or its equivalent, properly [not defined] installed and in good working order<br>- has an operating loading system that provides a 95 percent submerged fill either with a submerged fill pipe or by loading from the bottom.<br><br>Verify that, where a vapor collection and disposal system is utilized, the loading arm is equipped with a vapor collection adapter, pneumatic, hydraulic, or other mechanical means to provide a vapor-tight seal between the adapter and the hatch.<br><br>Verify that any tank, truck, or trailer is a equipped with a means of preventing liquid organic compound drainage from the loading device when it is removed from the hatch of the vessel.<br><br>Verify that, when VOCs are loaded through means other than hatches, all loading lines are equipped with fittings that make vapor-tight connections and close automatically when disconnected. |
| **ST.20.2.AL.** Federal facilities in Jefferson County must meet specific requirements for VOC loading and storage (ADEM Admin. Code R. 335-3-6-.26) [Moved from A.160.10.AL]. | Verify that any stationary storage tank containing a VOC with a true vapor pressure of 1.5 psia or greater (78 mm Hg) under actual storage conditions meets the following requirements:<br><br>- any vessel of more than 1000 gal capacity is equipped with a permanent submerged fill pipe or bottom fill pipe<br>- any vessel of more than 40,000 gal capacity is equipped with one of the following vapor loss control devices, as appropriate [not defined]:<br>  - for liquids of intermediate volatility (i.e., with a true vapor pressure under actual storage conditions of more than 1.5 psia (78 mm Hg) but equal to or less than 11.1 psia (570 mm Hg)), one of the following devices:<br>  - a floating roof<br>  - a vapor recovery system<br>  - an equivalent control system<br>- for liquids of high volatility (i.e., with a true vapor pressure under actual storage conditions of more than 11.1 psia (570 mm Hg), a vapor recovery system or equivalent vapor control system<br>- other equivalent control equipment approved by the Director.<br><br>Verify that any floating roof is of one of the following types:<br><br>- double-deck |

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| | - flexible single-deck<br>- pontoon-type cover resting on and supported by the stored liquid, equipped with a closure seal(s) to close the space between the roof edge and the tank wall.<br><br>Verify that any vapor recovery system includes a system of collecting vapors and gases to prevent vapor and gas emissions into the atmosphere.<br><br>Verify that all tank gauging and sampling devices are airtight (except when sampling or tank gauging is performed).<br><br>Verify that any gasoline tank truck or trailer with a capacity in excess of 200 gal is not loaded from any terminal or bulk storage facility with tanks containing a VOC with a true vapor pressure of 1.5 psia or greater (78 mm Hg) under actual storage conditions, unless the one of the following equipment requirements are met:<br><br>- a vapor collection system or its equivalent is properly [not defined] installed, in good working order, with a loading arm equipped with a vapor collection adapter of pneumatic, hydraulic, or other mechanical means, which provides a vapor-tight seal between the adapter and the hatch<br>- a loading system that results in a submerged fill either with a submerged fill pipe or by loading from the bottom, and, with loading lines equipped with fittings making vapor-tight connections and closing automatically when disconnected.<br><br>Verify that, for hatch-loading, the terminal or bulk storage facility is equipped with a means to prevent liquid organic compound drainage from the loading device when it is removed from the hatch of any transport vessel or transport container. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ST.30.<br>UST INSTALLATION** | (NOTE: Refer to the definition of underground storage tanks for a description of USTs exempt from all UST requirements.) |
| **ST.30.1.AL.**<br>[Deleted November 1996]. | (ADEM ADMIN. CODE R. 335-6-15-.06(A)) incorporated elsewhere.) |
| **ST.30.2.AL.** Federal facilities installing new UST systems must meet specific certification requirements (ADEM Admin. Code R. 335-6-15-.06(e)). | Verify that UST systems installed on or after 1 June 1994 met at least one of the following requirements:<br>- the installer was certified by the tank, piping, and equipment manufacturer<br>- the installation has been inspected and certified by a registered professional engineer with appropriate training and experience in UST installation procedures<br>- all construction and installation activities listed in the equipment manufacturers checklist were properly completed<br>- the installation has been inspected and approved by the Department. |
| **ST.30.3.AL.** New tanks and piping must be properly installed in accordance with certain requirements (ADEM Admin. Code R 335-6-15-.06(d)). | Verify that all new tanks and piping are properly installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ST.35.<br>NEW OR UPGRADED USTS** | |
| **ST.35.1.AL.** UST systems installed on or after 1 June 1994 are required to meet specific requirements (ADEM Admin. Code R. 335-6-15-.06(a & b)). | Verify that a new tank meets one of the following requirements:<br><br>- it is constructed of fiberglass-reinforced plastic<br>- it is constructed of steel and cathodically protected in the following manner:<br>- the tank is coated with a suitable dielectric material<br>- it is fitted with a field-installed cathodic protection system designed by a corrosion expert<br>- cathodic protection systems are designed to allow determination of current operating status<br>- it is constructed of a steel-fiberglass-reinforced-plastic composite<br>- the tank construction and corrosion protection are determined by the Department to be designed to prevent the release or threatened release of any stored regulated substance in a manner equally protective of human health and the environment.<br><br>Verify that UST piping is properly designed and constructed in one of the following ways:<br><br>- it is constructed of fiberglass-reinforced plastic<br>- it is constructed of steel and cathodically protected in the following manner:<br>- it is coated with a suitable dielectric material<br>- a field-installed cathodic protection system designed by a corrosion expert<br>- cathodic protection systems are designed to allow determination of current operating status<br>- the construction and corrosion protection are determined by the Department to be designed to prevent the release or threatened release of a stored regulated substance in a manner that is equally protective of human health and the environment. |
| **ST.35.2.AL.** New UST systems must have spill and overfill protection equipment (ADEM Admin. Code R. 335-6-15-.06(c)). | Verify that new UST systems are fitted with spill and overfill prevention equipment that will do the following:<br><br>- prevent release of product to the environment when a transfer hose is detached from the fill pipe<br>- automatically shut off flow into the tank when the tank is no more than 95 percent full<br>- alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level alarm. |

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| | restricting the flow into the tank or triggering a high-level alarm.<br><br>(NOTE: Federal facilities are not required to use the equipment listed above if alternative equipment approved by the Department is used or if the UST system is filled by transfers of no more than 25 gal at one time.) |
| **ST.35.3.AL.** Federal facilities with existing UST systems must fulfill specific upgrading requirements (ADEM Admin Code R. 335-6-15-.07). | Verify that by 22 December 1998 steel tanks are upgraded to meet one of the following requirements:<br><br>- an interior lining is added and within 10 yr. after installation, the lining is inspected for structural integrity every 5 yr.<br>- cathodic protection is added and the integrity of the tank is ensured by the one of the following methods:<br>  - the tank is internally inspected and assessed to ensure that it is structurally sound and free of corrosion holes prior to installation of the cathodic protection system<br>  - the tank has been installed for less than 10 yr. and is monitored monthly for releases<br>  - the tank has been installed for less than 10 yr. and is assessed for corrosion holes by conducting 2 tightness tests, one prior to installation of cathodic protection, and one 3 to 6 mo following first operation of the cathodic protection system<br>  - the tank is assessed by a method approved by the Department<br>- a combination of internal lining and cathodic protection that meets these requirements.<br><br>Verify that metal piping that routinely contains product and is in contact with the ground is cathodically protected in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory.<br><br>Verify that all existing UST systems include the addition of spill and overfill prevention equipment. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ST.45.<br>UST FILLING** | |
| **ST.45.1.AL.** Federal facilities with new and existing UST systems are required to prevent the release of product due to spills and overfills (ADEM Admin. Code R. 335-6-15-.09). | Verify that the Federal ensures that releases due to spilling or overfilling do not occur.<br><br>Verify that when a transfer is made that the volume available is greater than the volume of the product to be transferred into the tank before the transfer is begun and that the transfer is monitored continuously to prevent overfilling and spilling. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **ST.50.**<br>**UST CORROSION PROTECTION** | (NOTE: Refer to the definition of underground storage tanks for a description of USTs exempt from all UST requirements.) |
| **ST.50.1.AL.** UST systems that store regulated substances must follow specific requirements regarding corrosion protection (ADEM Admin. Code R. 335-6-15-.10 and 335-6-15-.11). | Verify that steel USTs with cathodic protection meet the following requirements as long as it is used to store regulated substances:<br>- all corrosion protection systems are operated continuously<br>- cathodic protection systems are tested within 6 mo of installation and every 3 yr. thereafter<br>- UST systems with impressed current cathodic protection are inspected every 60 days to ensure the equipment is operating properly<br>- the UST is made of or lined with materials that are compatible with the substance being stored. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ST.55.<br>UST REPAIRS** | NOTE: Refer to the definition of underground storage tanks for a description of USTs exempt from all UST requirements.) |
| **ST.55.1.AL.** The repair of UST systems must meet specific standards (ADEM Admin. Code R. 335-6-15-.12). | Determine if the Federal facility is conducting repairs on a UST system other than routine maintenance.<br><br>Verify that UST repairs meet the following standards:<br><br>- they are properly conducted in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory<br>- repairs to fiberglass-reinforced tanks are made by the manufacturer's authorized representatives or in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory<br>- metal pipe sections that have released product as a result of corrosion or other damage are replaced<br>- repaired tanks and piping are tightness tested within 30 days of the repair unless one of the following is met:<br>- the tank is internally inspected and certification of this inspection is submitted to the Department<br>- the repaired portion of the UST is monitored monthly for releases<br>- another test approved by the Department is used<br>- cathodic protection systems are inspected within 6 mo of any repairs to the UST to ensure proper operation.<br>Verify that records of repairs are maintained for the remaining operating life of the UST system. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **RELEASE DETECTION FOR USTS**<br><br>**ST.60.<br>GENERAL** | (NOTE: Refer to the definition of underground storage tanks for a description of USTs exempt from all UST requirements.) |
| **ST.60.1.AL.** Federal facilities with UST systems must meet general release detection requirements (ADEM Admin. Code R. 335-6-15-.14). | Verify that one or a combination of one or more of the following methods of release detection is used that can do the following:<br><br>- detect a release from any portion of the tank or piping that routinely contains product<br>- it is installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks<br>- is capable of detecting a leak in accordance with Appendix 10-3 of the U.S. TEAM Guide with a probability of a release detection of 95 percent and a probability of false alarm of 5 percent.<br><br>Verify that the Federal facility submits a description of the type of release detection that is used at each UST site to the Department.<br><br>Verify that any UST system which does not comply with release detection requirements is completely closed and meets all closure requirements.<br><br>Verify that release detection systems employing vapor monitoring, groundwater monitoring, or interstitial monitoring are installed according to plans reviewed by the Department.<br><br>Verify that personnel who are familiar with the monitoring, operation, maintenance, and calibration requirements of release detection equipment for an UST system are routinely present at the location of the UST. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **RELEASE DETECTION FOR USTS**<br><br>**ST.65.<br>PETROLEUM USTS** | |
| **ST.65.1.AL.** Federal facilities with petroleum UST systems must meet specific release detection requirements (ADEM Admin. Code R. 335-6-15-.15(a)). | Determine if the Federal facility uses UST systems for the storage of petroleum product.<br><br>Verify that petroleum UST tanks are monitored at least every 30 days for releases using one of the following methods:<br><br>- automatic tank gauging<br>- vapor monitoring<br>- groundwater monitoring<br>- interstitial monitoring<br>- any method capable of detecting a leak rate of 0.2 gal/h of a release of 150 gal within 1 mo with a probability of 0.95 and a false alarm probability of 0.05.<br><br>(NOTE: UST systems meeting new tank standards or upgraded to meet new tank standards may use a combination of monthly inventory control and tightness testing at least every 5 yr. to meet this requirement until 22 December 1998 or 10 yr. after installation/upgrade, whichever is later.)<br><br>(NOTE: UST systems that do not meet new tank standards or have not been upgraded to meet new tank standards may use a combination of monthly inventory control and annual tightness testing until 22 December 1998 when they must be either upgraded or closed.) |
| **ST.65.2.AL.** Federal facilities with petroleum UST systems must meet release detection requirements for piping (ADEM Admin. Code R. 335-6-15-.15(b)) [Revised July 1997]. | Verify that pressurized piping which routinely contains product meets the following requirements:<br><br>- it is equipped with an automatic line leak detector<br>- an annual line tightness test or monthly monitoring is conducted.<br><br>Verify that underground suction piping which routinely contains product are tightness tested at least every 3 years or use a monthly monitoring method. No release detection is required for suction piping which meets the following standards: |

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| | - below-grade piping operates at less than atmospheric pressure<br>- below-grade piping is sloped so that the contents of the pipe will drain back into the tank if suction is released<br>- only one check valve is included in each suction line<br>- the check valve is located directly below and as close as practical to the suction pump<br>- a method is provided that allows the compliance with these equipment requirements to be readily determined.<br><br>(NOTE: All new petroleum USTs located within 1000 ft of a public water supply well or 300 ft of a private domestic water supply may be required by the Department to have additional release detection equipment.) |

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| **RELEASE DETECTION FOR USTS**<br><br>**ST.70. HAZARDOUS SUBSTANCE USTS** | (NOTE: Refer to the definition of underground storage tanks for a description of USTs exempt from all UST requirements.) |
| **ST.70.1.AL.** Federal facilities that have hazardous substance UST systems must meet specific release detection requirements (ADEM Admin. Code R. 335-6-15-.16). | Determine if the Federal facility has UST systems used to store hazardous substances.<br><br>Verify that existing hazardous substance UST systems meet the release detection requirements for petroleum USTs, and by 22 December 1998 are provided with secondary containment and satisfy the release detection requirements for new systems.<br><br>Verify that new hazardous substance UST systems have secondary containment systems that meet the following requirements:<br><br>- contain regulated substances released from the UST until they are detected and removed<br>- prevent the release of regulated substance to the environment at any time during the operational life of the UST system<br>- they are checked for evidence of a release every 30 days.<br><br>Verify that external liners are designed, constructed, and installed to meet the following requirements:<br><br>- contain 100 percent of the capacity of the largest tank within its boundary<br>- prevent the interference of precipitation or groundwater intrusion with the ability to contain or detect a release of regulated substance<br>- surrounds the tank completely (i.e., it is capable of preventing lateral as well as vertical migration of regulated substance).<br><br>Verify that, if double-walled tanks are used, they are designed, constructed, and installed to meet the following requirements:<br><br>- contain a release from any portion of the inner tank within the outer wall<br>- detect the failure of the inner wall.<br><br>Verify that underground piping is equipped with secondary containment, and, if the piping is under pressure, it is equipped with automatic line leak detection. |

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| | (NOTE: Other methods of release detection may be used with approval from the Department.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ST.80.<br>UST RELEASES** | (NOTE: Refer to the definition of underground storage tanks for a description of USTs exempt from all UST requirements.) |
| **ST.80.1.AL.** Federal facilities operating a UST system must immediately investigate and confirm all suspected releases of regulated substance (ADEM Admin. Code R. 335-6-15-.21 and 335-6-15-.22). | Determine if the Federal facility has experienced conditions that would indicate a possible release of regulated substance form the UST system such as free or dissolved product or vapors in soils, basements, sewer and utility lines, or nearby surface waters, or a well contaminated with a regulated substance that is brought to its attention through observation or another party.<br><br>Verify that the Federal facility immediately investigates the suspected release using the following methods:<br><br>- tightness testing to determine if the leak exists in the tank or attached delivery piping, or both<br>- preliminary investigation by measuring for the presence of a release where contamination is likely to be present at the UST site.<br><br>(NOTE: If tightness test indicates that a leak exists, the Federal facility must repair, replace, or upgrade the UST and begin corrective action. Further investigation is not required if the results of the tests do not indicate a leak and if environmental contamination is not the basis for suspecting a release.)<br><br>(NOTE: A preliminary investigation must be made if the test results for the system, tank, and delivery piping do not indicate a leak, but environmental contamination is the basis for suspecting a release.) |
| **ST.80.2.AL.** Federal facilities must follow specific procedures for releases due to spills or overfills (ADEM Admin. Code R. 335-6-15-.23). | Determine if the Federal facility has experienced a release from a UST system due to a spill or overfill.<br><br>Verify that the following procedure is followed for spills or overfills of less than 25 gal of petroleum or less than the reportable quantity of a hazardous substance:<br><br>- the release is contained and cleaned up immediately<br>- if the release cannot be cleaned up within 24 h, the Department is notified.<br><br>Verify that (for spills/overfills releasing petroleum exceeding 25 gal or producing a sheen on nearby surface water, or for spills/overfills releasing a hazardous substance equal to or exceeding the reportable quantity) the following procedure is followed:<br><br>- the release is contained and cleanup operations are started immediately<br>- the release is reported to the Department within 24 h<br>- corrective action procedures are started. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ST.80.3.AL.** In response to a confirmed release of regulated substance, Federal facilities must follow specific initial response procedures (ADEM Admin. Code R. 335-5-15-.24 and 335-6-15-.25). | Determine if the Federal facility has experienced a confirmed release of regulated substance from a UST system.<br><br>Verify that the following procedures are followed within 24 h of confirmation of the release:<br><br>- the release is reported to the Department (notification by telephone is acceptable)<br>- immediate action is taken to prevent any further release of regulated substance to the environment<br>- fire, explosion, and vapor hazards are identified and mitigated immediately.<br><br>Verify that upon confirmation of a release the following initial abatement measures are taken:<br><br>- remove as much of the regulated substance from the UST system as is necessary to prevent further release to the environment<br>- visually inspect any aboveground releases or exposed belowground releases and prevent further migration of product into surrounding soils and groundwater<br>- continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated into the excavation zone or entered subsurface structures (such as sewers or basements)<br>- remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities<br>- investigate to determine the presence of free product, and begin product removal, if found<br>- where dissolved groundwater contamination is determined to occur, corrective actions are immediately begun<br>- a report of initial response activities is submitted to the Department within 20 days after confirmation of the release. |
| **ST.80.4.AL.** Federal facilities with a confirmed release must follow specific preliminary investigation requirements (ADEM Admin. Code R. 335-6-15-.26) [Revised July 1997]. | Verify that, unless directed to do otherwise by the Department, the Federal facility conducts a preliminary investigation about the nature of the release that includes the following:<br><br>- type of surrounding population, e.g., urban, rural, residential<br>- results of a well inventory with 1000 ft of the site<br>- location of any public water supply wells within 1 mi of the site<br>- a description of the hydrogeological environment<br>- a determination of the uppermost aquifer and initial evaluation of the potential for hydraulic interconnection with lower aquifers |

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| | - results of soils sampling collected from the area most likely to have been affected by the release<br>- groundwater samples where soils are encountered that have a total petroleum hydrocarbon concentration of greater than 100 ppm and are within 5 ft of the seasonal high water table are collected and analyzed at a minimum of one up-gradient and three down-gradient locations unless directed to do otherwise by the Department.<br>- other information as required by the Department.<br><br>(NOTE: Alternative procedures for preliminary investigation may be used upon approval from the Department.)<br><br>Verify that the results of the preliminary investigation are submitted to the Department within 60 days of confirmation of a release.<br><br>(NOTE: In order to determine the full lateral and vertical extent and location of the contamination zone, the Department may require a secondary investigation of the release site.) |
| **ST.80.5.AL.** Federal facilities that have a confirmed release must conduct removal of the free product (ADEM Admin. Code R. 335-6-15-.27) [Revised July 1997]. | Verify that, at sites where investigation indicates the presence of free product, the Federal facility conducts removal operations including the following:<br><br>- free product removal in a manner that minimizes the spread of contamination into previously uncontaminated zones<br>- use abatement of free product migration and removal of free product in a reasonable period of time as a minimum objective for the design of the free product removal system<br>- handle any flammable products in a safe and competent manner to prevent fires or explosions.<br><br>Verify that a report of free product removal operations containing the following information is submitted to the Department within 45 days after confirmation of a release.<br><br>- the name of the person(s) responsible for implementing the free product removal measures;<br>- the estimated quantity, type, and thickness of free product observed or measured in wells, boreholes, and excavations;<br>- the type of free product recovery system used;<br>- whether any discharge will take place on-site or off-site during the recovery operation and where this discharge will be located<br>- the type of treatment applied to, and the effluent quality expected from, and discharge;<br>- the steps that have been or are being taken to obtain necessary permits for any discharge; and<br>- the disposition of the recovered free product. |

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| | - the Department may require additional measures to be taken to achieve free product recovery, if it is determined that the objectives of paragraphs (a) through (c) are not being accomplished. |

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| **ST.85.**<br>**DEFERRED USTS** | |
| **ST.85.1.AL.** Federal facilities must not install a UST system for storing regulated substances that do not meet specific requirements (ADEM Admin. Code R. 335-6-15-.04). | Determine if the Federal facility has a deferred UST system.<br><br>Verify that the UST system meets the following requirements:<br><br>- it will prevent releases due to corrosion or structural failure for the operational life of the system<br>- it is protected by one of the following methods:<br>- cathodic protection<br>- it is constructed of noncorrodible material<br>- it is constructed of steel clad with a noncorrodible material<br>- it is constructed or lined with material that is compatible with the stored substance. |

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| **ST.90.**<br>**UST DOCUMENTATION** | (NOTE: Refer to the definition of underground storage tanks for a description of USTs exempt from all UST requirements.) |
| **ST.90.1.AL.** Federal facilities that bring a UST system into use must meet specific notification requirements (ADEM Admin. Code R. 335-6-15-.05)). | Determine if the Federal facility has brought a UST system into use or has a UST system for which notification has not been provided to the Department.<br><br>Verify that notification is submitted to the Department for any UST for which notification has not already been provided.<br><br>Verify that for any UST system that is brought into use after 1 June 1994, notification is submitted to the Department within 30 days.<br><br>(NOTE: Notifications must be submitted on standard notification forms available from ADEM.) |
| **ST.90.2.AL.** Federal facilities must maintain specific records (ADEM Admin. Code R. 335-6-15-.13(b and c)). | Verify that the Federal facility maintains the following:<br><br>- documentation of operation of corrosion protection equipment<br>- documentation of UST repairs<br>- compliance with release detection requirements<br>- results of all tightness testing performed for an UST<br>- results of site investigation conducted at permanent closure<br>- documentation of notification requirements<br>- documentation of release detection equipment maintenance and calibration as required by the equipment manufacturer or the Department.<br><br>Verify that the Federal facility keeps all required records available for inspection at the UST site or at a readily available alternative site.<br><br>Verify that current proof of tank registration is displayed at active retail petroleum facilities. |
| **ST.90.3.AL.** Federal facilities must meet specific reporting requirements (ADEM Admin. Code R. 335-6-15-.13(a)). | Verify that the following reports are submitted to the Department when applicable:<br><br>- notification for all UST systems including certification of installation for new UST systems<br>- reports of all releases including suspected releases, spills, overfills, and confirmed releases<br>- corrective actions planned or taken<br>- notification of permanent closure or change-in-service |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | - results of all tightness testing.<br><br>(NOTE: After reviewing the information submitted in reports after a confirmed release, the Department may require the Federal facility to develop and follow a corrective action plan.) |

| COMPLIANCE CATEGORY:<br>STORAGE TANK MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **ST.95.**<br>**CHANGES IN SERVICE OR CLOSURE OF USTS** | |
| **ST.95.1.AL.** Federal facilities that temporarily close a UST system must meet specific requirements (ADEM Admin. Code R. 335-6-15-.36). | Determine if the Federal facility has temporarily closed a UST system.<br><br>Verify that the following requirements are met:<br><br>- corrosion protection systems are operated and maintained<br>- release detection systems are operated and maintained unless the UST is empty<br>- when the UST is closed for 3 mo or more, the following requirements are met:<br>  - vent lines are open and functioning<br>  - all other lines, pumps, and ancillary equipment are capped and secured.<br><br>Verify that, if the UST is temporarily closed for more than 12 mo, the Federal facility permanently closes it if it does not meet the performance standards (except spill and overfill equipment requirements) for new or upgraded USTs.<br><br>(NOTE: A substandard UST system must be permanently closed within 90 days from the end of the 12 mo temporary closure period.) |
| **ST.95.2.AL.** Federal facilities must follow specific procedures for permanent closure or change-in-service of a UST system (ADEM Admin. Code R. 335-6-15-.37) [Revised July 1997]. | Determine if the Federal facility has permanently closed or had a change-in-service for a UST system.<br><br>Verify that the following requirements are met:<br><br>- the Department is notified at least 30 days in advance of a permanent closure or change-in-service<br>- change-in-service tanks are emptied and cleaned and a site assessment is done prior to filling the tank with nonregulated substance<br>- a permanently closed tank is emptied and cleaned of all liquids and sludges<br>- all tanks permanently closed are either removed from the ground or filled with an inert material, all lines manways, and or other connections are capped or closed.<br><br>(NOTE: The continued use of a UST system to store a nonregulated substance is considered a change-in-service.) |
| **ST.95.3.AL.** Prior to a | Verify that the following requirements are met prior to a permanent closure or |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| permanent UST closure or change-in-service Federal facilities must complete a site assessment (ADEM Admin Code R. 335-6-15-38 and 335-6-15-.39). | change-in-service:<br><br>- measure for the presence of a release where contamination is most likely to be present at the UST site according to procedures acceptable to the Department<br>- a report of the assessment is submitted to the Department within 45 days of initiating the closure or change-in-service<br>- if contaminated soils, contaminated groundwater, or free product are discovered, corrective action is initiated.<br><br>(NOTE: The Department may require a site assessment for a UST system closed or changed-in-service prior to the effective date of the ADEM regulations (1 June 1994) if it is judged that there is a current or potential threat to human health or the environment.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **HAZARDOUS WASTE STORAGE TANKS**<br><br>**ST.100.**<br>**SMALL QUANTITY GENERATORS** | |
| **ST.100.1.AL.** Small quantity generators that use tanks for hazardous waste storage must meet specific requirements (ADEM Admin. Code R. 335-14-3-.03(5)(d)(3) and 335-14-6-.10(12)). | Determine the status of the Federal facility as a small quantity hazardous waste generator.<br><br>Verify that the following requirements are met:<br><br>- hazardous wastes or treatment reagents are not placed into a tank if they could cause the tank to corrode, leak, or otherwise fail before the end of its intended life<br>- uncovered tanks are operated to ensure at least 60 cm (2 ft) of freeboard, unless it is equipped with a containment structure, drainage control system, or a diversion structure with a volume that equals or exceeds the top 60 cm (2 ft) of the tank<br>- where hazardous waste is continuously fed into a tank, the tank is equipped with a means to stop the inflow<br>- the following equipment is inspected on a regular basis:<br>  - discharge control equipment<br>  - data gathered from monitoring equipment<br>- the level of waste in the tank is checked each day for sufficient freeboard<br>- the construction of the tank at least weekly to detect corrosion or leaks<br>- the area immediately around the tank for obvious signs of leakage.<br><br>Verify that ignitable or reactive waste is not placed into a tank unless the following requirements are met:<br><br>- the waste is treated, rendered, or mixed before or immediately after placing in the tank so that it no longer meets the definition of ignitable or reactive waste<br>- the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react<br>- the tank is used solely for emergencies.<br><br>Verify that incompatible wastes are not placed into tanks unless they are handled in such a manner that they no longer meet the definition of incompatible waste.<br><br>Verify that waste is not placed into an unwashed tank that previously held an incompatible waste. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | Verify that upon closure, all hazardous waste is removed from tanks, discharge control equipment, and discharge confinement structures. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **HAZARDOUS WASTE STORAGE TANKS**<br><br>**ST.105. GENERATORS** | |
| **ST.105.1.AL.** Federal facilities that are generators of hazardous waste and store that waste in USTs must meet specific requirements (ADEM Admin. Code R. 335-14-3-.03(5)(a)(1)(ii) and 335-14-6-.10). | (NOTE: This ADEM regulation is identical to 40 CFR Part 262.34(a)(1)(ii). See the U.S. TEAM Guide for specific requirements.) |

| COMPLIANCE CATEGORY:<br>STORAGE TANK MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **HAZARDOUS WASTE STORAGE TANKS**<br><br>**ST.110.<br>TSD FACILITIES** | |
| **ST.110.1.AL.** Federal facilities that operate a TSDF with hazardous waste UST systems must meet specific requirements (ADEM Admin. Code R. 335-14-5-.10 and 335-14-6-.10). | (NOTE: This ADEM regulation is identical to the Federal requirements listed in 40 CFR Part 264 Subpart J (for permitted TSDFs) and 40 CFR Part 265 Subpart J (for interim status TSDFs). See the U.S. TEAM Guide for specific requirements.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **USED OIL STORAGE TANKS**<br><br>**ST.125. GENERATORS** | |
| **ST.125.1.AL.** Facilities must use appropriate controls and practices to prevent spills and overflows from tanks (ADEM Admin. Code R. 335-14-17-.03(3)(a)) . | Verify that appropriate controls and practices are used to prevent spills and overflows from tanks.<br><br>Verify that these controls and practices, at a minimum, include:<br><br>- spill prevention controls (e.g., check valves, dry disconnect couplings)<br>- overflow controls for continuously fed tanks (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standing tank) and/or<br>- freeboard controls in open tanks designed to maintain sufficient freeboard to prevent overfilling or overtopping by wave action, wind action, or precipitation. |
| **ST.125.2.AL.** Labels on used oil tanks must be legible (ADEM Admin. Code R. 335-14-17-.03(3)(c)) [Revised July 1997]. | Verify that labels on containers and aboveground tanks used to store used oil at generator facilities are legible from a distance of at least 25 ft. and are marked clearly with the words "Used Oil". |
| **ST.125.3.AL.** Storage of used oil in tanks at transfer facilities must satisfy certain requirements (ADEM Admin. Code R. 335-14-17-.05(6)(b)(1) and -.05(6)(b)(2)). | Verify that used oil transfer facilities store used oil only in tanks, containers, or units subject to toxic waste regulations.<br><br>Verify that appropriate controls and practices are used to prevent spills and overflows from tanks.<br><br>Verify that these controls and practices, at a minimum, include:<br><br>- spill prevention controls (e.g., check valves, dry disconnect couplings)<br>- overflow controls for continuously fed tanks (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standing tank) and/or<br>- freeboard controls in open tanks designed to maintain sufficient freeboard to prevent overfilling or overtopping by wave action, wind action, or precipitation. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **ST.125.4.AL.** Storage of ignitable used oil at transfer facilities must satisfy certain special requirements (ADEM Admin. Code R. 335-14-17-.05(6)(b)(3)). | Determine if the Federal facility stores ignitable used oil at a transfer facility.<br><br>Verify that installations comply with regulations for hazardous waste treatment, storage and disposal facilities.<br><br>Verify that, where ignitable used oil is stored in a tank, the installation complies with the requirements for the maintenance of protective distances between the used oil management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's *Flammable and Combustible Liquids Code*, (1977 or 1981). |
| **ST.125.5.AL.** Transfer facilities that store used oil in aboveground tanks must comply with certain closure requirements (ADEM Admin. Code R. 335-14-17-.05(6)(i)(1)). | Verify that, at closure of the tank system, the following is removed or decontaminated:<br><br>- used oil residues in tanks<br>- contaminated containment system components<br>- contaminated soils<br>- structures and equipment contaminated with used oil.<br><br>Verify that these substances are managed as hazardous waste, unless the materials are not identified as hazardous waste.<br><br>Verify that, if it cannot be demonstrated that all of the soils can be practicably removed or decontaminated, the tank system is closed and postclosure care requirements that apply to hazardous waste landfills are performed. |
| **ST.125.6.AL.** Transfer facilities, which store used oil in AST's, must provide secondary containment that meet specific requirements (ADEM Admin. Code R. 335-14-17-.05(6)(e) & -.05(6)(f)) [Revised July 1997]. | Verify that new and existing AST's used to store used oil at transfer facilities are equipped with a secondary containment system.<br><br>Verify that the secondary containment system meets the following requirements:<br><br>- the entire containment system, including walls and floors, must be sufficiently impervious to used oil to prevent any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water<br>- the containment system is designed, constructed and operated to contain 100 percent of the capacity of the largest tank within its boundary<br>- the containment system is designed, constructed, and operated to prevent run-on, or entrance of precipitation, into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or precipitation (such additional capacity must be sufficient to contain precipitation from a 25 yr., 24-h rainfall event) |

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| | - the containment system is sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation<br>- spilled or leaked used oil and accumulated precipitation is removed from the containment system in as timely a manner as necessary to prevent overflow of the system. |

## SECTION 11

## TOXIC SUBSTANCES MANAGEMENT

### Alabama Supplement, July 2000

This section covers the state requirements for Toxic Substances Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

**Definitions**

- *Abatement* - any measure or set of measures designed to permanently eliminate lead-based paint hazards. Abatement includes; but are not limited to (Alabama Bureau of Environmental Services (ABES), Chapter 420-3-27-.03) [Added June 1999]:
  (a) The removal of lead-based paint and lead-contaminated dust, the permanent enclosure or encapsulation of lead-based paint, the replacement of lead-painted surfaces or fixtures and the removal or covering of lead-contaminated soil; and
  (b) All preparation, cleanup, disposal and post-abatement clearance testing activities associated with such measures.
  (c) Specifically, abatement includes, but is not limited to:
    1. Projects for which there is a written contract or other documentation, which provides that an individual or firm certified in accordance with this rule, will be conducting activities in or to a residential dwelling or child-occupied facility that are designed to or will permanently eliminate lead-based paint hazards.
    2. Projects resulting in the permanent elimination of lead-based paint hazards conducted by firms or individuals certified in accordance with this rule, unless such projects are covered by subsection (d) of this definition.
    3. Projects resulting in the permanent elimination of lead-based paint hazards, conducted by firms or individuals who, through their company name or promotional literature, represent, advertise, or hold themselves out to be in the business of performing lead-based paint activities as identified and defined by this section, unless such projects are covered by paragraph (d) of this definition.
    4. Projects resulting in the permanent elimination of lead-based paint hazards, including lead-based paint and lead-contaminated dust or soil, that are conducted in response to State or local abatement orders.
  (d) Abatement does not include renovation, remodeling, or landscaping or other activities, when such activities are not designed to permanently eliminate lead-based paint hazards, but, instead, are designed to repair, restore, or remodel a given structure or dwelling, even though these activities may incidentally result in a reduction or elimination of lead-based paint hazards. Furthermore, abatement does not include interim controls, operations and maintenance activities, or other measures and activities designed to temporarily, but not permanently, reduce lead-based paint hazards.

- *Available* - being present at a work-site or reachable by telephone, pager, or answering service at all times when abatement activities are being conducted and able to be present at the work site within two hours after notification (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Certified Firm* - a company, partnership, corporation, sole proprietorship, association, or other business entity that has submitted documentation to the Department stating that all its employees performing lead-based paint activities have each individually received training and certification from an accredited training program and has

been registered by Safe State; and has been issued a certificate from the Department (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Child-Occupied Facility* - a building, or portion of a building constructed prior to 1978, visited regularly by the same child, six years of age or under, on at least two different days within the same week (Sunday through Saturday period), provided each day's visit lasts at least three hours and the combined weekly visits last at least six hours, and the combined annual visits last at least 60 hours. Child-occupied facilities include, but are not limited to, day-care centers, preschools, and kindergarten classrooms (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Department* - the Alabama Department of Public Health (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Inspection* - a surface-by-surface investigation performed by an accredited inspector for the purpose of determining the presence of lead-based paint and the provision of a report explaining the results of the investigation (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Lead-Based Paint* - paint or other surface coatings that contain lead equal to or in excess of the then in effect level set by the U.S. Environmental Protection Agency. The then in effect level of minimum lead concentration, as defined by the EPA, expressed in milligrams per square centimeter or percent by weight, shall be adopted by reference for the purpose of this definition (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Lead-Based Paint Activities* - inspection, risk assessment and abatement of target housing and child-occupied facilities (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Lead-Based Paint Hazard* - any condition that causes exposure to lead from lead-contaminated dust, lead contaminated soil, or lead-contaminated paint that is deteriorating or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects identified by the Department pursuant to the Toxic Substances Control Act, (TSCA) section 403 (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Lead Contractor* - any person employing or contracting with persons engaged in abatement or lead hazard reduction activities as a business and includes consultants who design, perform, oversee or evaluate lead hazard reduction projects or self-employed individuals who engage in lead-hazard reduction activities (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Lead Hazard Screen* - a limited assessment activity that involves limited paint and dust sampling as described in these rules (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Risk Assessment* - an on-site investigation to determine and report the existence, nature, severity, and location of lead-based paint hazards in or on any structure or site, and providing options for reducing lead-based paint hazards (ABES Chapter 420-3-27-.03) [Added June 1999].

- *Target Housing* - any residential dwelling constructed prior to 1978, except housing for the elderly or persons with disabilities (unless one or more children age six years or under resides or is expected to reside in such housing for the elderly or person with disabilities) or any 0-bedroom dwelling (ABES Chapter 420-3-27-.03) [Added June 1999].

**REFER TO CHECKLIST ITEMS:**

PCB Management

Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

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| PCB Missing Checklist Items | T1.2.1.AL |

Asbestos Management

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| Asbestos Missing Checklist Items | T2.2.1.AL |
| Asbestos Personnel Training/ Certification | T2.10.1.AL. |

Radon Gas

Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.

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| Radon Missing Checklist Items | T3.2.1.AL |
| Lead Based Paint | T4.1.1.AL. and T4.1.2.AL. |
| LBP Missing Checklist Items | T4.2.1.AL |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **T1.2<br>PCB MISSING CHECKLIST ITEMS**<br><br>**T1.2.1.AL.** Facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the facility is in compliance with all applicable and newly issued regulations |

| COMPLIANCE CATEGORY:<br>TOXIC SUBSTANCES MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **T2.2<br>ASBESTOS MISSING CHECKLIST ITEMS**<br><br>**T2.2.1.AL.** Facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the facility is in compliance with all applicable and newly issued regulations |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **ASBESTOS MANAGEMENT**<br><br>**T2.10. ASBESTOS PERSONNEL TRAINING/ CERTIFICATION** | |
| **T2.10.1.** Federal facilities must meet certification requirements for asbestos projects (ADEM Admin. Code R. 335-3-11-.05). | Verify that the federal facility, or the contractor, is certified by the State of Alabama prior to commencing any asbestos removal project.<br><br>Verify that all asbestos workers and supervisors are accredited by the State of Alabama prior to engaging in asbestos removal activities.<br><br>Verify that copies of current federal facility or contractor certification and current personnel accreditations are maintained at the site of the asbestos removal project. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **T3.2**<br>**RADON MISSING CHECKLIST ITEMS** | |
| **T3.2.1.AL.** Facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the facility is in compliance with all applicable and newly issued regulations |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **T4.1.**<br>**LEAD BASED PAINT** | (NOTE: These regulations **do not** require the mandatory abatement of existing lead-based paint (Alabama Bureau of Environmental Services (ABES), Chapter 420-3-27-.01) [Added June 1999].)<br><br>(NOTE: These regulations apply to all persons who are engaged in lead-based paint activities as defined in 40 CFR Part 745.220 - .226 and .233, and as further defined by this chapter. This chapter will apply to any person contracted by the homeowner to perform lead-based paint or lead-based paint hazard abatement or to plan such activities and also applies where the owner performs such activities in or upon another structure which is not his or her private residence or the portion thereof. Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal government or the state of Alabama having jurisdiction or control over any property or facility, or engaged in any activity resulting in or which may result in a lead-based paint hazard, and each officer, agent, or employee thereof, is subject to and must comply with all substantive and procedural requirements set out in any local, state, or federal regulations (ABES Chapter 420-3-27-.01) [Added June 1999].) |
| **T4.1.1.AL.** Persons engaged in lead based paint activities must be certified (ABES Chapter 420-3-27.04(1), 420-3-27-.10(2) and (6) through (10)) [Added June 1999]. | Verify that any firm which performs or offers to perform lead-based paint activities is certified by the Alabama Department of Public Health prior to performing or offering to perform such work.<br><br>Verify that, when performing any lead-based paint activity, an accredited individual of a certified firm performs that activity in compliance with the appropriate documented methodologies.<br><br>Verify that an inspection is conducted only by persons accredited by Safe State as an inspector or risk assessor.<br><br>Verify that lead hazard screens re only conducted by persons accredited by Safe State as a risk assessor.<br><br>Verify that risk assessments are conducted only by persons accredited by Safe State as a risk assessor.<br><br>Verify that abatement is conducted only by an individual accredited by Safe State as a worker or supervisor, and conducted under a certified firm.<br><br>Verify that an accredited supervisor is onsite during all work site preparation and during the post-abatement cleanup of work areas.<br><br>(NOTE: At all other times when abatement activities are being conducted, the accredited supervisor will be onsite or available by telephone, pager, or answering |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| | service and able to be present at the work site within 2 hr.)<br><br>Verify that notification of the intent to perform lead-based paint abatement activities in child-occupied facilities, residential dwelling or as a result of a Federal, State, or local order is given to the Department prior to the commencement of abatement activities.<br><br>Verify that post-abatement clearance procedures are performed by an accredited inspector or risk assessor of a certified firm in accordance with documented methodologies. |
| **T4.1.2.AL.** Persons engaged in lead based paint abatements must meet reporting and recordkeeping requirements (ABES Chapter 420-3-27.11(1), (2), (5), (6) and (7)) [Added June 1999]. | Verify that the federal facility does not engage in a lead-based paint abatement project prior to notifying the Department of such activities and being issued a project permit.<br><br>Verify that all applications are made in writing on a form provided by the Department, and must be received at least 10 calendar days prior to commencement of the same.<br><br>(NOTE: For emergency lead-based paint projects where a ten-day notice is not feasible, the firm or supervisor will notify the Department within five calendar days after commencement of such emergency projects.)<br><br>Verify that applications for permit revisions are made by the applicant in writing on a form provided by the Department and are received by the program in accordance with the following:<br><br>- revision to a start date for a project that will begin after the start date stated in the approved permit will received on or before the previously stated or previously revised start date<br>- revision to a start date for a project that will begin before the start date stated in the approved permit or subsequent revisions will received at least ten working days before the new start date<br>- revision to a completion date that will be extended beyond the completion date stated in the approved permit will be received by the original or previously revised completion date<br>- revision to a completion date that will be earlier than the completion date stated in the approved permit or subsequent revision will be received by the new completion date<br>- any other permit revisions will be submitted to the Department prior to initiating the activities or changes that the revision addresses.<br><br>Verify that the following documents are maintained on site during abatement |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | activities and are available for review by the Department:<br><br>- a copy of the abatement permit issued by the Department and all revisions with the Department's confirmation of receipt<br>- photo identification cards for all personnel performing lead abatement activities<br>- the occupant protection plan, and<br>- any applicable abatement design, risk assessment and inspection reports.<br><br>Verify that, upon completion of the project, the firm or supervisor certifies to the Department, on forms provided by the Department, that the project was conducted in accordance with the Rules contained in this chapter. |

| COMPLIANCE CATEGORY:<br>TOXIC SUBSTANCES MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **T4.2**<br>**LBP MISSING CHECKLIST ITEMS** | |
| **T4.2.1.AL.** Facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the facility is in compliance with all applicable and newly issued regulations |

**SECTION 12**

**WASTEWATER MANAGEMENT**

**Alabama Supplement, July 2000**

This section covers the state requirements for Wastewater Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

## Adoption by Reference

The Alabama Administrative Code adopts by reference 40 CFR Chapter I, Subchapter N (Categorical pretreatment standards).

## Definitions

- *Activated Sludge Process Plant* - a wastewater treatment plant employing a biological wastewater treatment process in which a mixture of wastewater and a coagulum or gel composed of bacteria and other microorganisms is agitated and aerated in the presence of a sufficient concentration of dissolved oxygen so that the gel can sorb dissolved and finely divided organic particles from the wastewater. The gel or sludge is subsequently separated by sedimentation and is wasted or returned to the aeration process as required. Activated sludge consists of, but is not limited to, the following:
    1. conventional activated sludge
    2. extended aeration
    3. complete-mix aerated lagoon
    4. contact stabilization (ADEM Code R, Chapter 335-10-1-.02).

- *ADAI* - the Alabama Department of Agriculture and Industries, including the office of the State Veterinarian (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *ADEM (Department)* - the Alabama Department of Environmental Management (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999] (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *ADPH* - the Alabama Department of Public Health (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Advanced Groundwater Treatment Plant* - a water treatment plant employing any treatment of greater technical sophistication than aeration, disinfection, corrosion control, pressure filtration, and fluoridation for the treatment of water from a well or spring (ADEM Code R, Chapter 335-10-1-.02).

- *Advanced Surface Water Treatment Plant* - a water treatment plant employing treatment processes which exceed in technical sophistication those included in the definition for Basic Surface Water Treatment Plant for the treatment of surface water supplies (ADEM Code R, Chapter 335-10-1-.02).

- *Agricultural Waste* - animal production by-products including animal waste, wastewater, manure, litter, bedding material, feces, urine, washdown water, dead animals, compost, dead animal compost, or other potential nutrient sources or pollutants generated by operation of an Animal Feeding Operation (AFO) (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Animal Feeding Operation (AFO)* - a lot or facility (other than an aquatic animal production facility) where animals (does not have to be the same animals) have been, are, or will be stabled, confined, gathered, or concentrated and fed or maintained (watered, cleaned, groomed, medicated, etc.) for a total of 45 days (days do not have to be consecutive) or more in any 12-month period (period does not have to correspond to the calendar year), and the animal confinement areas do not sustain crops, vegetation, forage growth, or post-harvest residues in the normal growing season as generally described in 40 CFR (Code of Federal Regulations) 122.23(b)(1). Two or more AFOs under common ownership are considered a single AFO and may require Registration as a CAFO if they adjoin, or are in close proximity to each other as determined by the Director or his designee. Two or more AFOs under common ownership or under different ownership are considered a single AFO and may require Registration as a CAFO, separately or together, if they are operated as a single operation, if they use a common area or system for the disposal of wastes, or if it is determined by the Director or his designee that they significantly share resources, storage or treatments systems, equipment, etc. or otherwise significantly link operations (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Animal Unit (AU)* - a unit of measurement for any AFO calculated by adding the following numbers: the number of slaughter and feeder cattle and dairy heifers multiplied by 1.0, plus the number of mature dairy cattle multiplied by 1.4, plus the number of swine (weighing over 55 pounds) multiplied by 0.4, plus the number of sheep multiplied by 0.1, plus the number of horses multiplied by 2.0. Where an AU is not specifically defined in this Chapter for an animal (e.g. nutria, ratites, rabbits, reptiles, brood cows, goats, etc.), an appropriate AU is determined comparing live weight equivalent waste quantity and constituent composition (limiting nutrients, moisture, additive compounds, etc.) from the most similar type animal with a defined AU (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Animal Waste Management System* - any system used for the collection, storage, treatment, handling, transport, distribution, land application, or disposal of agricultural wastes, animal waste/wastewater, waste product, and dead animals generated by an AFO that meets or exceeds NRCS technical standards and guidelines (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *AWPCA* - the Alabama Water Pollution Control Act, as amended (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Baseline Report* - information required by 40 CFR Section 403.12(b) (1994) to be submitted by an industrial user subject to a categorical pretreatment standard (ADEM Code R, Chapter 335-6-5-.02).

- *Basic Groundwater Treatment Plant* - a water treatment plant employing treatment for corrosion control, disinfection, pressure filtration, and/or fluoridation for treatment of water from a well or spring (ADEM Code R, Chapter 335-10-1-.02).

- *Basic Surface Water Treatment Plant* - a water treatment plant employing conventional coagulation, sedimentation, filtration (rates not to exceed 2 gpm/$ft^2$), and disinfection for the treatment of surface water supplies (ADEM Code R, Chapter 335-10-1-.02).

- *Best Management Practices (BMPs)* - schedules of activities, prohibitions of practices, maintenance procedures, and other effective management practices that meet or exceed NRCS technical standards and guidelines, NRCS Comprehensive Nutrient Management Plan (CNMP) guidelines, and Departmental requirements that are implemented to the maximum extent practicable to prevent or reduce pollutant discharges to waters of the State. BMPs also include effective treatment requirements, operating procedures, and practices to control construction and operation, site runoff, spillage or leaks, sludge or waste/wastewater transport, storage, disposal or land application, dead animal disposal, or drainage from raw material handling and storage. BMPs also means full implementation and continued maintenance of appropriate structural and non-structural practices and management strategies to prevent and minimize the introduction of pollutants to stormwater and to treat

stormwater to remove pollutants to the maximum extent practicable prior to discharge (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Board* - the Board of Health of the State of Alabama (as defined in Section 22-2-1, Code of Ala., 1975) or the State Health Officer or his/her designee when acting for the Board *(*Alabama Board of Health (ABH), ABH Admin. Code R. 420-3-1-.03).

- *Building Drain* - the part of the lowest piping of a drainage system that receives the discharge from soil and waste drainage pipes inside the walls of the building and conveys it to the house sewer, ending not less than 3 nor more than 5 ft outside the building wall (ABH Admin. Code R. 420-3-1-.03(5)).

- *Bypass* - the intentional diversion of waste streams from any portion of an industrial user's wastewater treatment facility (ADEM Code R, Chapter 335-6-5-.02) (ABH Admin. Code R. 420-3-1-.03(5)).

- *Bypass* - with respect to AFOs, the intentional diversion of waste streams from any portion of a waste treatment facility (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Categorical Industrial User* - any industrial user to which a categorical pretreatment standard applies (ADEM Code R, Chapter 335-6-5-.02).

- *Categorical Pretreatment Standard* or *Pretreatment Standard* - any regulation containing pollutant discharge limits promulgated by the USEPA in accordance with Section 307(b) and (c) of the FWPCA which applies to industrial users (ADEM Code R, Chapter 335-6-5-.02).

- *Certificate* - the certificate of competency issued by the Director stating that the operator has met the requirements for the specified operator classification of the certification program (ADEM Code R, Chapter 335-10-1-.02).

- *Certified Animal Waste Vendor (CAWV)* - any person certified by the Department, or certified by another agency in cooperation with the Department, to accept liability and responsibility for AFO waste, obtain required continuing education, keep required records, and effectively manage, handle, transport, store, and properly land apply AFO waste in a manner that meets or exceeds NRCS technical standards and guidelines, manage animal mortality in a manner that meets or exceeds ADAI requirements, prevents discharges, and ensures protection of groundwater and surface water quality in accordance with the requirements of this Chapter, and the requirements of the AWPCA, CWA, and regulations promulgated pursuant thereto. The CAWV is responsible, in cooperation with the AFO owner/operator generating the waste/wastewater or land owner(s) receiving the waste/wastewater, for ensuring the suitability of each site prior to applying waste/wastewater, including but not limited to, proper timing of waste/wastewater application, proper calibration of equipment, ensuring that required waste/wastewater characterization and soil testing have been properly performed, ensuring that required inspections are properly performed, ensuring that required sampling of any discharges are properly performed, and ensuring that the land owner(s) or others receiving the waste/wastewater are informed of the requirements of this Chapter (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Cesspool* - an excavation in the ground without a waterproof lining into which untreated sewage is emptied (ABH Admin. Code R. 420-3-1-.03(6)).

- *Chronic and Catastrophic Rainfall* - precipitation events which may result in an overflow of the required retention structure as described in 40 CFR Part 412. Catastrophic rainfall conditions would mean any single event which would total the volume of the 25-year, 24-hour storm event. Catastrophic conditions could also include tornadoes, hurricanes or other catastrophic conditions which could cause overflow due to winds or mechanical damage. Chronic rainfall would be that series of wet weather conditions which would not provide

opportunity for dewatering and which would total the volume of the 25-year, 24-hour storm event (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Commission* - the Alabama Environmental Management Commission (AEMC) (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Concentrated Animal Feeding Operation (CAFO)* - an animal feeding operation (AFO) as generally described in 40 CFR 122.23 Appendix B, 40 CFR 122.23(c), and defined in Rule 335-6-7-.10. For purposes of this Chapter, an AFO, regardless of size or number of animals, that has experienced a point source discharge after April 1, 1999 is considered to be included in this definition (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Construction* - any land disturbance associated with or the result of building, excavation, digging, land clearing, grubbing, placement of fill, grading, blasting, reclamation, or other activity which in any way disturbs, changes, or modifies the ground surface, ground profile or topography, or materials stored or processed above ground, including right-of-ways (ROWs) and associated areas, but excluding mining. Construction also means that the owner or operator has begun, or caused to begin as part of a continuous or phased on-site construction program, (1) any placement, assembly, or installation of facilities or equipment; or (2) significant site preparation work including, but not limited to, clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or (3) entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Control Facility* - any system used for the retention of all wastes on the premises until their ultimate disposal. This includes the retention of manure, liquid waste, dead animals, and runoff from the feedlot or stable area (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *CWA* - the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. § 1251 et seq., as amended (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Department* - the Alabama Department of Environmental Management (ADEM) (ADEM Code R, Chapter 335-6-1-.01).

- *Director* - the Director of the ADEM (ADEM Code R, Chapter 335-6-1-.01).

- *Discharge* - see indirect discharge (ADEM Code R, Chapter 335-6-5-.02).

- *Discharge* - with respect to AFOs, "the addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other waste into waters of the State", Code of Ala. 1975, § 22-22-1(b)(9), as amended (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Discharge Limitation* - any restriction imposed by the Director on quantities, discharge rates, concentrations, or other characteristics of pollutants or volumes or flow rates of wastewater which are discharged into a publicly or privately owned treatment works (AEDM Code R, Chapter 335-6-5-.02).

- *Discharger* - see indirect discharger (ADEM Code R, Chapter 335-6-5-.02)

- *Domestic Wastewater* - wastewater from residences and other wastewaters of similar composition and strength and does not mean wastewater generated by industrial processes (ADEM Code R, Chapter 335-6-5-.02).

- *Dwelling* - a house, mobile home, shelter, or building, or portion thereof, which is occupied in whole or in part as the home, residence or sleeping place of one or more human beings (ABH Admin. Code R. 420-3-1-.03(11)).

- *Effluent* - partially or completely treated sewage flowing out of any sewage treatment device (ABH Admin. Code R. 420-3-1-.03(12)).

- *Effluent Disposal Field* - an area consisting of perforated piping placed in trenches which utilizes the soil for absorption and treatment of effluent or drainage from onsite sewage disposal systems, clothes washing machines, grease traps, spas, or other waste appurtenances (ABH Admin. Code R. 420-3-1-.03(13)).

- *Engineer* - a person registered as a professional engineer with the State of Alabama Board of Registration for Professional Engineers and Land Surveyors, practicing under the rules of Professional Conduct (Code of Ethics) and experienced in, and has an understanding of, soil and geological and topographical conditions which may affect the operation of onsite sewage disposal systems (ABH Admin. Code R. 420-3-1-.03(16)) and (ADEM Code R, Chapter 335-7-1-.01).

- *FWPCA* - the Federal *Water Pollution Control Act*, also known as the *Clean Water Act* (CWA), as amended, 33 U.S.C. §§ 1251 *et seq*. and regulations listed within (ADEM Code R, Chapter 335-6-1-.01).

- *Grease Trap* - a watertight tank or receptacle in which the grease present in sewage is intercepted and congealed, and from which it may be skimmed from the surface of the liquid waste for disposal (ABH, Chapter 420-3-1-.03(23)).

- *Holding Tank* - a watertight receptacle which receives and temporarily retains sewage directly from a dwelling or other building, and is designed and constructed to facilitate removal and ultimate disposal of the sewage at another site (ABH, Chapter 420-3-1-.03(26)).

- *Indirect Discharge* or *Discharge* - the addition, introduction, leaking, spilling, or emitting of nondomestic pollutants from any source, including but not limited to those regulated under Section 307(b) or (c) of FWPCA, into a POTW or the introduction of nondomestic pollutants into a privately owned treatment works by a person other than the operator of the privately owned treatment works (ADEM Code R, Chapter 335-6-5-.02).

- *Indirect Discharger* or *Discharger* - a nondomestic discharger who discharges pollutants to a POTW or a privately owned treatment facility operated by a person other than the indirect discharger (ADEM Code R, Chapter 335-6-5-.02)

- *Industrial User* - a source of indirect discharge (ADEM Code R, Chapter 335-6-5-.02).

- *Interference* - inhibition or disruption of the treatment processes or operations of a publicly or privately owned treatment works; which contributes to a violation of any requirement of its NPDES permit or causes damage to any part of the collection, treatment, and disposal system; and includes prevention of sewage sludge use or disposal by a POTW in accordance with Section 405 of the FWPCA, or any criteria, guidelines, or regulations developed pursuant to the Solid Waste Disposal Act (SWDA), the Clean Air Act, the Toxic Substances Control Act, the Marine Protection, Research and Sanctuaries Act, or more stringent state criteria (including those contained in any state sludge management plan prepared pursuant to Title IV of the SWDA) applicable to the method of disposal or use employed by the POTW (ADEM Code R, Chapter 335-6-5-.02).

- *Liquid Animal Waste Management System* - any system that is used for the collection, storage, treatment, handling, transport, distribution or disposal of animal waste in liquid form generated by an AFO as determined by NRCS or the Department (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Local Health Department* - county, district, or regional health department (ABH, Chapter 420-3-1-.03(32)).

- *Municipality* - a city, town, borough, county, parish, district, association, or other public body created by or pursuant to state law and having jurisdiction over disposal of sewage, industrial wastes or other wastes, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under Section 208 of the FWPCA (ADEM Code R, Chapter 335-6-4-.02).

- *New Discharger* - any significant indirect discharger to whom the Department has not issued a SID permit, or any potential significant industrial discharger (ADEM Code R, Chapter 335-6-5-.02).

- *NPDES Permit* - a permit issued to the privately or publicly owned treatment works pursuant to Section 402 of the FWPCA (ADEM Code R, Chapter 335-6-5-.02).

- *NRCS* - the Natural Resources Conservation Service, an agency within the U.S. Department of Agriculture (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Operator* - the person on duty who has direct responsibility for the operation of a water treatment plant, water distribution system or wastewater treatment plant. A person is deemed to have direct responsibility for the operation of a water treatment plant, water distribution system or wastewater treatment plant if he/she in fact supervises or directs the operation of a water treatment plant, water distribution system or wastewater treatment plant (ADEM Code R, Chapter 335-6-6-.02).

- *Onsite Sewage Disposal System* - any system of piping, treatment devices, pumps, alarms, or other facilities of devices that convey, store, treat, or dispose of sewage on the property where it originates or an adjacent or nearby property under the legal ownership or legal easement in perpetuity of the same responsible person, where the system is not connected to a public sewer (ABH, Chapter 420-3-1-.03(37)).

- *Pass Through* - that a pollutant(s) introduced into a publicly or privately owned treatment works by an industrial discharger exits into a water of the state in quantities or concentrations, which, alone or in conjunction with one or more other discharges, is a cause of a violation of the NPDES permit issued to the treatment works or is a cause of a violation of a state water quality standard or is a cause of an increase in the duration or magnitude of a violation of the permit or water quality standard (ADEM Code R, Chapter 335-6-5-.02).

- *Person* - any and all persons, natural or artificial including, but not limited to, any individual, partnership, association, society, joint stock company, firm, company, corporation, institution, trust, other legal entity, business organization or any governmental entity and any successor, representative, responsible corporate officer, agent or agency of the foregoing (ADEM Admin. Code R. 335-6-5-.02(ff)) [Revised November 1996]. Also, any individual, firm, partnership, corporation, state agency, municipal corporation, party, company, association, or any other public or private legal entity (ABH, Chapter 420-3-1-.03(41)) and (ADEM Code R, Chapter 335-6-5-.02).

- *Pollutant* - includes, but is not limited to, dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:
    1. sewage from vessels
    2. water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the state and if the Department determines that the injection or disposal will not result in the degradation of ground or surface water resources (ADEM Code R, 335-6-5-.02) and (ADEM Code R, Chapter-10-1-.02).

- *Portable Toilet* - a portable, self-contained sewage tank (ABH, Chapter 420-3-1-.03(42)).

- *Pretreatment* - the reduction of the amount of a pollutant(s), the elimination of pollutant(s), or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutant into a publicly or privately owned treatment works. The reduction or alteration can be obtained by physical, chemical or biological processes, process changes or by other means except as prohibited by Rule 335-6-5-.06 (ADEM Code R, Chapter 335-6-5-.02).

- *Pretreatment Standard* - see categorical pretreatment standard (ADEM Code R, Chapter 335-6-5-.02).

- *Privately Owned Treatment Works* - any device or system which is used to treat wastes from any facility whose operator is not the operator of the treatment works, and which is not a POTW (ADEM Code R, Chapter 335-6-5-.02).

- *Privy or Dry Closet* - a receptacle, place or method used for the purpose of containing or disposing of human excreta other than by use of a water closet and not connected to water under pressure (ABH, Chapter 420-3-1-.03(44)).

- *Public Wastewater Collection System* - the system of pipes, structures, and facilities through which wastewater, municipal sewage, or wastes, of a liquid nature is received, collected, stored, transported, or delivered into a wastewater treatment plant (ADEM Code R, Chapter 335-10-1-.02).

- *Publicly Owned Treatment Works (POTW)* - a treatment works as defined by Section 212 of the FWPCA, which is owned by the state, a municipality, a regional entity composed of two or more municipalities, or another entity created by state or local authority for the purpose of collecting and treating municipal wastewater. This definition does not include pipes, sewers or other conveyances not connected to facility providing treatment. Also the municipality as defined in Section 502(4) of the FWPCA, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works (ADEM Code R, Chapter 335-6-4-.02) and (ADEM Code R, Chapter 335-6-5-.02).

- *Qualified Credentialed Professional (QCP)* -any staff member of the Department designated by the Director, a PE registered in the State of Alabama, an NRCS representative, an NRCS approved professional, or other qualified professional or professional designation acceptable to the Department, who can document proven training and experience in design, implementation, and inspection of comprehensive animal waste, waste product, and dead animal disposal management practices and system plans, including land application practices that meet or exceed NRCS technical standards and guidelines and the requirements of this Chapter as may be demonstrated by state registration, credential, professional certification, relevant experience and continuing education, or completion of accredited university programs, acceptable to the Department, that enable the individual to make sound professional judgments regarding animal waste management practices. The registrant or professional should contact the Department with any questions or comments regarding designation as a QCP. The QCP must be in good standing with the authority granting the registration or designation. The QCP must be familiar with current industry standards and be able to certify that effective management strategies have been properly implemented and regularly maintained according to good engineering practices and the requirements of this Chapter. Pursuant to Chapter 335-6-3 a PE registered in the State of Alabama must certify the design and construction of structural practices such as a Spill Prevention Control and Countermeasures (SPCC) plan containment structures, embankments, dams, dikes, berms, ditches, lagoon construction, etc. Pursuant to Code of Ala. 1975, §§ 34-41-1 to 34-41-24, a PG must perform and certify certain geological services or work (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Regulation* or *Rule* - each Department statement of general applicability that implements, interprets, or prescribes law or policy, or describes the organization, procedure, or practice requirements of the Department. The term includes the amendment or repeal of a prior rule but does not include:

1. statements concerning only the internal management of an agency and not affecting private rights or procedures available to the public
2. intra-agency memoranda
3. an order which is directed to a specifically named person or to a group of specifically named persons which does not constitute a general class and the order is served on the person(s) by the appropriate means applicable thereto.

The fact that a named person who is being regulated serves a group of unnamed persons who will be affected does not make such order a rule or requirement (ADEM Code R, Chapter 335-6-1-.01).

- *Release* - any spilling, leaking, emitting, discharging, escaping, leaching or disposing of pollutants from an AFO which has the potential to discharge into groundwater or surface water (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Retention Facility* or *Retention Structure* - all collection ditches, conduits and swales for the collection of runoff and wastewater, and all basins, ponds, sumps, and lagoons used to store and/or treat wastes, wastewaters and manure (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Seepage Pit* - a covered or uncovered pit filled with rock or other material and having no lining or an open-joined lining through which sewage or effluent seeps or leaches into the surrounding soil (ABH, Chapter 420-3-1-.03(50)).

- *Severe Property Damage* - substantial physical damage to property, damage to waste treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Does not mean economic loss caused by delays in production (ADEM Code R, Chapter 335-6-5-.02).

- *Sewage* - any liquid waste containing animal or vegetable matter in suspension or solution, and may include liquids containing chemicals in solution from water closets, urinals, lavatories, bathtubs, showers, laundry tubs or devices, floor drains, drinking fountains, or other sanitary fixtures (ABH, Chapter 420-3-1-.03(55)). Also, water carried human wastes from residences, buildings, industrial establishments or other places, together with the ground, surface, storm, or other waters as may be present (ADEM Code R, Chapter 335-6-5-.02) and (ADEM Code R, Chapter 335-6-5-.02) and (ADEM Code R, Chapter 335-10-1-.02).

- *Sewage Tank* - a watertight tank or receptacle used as a reservoir for the purpose of receiving or depositing sewage. Sewage tanks include, but or not limited to, septic tanks, holding tanks, portable toilets, aerobic sewage tanks or other similar sewage holding appurtenances (ABH, Chapter 420-3-1-.03(56)).

- *Significant Industrial Discharger* or *Significant Industrial User* - any of the following:
    1. all industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 (1994) and 40 CFR Chapter I, Subchapter N
    2. all industrial users that discharge an average of 25,000 gpd or more of process wastewater (excluding sanitary wastewater, noncontact cooling water, and boiler blowdown) to a POTW
    3. all industrial users that discharge an average quantity of process wastewater (excluding sanitary wastewater, noncontact cooling water, and boiler blowdown) that makes up 5 percent or more of the average dry weather organic or hydraulic capacity of the POTW
    4. all industrial users that discharge an average organic loading that makes up 5 percent or more of the design capacity of the POTW
    5. all industrial users that discharge to a POTW
    6. any industrial user that is determined by the Director to have a reasonable potential to adversely affect the operation of the POTW or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6) (1994) (ADEM Code R, Chapter 335-6-5-.02).

- *Sludge* - any solid, semisolid, or viscous material or other residue resulting from treatment of wastewater or produced as a result of wastewater management (ADEM Code R, Chapter 335-6-5-.02).

- *Soil* - the naturally occurring, unconsolidated mineral and organic material of the land surface developed from rock or other parent material, which is less than or equal to 2.0 mm in size as measured in place. Soil consists of sands, silts and clays or combinations of these textures and may contain larger aggregate materials such as rock or paralithic material, as well as variable amounts of naturally occurring organic materials. Soil includes the O, A, E, B, and C Horizons, as defined in the *National Soils Survey Manual* (ABH, Chapter 420-3-1-.03(61)).

- *Spa* - a unit designed for recreational and therapeutic use which is not normally drained, cleaned, or refilled for each user. It may include, but not be limited to, hydrojet circulation, hot water, cold water mineral baths, air induction bubbles, or some combination thereof. Terminology for a spa includes, but is not limited to, "therapeutic pool," "hydrotherapy pool," "whirlpool," "hot spa," "hot tub," etc. (ABH, Chapter 420-3-1-.03(65)).

- *State Indirect Discharge (SID) Permit* - a permit issued to an industrial user (ADEM Code R, Chapter 335-6-1-.01) and (ADEM Code R, Chapter 335-6-5-.02).

- *Storm-Water Or Wastewater Collection/Drainage System* - piping, pumps, ditches, swales, concrete conveyances, conduits, and any other structure or equipment used to collect and transport the flow of surface water run-off or wastewater resulting from precipitation or other sources, or wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of storm water and wastewater does not include treatment except where incidental to conveyance (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Surface Waters* - all waters of any bay, river, stream, watercourse, pond, lake, swamp, or spring located partially or wholly within the state, including the Gulf of Mexico (ABH, Chapter 420-3-1-.03(70)).

- *Trainee* - the person on duty who has direct responsibility for the operation of a water treatment plant, water distribution system, or wastewater treatment plant and who is serving in a training capacity for a maximum of 1 yr without a certificate (ADEM Code R, Chapter 335-10-1-.02).

- *Trickling Filter and/or Biological Contactor Process Plant* - a wastewater treatment plant employing a treatment process whereby the wastewater is passed over a medium upon which grows bacteria or other microorganisms that sorb and oxidize soluble and finely dissolved organic matter. Subsequent sedimentation separates the resulting settleable solids from the process effluent (ADEM Code R, Chapter 335-10-1-.02).

- *Upset* - an exceptional incident in which there is unintentional and temporary noncompliance with SID permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation (ADEM Code R, Chapter 335-6-5-.02).

- *Upset* - with respect to AFOs, an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, failure to fully implement and regularly maintain effective management practices that meet or exceed NRCS technical standards and guidelines and Department requirements, or careless or improper operation (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Waste* - Agricultural Waste including, but not limited to chemicals, sediment, trash, debris, garbage, etc. generated at an AFO (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Waste Management System Plan (WMSP)* - a comprehensive plan which meets or exceeds USDA Natural Resources Conservation Service (NRCS) technical standards and guidelines, NRCS Comprehensive Nutrient Management Plan (CNMP) guidelines, the requirements of this Chapter, and applicable requirements of the CWA and regulations promulgated pursuant thereto, that is prepared by a QCP approved by the Department. The plan shall detail management of the entire facility and associated areas which includes but is not limited to proper treatment, storage, handling, transport, and disposal/utilization of wastes, wastewater, wasteproduct, dead or diseased animals, general housekeeping BMPs, nutrient management, and land application of wastes. The nutrient management portion of the plan shall include an assessment of the land application site; a description of the land use, cropping sequence, and management of crops; nutrient budget which accounts for nitrogen and phosphorus use; timing of applications, buffer requirements, erosion, and runoff control practices; and if the site is not owned by the registrant, a signed lease to use the land, a detailed bill of sale for the waste, a valid contract with a CAWV, or a signed written land use agreement. The site assessment shall include a soil map, hydrologic soil group(s), permeability of the upper ten inches of soil, and location of streams, sinkholes, and wells. The nutrient budget shall account for all available nutrients applied on the site and shall include soil test results, sources of nutrients, and application rates. A detailed map of the application site showing location of fields, buffer zones, streams, wells, sinkholes, and other pertinent information will be part of the plan (ADEM Admin. Code R. 335-6-7-.02) [Added June 1999].

- *Waste Treatment Facility* - any devices or systems used in the storage, treatment, recycling or reclamation of municipal sewage, industrial waste, any pollutant, or other waste including, but not limited to, interceptor sewers, outfall sewers, sewage collection systems, associated pumping power and other equipment and their appurtenances, extensions, improvements, remodeling, additions or alterations. Also any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of municipal waste, industrial waste, pollutant, or other waste which flows into waters of the state, either directly or indirectly by passing through a publicly or privately owned treatment works (ADEM Code R, Chapter 335-6-5-.02).

- *Wastewater Treatment Lagoon* - a wastewater treatment plant employing an excavation designed and constructed to receive raw or pretreated wastewater in which stabilization is accomplished by several natural and photosynthetic (algal) self-purification phenomena with or without supplemental aeration. Wastewater treatment lagoon consists of, but is not limited to, the following:
    1. nonaerated
    2. partial mix
    3. hydrograph control release (HCR)
    4. aquaculture and constructed wetlands (ADEM Code R, Chapter 335-10-1-.02).

- *Wastewater Treatment Plant* - the facility or group of units used for the treatment of wastewater from sewer systems and for the reduction or handling of solids removed from wastewater (ADEM Code R, Chapter 335-10-1-.02).

- *Water Distribution System* - that portion of the water supply system in which water is conveyed from the water treatment plant or other supply point to the premises of the consumer (ADEM Code R, Chapter 335-10-1-.02).

- *Waters of the State* - all waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the state, natural or artificial. Does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless the waters are used in interstate commerce (ADEM Code R, Chapter 335-6-5-.02).

- *Water Treatment Plant* - that portion of the water supply system which in some way alters the physical, chemical, or bacteriological quality of the water (ADEM Code R, Chapter 335-10-1-.02).

- *Water Supply System* - the system of pipes, structures, and facilities through which a public water supply is obtained, treated, and sold or distributed for human consumption for household use and which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents (ADEM Code R, Chapter 335-10-1-.02).

**WASTEWATER MANAGEMENT**
**GUIDANCE FOR ALABAMA CHECKLIST USERS**

| | **REFER TO CHECKLIST ITEMS:** |
|---|---|
| Missing Checklist Items | WA.2.1.AL |
| Permits | |
| NPDES | WA.10.1.AL. through WA.10.12.AL. |
| State Permits | WA.15.1.AL. |
| Treatment Works | WA.20.1.AL. through WA.20.6.AL. |
| Discharges to a POTW/FOTW | |
| Pretreatment Standards | WA.30.1.AL. |
| Industrial Users | WA.35.1.AL. through WA.35.11.AL. |
| Documentation/Reporting to the POTW | WA.40.1.AL. |
| Other Discharges and Dischargers | |
| Animal Feeding Operations: General | WA.95.1.AL. and WA.95.2.AL. |
| Animal Feeding Operations: Permits and Registration | WA.95.3.AL. and WA.95.4.AL. |
| Animal Feeding Operations: Recordkeeping and Reporting | WA.95.5.AL. |
| Animal Feeding Operations: Training | WA.95.6.AL. |
| Animal Feeding Operations: Closure | WA.95.7.AL. |
| Animal Feeding Operations: Discharge and Waste Disposal Requirements | WA.95.8.AL. through WA.95.17.AL. |
| Land Application of Sludge | |
| General | WA.105.1.AL. through WA.105.6.AL. |
| Vectors and Pathogens | WA.110.1.AL. |
| Recordkeeping and Reporting Requirements | WA.125.1.AL. |

**GUIDANCE FOR ALABAMA APPENDIX USERS**

| **REFER TO APPENDIX NUMBERS:** | **REFER TO APPENDIX TITLES:** |
|---|---|
| 12-1 | Classification of Water and Wastewater Treatment Plants, Water Distribution Systems, and Public Wastewater Collection Systems |
| 12-2 | Classification of Concentrated Animal Feeding Operations (CAFOs) |

| COMPLIANCE CATEGORY:<br>WASTEWATER MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **WA.2**<br>**MISSING CHECKLIST ITEMS** | |
| **WA.2.1.AL.** Facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the facility is in compliance with all applicable and newly issued regulations |

| COMPLIANCE CATEGORY:<br>WASTEWATER MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **PERMITS**<br><br>**WA.10.<br>NPDES** | |
| **WA.10.1.AL.** Any person who discharges pollutants into waters of the state must have a valid permit (ADEM Admin. Code R. 335-6-6-.03) [Revised June 2000]. | Verify that the federal facility has a valid NPDES permit or a valid General NPDES permit prior to discharging pollutants into waters of the state.<br><br>Verify that the terms and conditions of the permit are met.<br><br>(NOTE: The following discharges are exempt from having an NPDES or General NPDES permit to discharge:<br>- sewage from vessels<br>- effluent from properly functioning marine engines<br>- laundry, shower, and galley sink wastes<br>- any other discharge incidental to the normal operation of a vessels<br>- dredged or fill material regulated under Section 404 of the FWPCA<br>- discharges in compliance with the instructions of an On-Scene Coordinator<br>- discharges from nonpoint source agricultural and silvicultural activities including runoff from:<br>- orchards<br>- cultivated crops<br>- pastures<br>- range lands<br>- forest lands<br>- return flow from irrigated agriculture<br>- discharge to a POTW or a privately owned treatment works that has been approved and granted a SID permit by the Department<br>- discharge to an injection well that has been permitted by the Department or the State Oil and Gas Board.)<br><br>(NOTE: This exclusion does not apply to:<br>- discharge, from a vessel, of any solid wastes, garbage, ashes, rubbish, or hazardous waste, any other pollutant, industrial waste, or other waste<br>- waste resulting from improper operation of a vessel or from the improper storage or handling of a solid or liquid product on board a vessel<br>- any waste resulting from any operations of a vessel in use for a purpose other than a means of transportation<br>- discharges from animal feeding operations (AFO), concentrated animal feeding operations (CAFO), concentrated aquatic animal production facilities, aquaculture projects, and silvicultural sources.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **WA.10.2.AL.** Permitted dischargers operating separate stormwater systems or sewers must meet reporting requirements (ADEM Admin. Code R. 335-6-6-.11 and -.23(5)(a)). | Determine if the Director or the Regional Administrator has determined the large or medium municipal separate stormwater system or the separate municipal stormwater sewer to be a discharger of pollutants that contribute to a violation of a water quality standard or to be a significant discharger of pollutants to waters of the state.<br><br>Verify that the permitted discharger submits an annual report which includes the following:<br><br>- status of implementing the components of the stormwater management programs that are established as permit conditions<br>- proposed changes, which are consistent with the permit application requirements, to the stormwater management programs<br>- revisions, if necessary, to the assessment of controls and the fiscal analysis included as a part of the permit application<br>- summary of data, including monitoring data, that has been accumulated during the reporting year<br>- annual expenditures for the reporting year and a budget for the following year<br>- summary describing the number and nature of enforcement actions, inspections, and public education programs<br>- identification of water quality improvements or degradation that has occurred during the reporting year. |
| **WA.10.3.AL.** Permitted dischargers must meet operating and maintenance requirements (ADEM Admin. Code R. 335-6-6-.12(e) and -.23(5)(a)). | Verify that, at all times, the permitted discharger properly operates and maintains all facilities and treatment and control system (and related appurtenances) which are installed or used to achieve compliance with the conditions of the permit, including effective performance based on:<br><br>- adequate funding<br>- adequate operator staffing and training<br>- adequate laboratory and processing controls, including appropriate quality assurance procedures.<br><br>Verify that the permitted discharger operates backup or auxiliary facilities only when necessary to achieve compliance with the conditions of the permit. |
| **WA.10.4.AL.** Permitted dischargers must meet monitoring requirements (ADEM Admin. Code R. 335-6-6-.12(j)1, (j)2, and - | Verify that permitted dischargers meet the requirements concerning the proper use, maintenance, and installation of monitoring equipment or methods, including biological monitoring methods, when appropriate.<br><br>Verify that permitted dischargers monitor at a frequency sufficient to yield data |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| .23(5)(a)). | representative of the monitored activity including, when appropriate, continuous monitoring.<br><br>Verify that pollutant dischargers with NPDES and/or General NPDES permits monitor the following:<br><br>- mass and/or other measurement for each pollutant limited in the permit<br>- volume of effluent discharged from each outfall<br>- pollutants in internal waste streams<br>- pollutants in intake water for net limitations<br>- pollutants subject to notification requirements<br>- frequency and rate of discharge. |
| **WA.10.5.AL.** Permitted dischargers must meet record keeping requirements (ADEM Admin. Code R. 335-6-6-.12(j)4 through (j)6 and -.23(5)(a)). | Verify that records of all monitoring information are kept for at least 3 yr from the date of the sample measurement, report, or application, including:<br><br>- all calibration and maintenance records<br>- all original strip chart recordings for continuous monitoring instrumentation<br>- copies of all reports required by the permit<br>- records of all data used to complete the reports or the application for the permit.<br><br>Verify that records of monitoring information include the:<br><br>- date, exact place, and time of sampling or measurements<br>- individual(s) who performed the sampling or measurements<br>- date(s) analyses were performed<br>- individual(s) who performed the analyses or under whose direct supervision the analyses were performed<br>- analytical techniques or methods used<br>- results of the analyses.<br><br>Verify that records are kept at the permitted facility or an alternate location approved by the Department. |
| **WA.10.6.AL.** Permitted dischargers must meet reporting and notification requirements (ADEM Admin. Code R. 335-6-6-.12(l)1, (l)2, (l)5, -.13(a), -.15(2)(d)1, -.15(2)(d)3, and -.23(5)(a) and (b)). | Verify that a permitted discharger modifies their permit when any planned physical alterations or additions to a facility could result in:<br><br>- discharge of additional pollutants<br>- an increase the quantity of pollutants discharged<br>- additional discharge points which require coverage under an NPDES permit.<br>Verify that the permitted discharger notifies the Director in advance of any planned changes in or other circumstances regarding a facility which may result in |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| (b)). | noncompliance.<br><br>Verify that discharge monitoring results are summarized for each month, submitted to, and received by the Department no later than the 28th day of the month following the reporting period.<br><br>(NOTE: If the permitted dischargers monitors any pollutant more frequently than required by the permit, the results must be included in the discharge monitoring reports. Less frequent discharge monitoring reporting may be allowed by the permit, but in no case will reporting be less than once per year.)<br><br>Verify that existing manufacturing, commercial, mining, and silvicultural dischargers notify the Director as soon as they know or have reason to believe that:<br><br>- any activity has occurred of will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:<br>  - 100 micrograms/L<br>  - 200 micrograms/L for acrolein and acrylonitrile<br>  - 500 micrograms/L for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol<br>  - 1 mg/L for antimony.<br><br>- five times the maximum concentration value reported for that pollutant in the permit application<br>- a level established by the Director<br>- any activity has occurred of will occur which would result in the discharge on a nonroutine or infrequent basis of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:<br>  - 500 micrograms/L<br>  - 1 mg/L for antimony<br><br>- ten times the maximum concentration value reported for that pollutant in the permit application<br>- a level established by the Director.<br><br>Verify that the permitted discharger notifies the Director at least 2 business days prior to a month in which it expects to operate at a level higher than the lowest production level identified in the permit and includes in the notification:<br><br>- anticipated level<br>- period during which operation at the alternate level will occur.<br><br>(NOTE: If the notice covers more than 1 mo, the notice must specify the reasons for the anticipated production level increase. New notice of discharge at alternate |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | levels is required to cover a period or production level not covered by prior notice or, if during two consecutive months otherwise covered by a notice, the production level at the facility does not in fact meet the higher level designated in the notice.)<br><br>Verify that the permitted discharger includes in the discharge monitoring report the level of production that actually occurred during each month and the limitations, standards, or prohibitions applicable to that level of production. |
| **WA.10.7.AL.** Permitted dischargers must meet noncompliance reporting requirements (ADEM Admin. Code R. 335-6-6-.12(l)6 and -.23(5)(a)). | Verify that the permitted discharger reports orally to the Director within 24 h of awareness of any noncompliance which may endanger health or the environment, including:<br><br>- violation of a discharge limitation for any pollutants identified in the permit to be reported within 24 h<br>- discharge which threatens human health or welfare, fish or aquatic life, or water quality standards<br>- discharge which does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA<br>- discharge which contains a quantity of a hazardous substance which may be harmful to the public health or welfare<br>- direct or indirect unpermitted discharge of a pollutant to a water of the state.<br><br>(NOTE: This requirement does not apply to spills or releases that are properly reported to the Department under any other state or Federal requirement, if the report is make in accordance with the other requirement.)<br><br>Verify that the federal facility submits a written report to the Director no later than 5 days after awareness of the noncompliance<br><br>(NOTE: The federal facility must report all instances of noncompliance not reported under the preceding requirements at the time discharge monitoring reports are submitted.)<br><br>Verify that written noncompliance reports include the following:<br><br>- description of the noncompliance and its cause<br>- period of noncompliance, including exact dates and times or, if not corrected, the anticipated time it is expected to continue<br>- description of the steps taken and/or being taken to reduce or eliminate the noncompliance and to prevent its recurrence. |
| **WA.10.8.AL.** Permitted dischargers must meet bypass | Verify that the permitted discharger does not allow a bypass to occur unless: |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| requirements (ADEM Admin. Code R. 335-6-6-.12(m) and -.23(5)(a)). | - it is necessary for essential maintenance to assure efficient operation of the waste treatment facility<br>- it enters the same receiving water as the permitted outfall<br>- it does not cause discharge limitations to be exceeded<br>- it is unavoidable to prevent loss of life, personal injury, or severe property damage<br>- there are no feasible alternatives to the bypass<br>- the Department is notified at least 10 days, if possible, prior to the date of an anticipated bypass and it is approved by the Director.<br><br>Verify that the federal facility monitors the bypassed wastewater, at least daily and at a frequency sufficient to prove compliance with permit discharge limitations, and includes the monitoring results in the discharge monitoring report submitted for the period(s) in which the bypass occurred.<br><br>Verify that the federal facility meets noncompliance reporting requirements for an unanticipated bypass. |
| **WA.10.9.AL.** Permitted dischargers must meet upset requirements (ADEM Admin. Code R. 335-6-6-.12(d), -.12(n), and -.23(5)(a)). | Verify that, in the event of an upset, the permitted discharger demonstrated the following:<br><br>- the specific cause(s) of the upset<br>- the wastewater treatment facility was being properly operated at the time of the upset<br>- noncompliance reporting requirements were met<br>- all reasonable steps were taken to minimize or prevent any violation of the permit or any adverse impact of any permit violation. |
| **WA.10.10.AL.** Permitted dischargers must meet spill and containment requirements (ADEM Admin. Code R. 335-6-6-.12(r) and -.23(5)(a)). | Verify that the permitted discharger provides spill prevention, control and/or management for any stored pollutant(s) that may, if spilled, be reasonably expected to enter a water of the state or the collection system for a publicly or privately owned treatment works.<br><br>Verify that any containment system used for spill control and management is constructed of materials which:<br><br>- are compatible with the substance(s) stored<br>- prevent the pollution of groundwater<br>- are capable of retaining 110 percent of the volume of the largest container of pollutants for which the containment system is provided. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **WA.10.11.AL.** Permitted dischargers must meet mixing zone requirements (ADEM Admin. Code R. 335-6-6-.15(10)(d) and -.23(5)(a)). | Verify that mixing zones in streams do not:<br><br>- preclude passage of aquatic life up or downstream<br>- exceed a width of 50 percent of the stream width<br>- exceed a length of five times the width of the mixing zone<br>- exceed an area of 25 percent of the stream cross-sectional area<br>- encompass drinking water intakes.<br><br>Verify that the total area of all mixing zones in a lake does not encompass more than 10 percent of the surface area of the lake.<br><br>Verify that the radius of any one mixing zone in a lake is neither greater than 750 ft.<br><br>Verify that a mixing zone does not encompass water intakes. |
| **WA.10.12.AL.** Permitted dischargers with schedules of compliance must meet reporting requirements (ADEM Admin. Code R. 35-6-6-.16(b)3(i) and -.23(5)(a)). | Verify that the permitted discharger, no later 14 days following each interim date, the final date of compliance, or other period determined by the Director, either:<br><br>- notifies the Director in writing of compliance or noncompliance with the interim or final requirements, or<br>- submits progress reports. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **WA.15.<br>PERMITS**<br><br>**State Permits** | |
| **WA.15.1.AL.** Any person that discharges to a privately owned treatment works must meet permitting requirements (ADEM Admin. Code R. 335-6-5-.04(1)). | Verify that any person which discharges pollutants other than domestic wastewater into a privately owned treatment works operated by another person have a valid State Indirect Discharge (SID) Permit.<br><br>Verify that the terms and conditions of the permit are met. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **WA.20.<br>TREATMENT WORKS** | |
| **WA.20.1.AL.** POTWs must meet reporting requirements (ADEM Admin. Code R. 335-6-5-.07(1)(d) and (2)). | Verify that the POTW reports all instances of pass through or interference to the Department no later than 24 h after awareness of a water quality standard violation that was or may have been caused by an industrial user.<br><br>Verify that POTWs which participate in the pretreatment surveillance and monitoring functions submit to the Department copies of all inspection reports which include sampling results that are performed by the treatment works. |
| **WA.20.2.AL.** Publicly and privately owned treatment works must meet operating requirements (ADEM Admin. Code R. 335-6-6-.13(b)). | Verify that publicly and privately owned treatment works do not allow the introduction of wastewater other than domestic wastewater from a new indirect discharger prior to the approval and permitting, if applicable, of the discharge by the Department.<br><br>Verify that publicly and privately owned treatment works do not allow an existing indirect discharger to increase the quantity or change the character of its nondomestic wastewater discharge prior to the approval and permitting, if applicable, of the discharge by the Department.<br><br>Verify that POTWs have designated discharge points for trucked or hauled pollutants and do not allow discharge of the pollutants at any other location.<br><br>Verify that the POTWs allow only discharges permitted by the Department or determined by the Department not to be a significant industrial user to discharge industrial wastes or pollutants at a designated discharge point. |
| **WA.20.3.AL.** Water treatment, distribution and collection systems must meet operator certification requirements (ADEM Admin. Code R. 335-10-1-.04(1) and (6)). | Verify that a competent operator, certified to supervise the appropriate classification of plants or systems (see Appendix 12-1), is employed by each of the following:<br><br>- water treatment plants<br>- wastewater treatment plants<br>- water distribution systems<br>- public wastewater collection systems<br><br>(NOTE: A certified operator may maintain supervision over more than one plant or system. Supervision is limited to a system classified at or lower than the grade |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| | of the operator.) |
| **WA.20.4.AL.** Grade III and IV water and wastewater treatment plants must meet staffing requirements (ADEM Admin. Code R. 335-10-1-.04(2) through (4)). | Verify that Grade III and IV (see Appendix 12-1) water treatment plants are under the supervision of an operator certified at the Grade III and IV, respectively, level or higher during plant operation.<br><br>Verify that Grade III wastewater treatment plants are under the supervision of one of the following for a minimum of one 8-h work shift each day of plant operation:<br><br>- a Grade III certified operator<br>- an operator certified at a lower Grade level<br>- a trainee.<br><br>Verify that Grade III wastewater treatment plants are, at a minimum, under the supervision of both a Grade III certified operator and a trainee for a minimum of 40 hr/wk.<br><br>Verify that Grade IV wastewater treatment plants are under the supervision of:<br><br>- a Grade IV certified operator for a minimum of one 8-h work shift during the daytime hours of plant operation<br>- an operator certified at a lower Grade level or a trainee, if, in either situation, the Grade IV operator is available on call within 30 min of the plant site, at all other times of operation. |
| **WA.20.5.AL.** Grade I and II treatment plants and distribution systems and collection systems must meet staffing requirements (ADEM Admin. Code R. 335-10-1-.04(5). | Verify that the following are under the supervision of an operator certified at the same Grade at all times:<br><br>- Grade I water distribution systems<br>- Grade I wastewater treatment plants<br>- Grade I(c) public wastewater collection systems<br>- Grade II water treatment plants<br>- Grade II wastewater treatment plants. |
| **WA.20.6.AL.** Water treatment and distribution systems with operator trainees must meet training and reporting requirements (ADEM Admin. Code R. 335-10-1-.05) [Revised July | Verify that operator trainees without Departmental certification are only allowed to perform the duties of an operator for a maximum of 1 yr.<br><br>Verify that uncertified operator trainees have acquired the following experience levels from participating in treatment activities at the same Grade for which they are trainees: A trainee may perform the duties of an operator for a maximum of one year without having been certified by the Director if the trainee fulfills meets |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| 1997]. | the following requirements<br><br>- 2 mo experience at that plant for a Grade II water treatment plant or wastewater treatment plant<br>- 4 mo experience at that plant for a Grade III or IV water treatment plant or wastewater treatment plant.<br><br>(NOTE: No experience is required for a Grade I water distribution system, a Grade I wastewater treatment plant, and a public wastewater collection system.)<br><br>Verify that trainees have submitted to the Department a notarized statement signed by the trainee containing the following:<br><br>- their full name, address, birth date, and social security number<br>- the employer's (the plant or system where the candidate is a trainee) full name and address<br>- full name and address of the certified operator under whose supervision the trainee works<br>- Grade level of the plant or system at which the trainee works<br>- date the trainee will begin/began serving as a trainee<br>- list of experience in treatment activities for the Grade of the plant or system where the trainee works, including names, addresses, and telephone numbers of employers and dates of employment.<br><br>Verify that trainees are under the supervision of certified operators.<br><br>Verify that trainees attend approved training courses specified by the Department.<br><br>Verify that certified operators supervising trainees:<br><br>- are certified to operate at least the same Grade level as the plant or system<br>- have the ability to be on the site of the plant or system within 30 min when needed<br>- furnish observations and information regarding the trainee's ability and improvement requested by the Department<br>- ensure the trainee is performing required monitoring and submitting required reports<br>- have the employer submit to the Department a letter approving the operator's supervision of trainees<br>- submit a notarized statement to the Department that, in his/her opinion, the trainee is competent to operate the plant or system under his/her guidance and supervision. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **DISCHARGES TO A POTW/FOTW**<br><br>**WA.30. PRETREATMENT STANDARDS** | |
| **WA.30.1.AL.** Dischargers to POTWs must meet pretreatment requirements (ADEM Admin. Code R. 335-6-5-.03(2)) [Revised July 1997]. | Verify that the following pollutants are not introduced into a POTW:<br>- pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21 (1994);<br>- pollutants which will cause corrosive structural damage to the treatment works, but in no case discharges with pH lower than 5.0 unless the treatment works are specifically designed to accommodate these discharges<br>- solid or viscous pollutants in amounts which will cause obstruction to the flow in sewers or other interference with the operation of the treatment works<br>- released in a discharge of a volume or strength which causes interference in the treatment works<br>- any pollutant, including oxygen demanding pollutants (BOD, etc.)<br>- heat in amounts which will inhibit biological activity in the treatment plant resulting in interference, but in no case heat in quantities that the temperature of the influent at the treatment plant exceeds 40 °C (104 °F) unless the treatment plant is designed to accommodate this heat<br>- pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems<br>- any trucked or hauled pollutants, except at discharge points designated by the treatment works<br>- petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amount that will cause interference or pass through. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **DISCHARGES TO A POTW/FOTW**<br><br>**WA.35.<br>INDUSTRIAL USERS** | |
| **WA.35.1.AL.** Significant industrial discharges to a POTW must meet permitting requirements (ADEM Admin. Code R. 335-6-5-.04(2) and 335-6-5-.05(6)) [Revised July 1997]. | Verify that significant industrial dischargers have a valid State Indirect Discharge (SID) permit prior to introducing pollutants into a POTW.<br><br>Verify that the terms and conditions of the permit have been met.<br><br>(Note: A new significant industrial user must apply for a SID Permit at least 180 days prior to the date that commencement of discharge is expected.) |
| **WA.35.2.AL.** Significant industrial dischargers to a POTW must meet operating and maintenance requirements (ADEM Admin. Code R. 335-6-5-.15(5)). | Verify that, at all times, all facilities and systems of treatment, control, and related appurtenances are properly maintained and operated, including having:<br><br>- effective performance<br>- adequate funding<br>- adequate operator staffing and training<br>- adequate laboratory and process controls, including appropriate quality assurance procedures. |
| **WA.35.3.AL.** Significant industrial discharges to a POTW must meet monitoring requirements (ADEM Admin. Code R. 335-6-5-.15(10)(a)1, (a)2, (b), (c), -.15(19), -.16(7)(c), (8), and (9)) [Revised July 1997]. | Verify that the significant industrial discharger meets the requirements concerning the proper use, maintenance, and installation of monitoring equipment or methods, including biological monitoring methods, when appropriate.<br><br>Verify that the significant industrial discharger monitors at a frequency sufficient to yield data which is representative of the monitored activity including, when appropriate, continuous monitoring.<br><br>Verify that the significant industrial discharger monitors the following if specified in their permit:<br><br>- mass and/or other measurement for each pollutant limited in the permit<br>- volume of effluent discharged from each outfall<br>- whole effluent toxicity determinations<br>- pollutants in internal waste streams |

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| | - pollutants in intake water for net limitations<br>- pollutants subject to notification requirements<br>- frequency and rate of discharge<br>- frequency and rate of discharge for noncontinuous discharges<br>- measurements of influent and effluent from the treatment works.<br><br>Verify that the significant industrial discharger monitors discharge at the sampling point(s) specified in the SID permit.<br><br>Verify that the significant industrial discharger monitor using the test method(s) specified in the SID permit. |
| **WA.35.4.AL.** Significant industrial discharges to a POTW must meet record keeping requirements (ADEM Admin. Code R. 355-6-5-.15(10)(d), (e), and (f)). | Verify that records of all monitoring information are kept for at least 3 yr from the date of the sample measurement, report, or application, including:<br><br>- all calibration and maintenance records<br>- all original strip chart recordings for continuous monitoring instrumentation<br>- copies of all reports required by the SID permit<br>- records of all data used to complete the reports or the application for the SID permit.<br><br>Verify that records of monitoring information include the:<br><br>- date, exact place, and time of sampling or measurements<br>- individual(s) who performed the sampling or measurements<br>- date(s) analyses were performed<br>- individual(s) who performed the analyses or under whose direct supervision the analyses were performed<br>- analytical techniques or methods used<br>- results of the analyses.<br><br>Verify that records are kept at the permitted facility or an alternate location approved by the Department. |
| **WA.35.5.AL.** Significant industrial discharges to a POTW must meet reporting and notification requirements (ADEM Admin. Code R. 335-6-5-.15(12)(a), (b), (e)1, through (e)3, (e)5, -.15(20), -.15(21), and -.18((b)3(i)) [Revised July 1997]. | Verify that the significant industrial discharger has applied for a modified SID permit at least 180 days in advance of any planned physical alterations or additions to a facility could result in:<br><br>- discharge of additional pollutants<br>- an increase the quantity of pollutants discharged<br>- subjection of the federal facility to the requirements of a categorical pretreatment standard. |

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| [Revised July 1997]. | Verify that the significant industrial discharger notifies the Director in advance of any planned changes in or other circumstances regarding a facility which may result in noncompliance.<br><br>Verify that discharge monitoring results are summarized for each month, submitted to, and received by the Department no later than the 28th day of the month following the reporting period.<br><br>Verify that discharge monitoring results are submitted in no case less than once each 6 mo and at the frequency required by the SID permit.<br><br>(NOTE: If the significant industrial discharger monitors any pollutant more frequently than required by the permit, the results must be included in the discharge monitoring reports.)<br><br>Verify that the significant industrial discharger notifies the publicly or privately owned treatment works immediately, and the Department during the first normal business day after awareness, of any slug type discharge which may cause interference with the treatment works.<br><br>Verify that the significant industrial discharger reports on compliance with any categorical pretreatment standard applicable to the permitted discharge within 90 days following the final compliance date for the applicable standard.<br><br>Verify that the significant industrial discharger reports compliance or noncompliance in writing to the Director no later than 14 days following each interim date, the final date of compliance, or other period which the Director determines, or submits progress reports. |
| **WA.35.6.AL.** Significant industrial discharges to a POTW must meet noncompliance reporting requirements (ADEM Admin. Code R. 335-6-5-.15(12)(f)). | Verify that the significant industrial discharger reports the noncompliance orally to the Director within 24 h of awareness of any noncompliance which has caused:<br><br>- interference or pass through<br>- an unpermitted direct or indirect discharge to a water of the state.<br><br>Verify that the significant industrial discharger submits a written report to the Director no later than 5 days after awareness of the noncompliance.<br><br>(NOTE: The significant industrial discharger must report all instances of noncompliance not reported under the preceding requirements at the time discharge monitoring reports are submitted.)<br><br>Verify that written noncompliance reports include the following: |

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| | - description of the noncompliance and its cause<br>- period of noncompliance, including exact dates and times, or if not corrected, the anticipated time it is expected to continue<br>- description of the steps taken and/or being taken to reduce or eliminate the noncompliance and to prevent its recurrence.<br><br>Verify that, within the 30 days following awareness of SID permit violation for any parameter, the federal facility:<br><br>- sample and test for the parameter<br>- submit test results to the Department.<br><br>(NOTE: If the SID permit monitoring frequency requires the monitoring of the parameter more often than once every 30 days, this requirement is satisfied and additional sampling is not required.) |
| **WA.35.7.AL.** Significant industrial discharges to a POTW must meet bypass requirements (ADEM Admin. Code R. 335-6-5-.15(12)(g)) [Revised July 1997]. | Verify that the significant industrial discharger does not allow a bypass to occur unless:<br><br>- it is necessary for essential maintenance to assure efficient operation of the waste treatment facility and does not cause the following to be violated:<br>  - SID permit limitations<br>  - categorical pretreatment standards<br>  - general pretreatment standards<br>- it is unavoidable to prevent loss of life, personal injury, or severe property damage<br>- there are no feasible alternatives to the bypass, such as the use of auxiliary waste treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime<br>- the Department is notified at least 10 days, if possible, prior to the date of an anticipated bypass<br>- it is approved by the Director.<br><br>Verify that the significant industrial discharger monitors the bypassed wastewater, at least daily and at a frequency sufficient to prove compliance with SID permit discharge limitations, and includes the monitoring results in the discharge monitoring report submitted for the period(s) in which the bypass occurred.<br><br>Verify that the significant industrial discharger meets noncompliance reporting requirements for an unanticipated bypass. |
| **WA.35.8.AL.** Significant industrial discharges to a | Verify that, in the event of an upset, the significant industrial discharger demonstrated the following: |

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| POTW must meet upset requirements (ADEM Admin. Code R. 335-6-5-.15(13)(b)) [Revised July 1997]. | demonstrated the following:<br><br>- the specific cause(s) of the upset<br>- the wastewater treatment facility was being properly operated at the time of the upset<br>- noncompliance reporting requirements were met.<br>- the permittee complied with any remedial measures required. |
| **WA.35.9.AL.** Significant industrial discharges to a POTW must meet spill and containment requirements (ADEM Admin. Code R. 335-6-5-.15(23)). | Verify that the significant industrial discharger provides spill prevention, control and/or management for any stored pollutant(s) that may, if spilled, be reasonably expected to enter a water of the state or the collection system for a publicly or privately owned treatment works.<br><br>Verify that any containment system used for spill control and management is constructed of materials which:<br><br>- are compatible with the substance(s) stored<br>- prevent the pollution of groundwater<br>- are capable of retaining 110 percent of the volume of the largest container of pollutants for which the containment system is provided. |
| **WA.35.10.AL.** All industrial discharges to publicly or privately owned treatment works must meet pretreatment requirements (ADEM Admin. Code R. 335-6-5-.03(1) and 335-6-5-.06(3)). | Verify that pollutant(s) are not introduced into publicly or privately owned treatment works which, alone or in conjunction with a discharge(s) from other sources, cause pass through, interference, or in any other manner adversely impact the operation or performance of the treatment works, including the method of sludge disposal in use at the publicly or privately owned treatment works.<br><br>Verify that the industrial user does not increase the use of process water or in any other way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a categorical pretreatment standard, except where expressly authorized to do so by an applicable categorical pretreatment standard. |
| **WA.35.11.AL.** All industrial discharges to a POTW must meet reporting and notification requirements (ADEM Admin. Code R. 335-6-5-.05(3)) [Revised July 1997]. | Verify that existing categorical industrial users submit a baseline report containing the information required by 40 CFR Section 403.12 to the Department:<br><br>- within 180 days after the effective date of a categorical standard applying to that user's process(s)<br>- 180 days after the final decision has been made upon a category determination submittal by the industrial user.<br>(NOTE: New sources must submit the baseline report as a part of the SID Permit |

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| **DISCHARGES TO A POTW/FOTW**<br><br>**WA.40. DOCUMENTATION/ REPORTING TO THE POTW** | |
| **WA.40.1.AL.** All industrial discharges to a POTW must meet notification requirements (ADEM Admin. Code R. 335-6-5-.05(7) and 335-6-5-.18(b)(3)(i)). | Verify that the industrial discharger, no later than 14 days following each interim date, the final date of compliance, or other period which the Director determines, provides one of the following:<br><br>- reports compliance or noncompliance in writing to the Director<br>- submits progress reports.<br><br>Verify that industrial users notify the POTW, the Department, and the USEPA Region IV Waste Management Division Director within 180 days of the effective date of this rule of any discharge into a POTW of a substance which is a listed or characteristic waste, and include:<br><br>- a description of the wastes discharges<br>- specification of the volume and concentration of the wastes<br>- type of discharge<br>- identification of the hazardous constituents contained in the listed wastes<br>- estimate of the volume of hazardous wastes expected to be discharged during the following 12 mo.<br><br>(NOTE: This requirement does not apply to pollutants already reported under the requirements of a SID Permit.)<br><br>(NOTE: Dischargers are exempt from this notification requirement during a calendar month in which they generate no more than 100 kg of hazardous wastes, unless the wastes are acute hazardous wastes. Generation of more than 100 kg of hazardous wastes in any given month requires a one-time notification. Subsequent months during which the industrial user generates more than 100 kg of hazardous wastes do not require additional notification, except for acute hazardous wastes.)<br><br>Verify that the industrial user notifies the POTW, the Department, and the USEPA Region IV Waste Management Division Director of the discharge of any substance included in new regulations listing or identifying additional characteristics of |

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| | hazardous waste within 90 days of the effective date of those regulations.<br><br>Verify that, when providing notification, the industrial user certifies that it has:<br><br>- a program in place to reduce the volume and toxicity of the wastes to the degree it has determined to be economically practicable<br>- selected the method of treatment, storage, or disposal currently available which minimized the present and future threat to human health and the environment. |

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| **WA.95.<br>OTHER DISCHARGES AND DISCHARGERS** | |
| **Animal Feeding Operations** | (NOTE: The provisions of this Chapter are applicable to the construction, operation, maintenance, repair, and closure of cattle, swine, poultry, fowl, dairy, stockyard, auction or buyer yards, farms, facilities, or operations, and any other animal feeding operations (AFOs) or facilities with wild or domesticated animals designated by the Director or his designee, and their associated waste management and land application systems located wholly or partially within the State of Alabama. Unless specifically excluded, the requirements of this Chapter are applicable to all new and existing AFOs in the State (ADEM Admin. Code R. 335-6-7-.03(1) and (2)).)<br><br>(NOTE: Unless required in writing by the Director, AFOs that are not considered CAFOs pursuant to Rule 335-6-7-.10 are not required to apply for and obtain Registration from the Department as required by this Chapter (ADEM Admin. Code R. 335-6-7-.03(1) and (2)).)<br><br>(NOTE: All requirements of this Chapter apply to the AFO/CAFO owner/operator until issuance of the Individual NPDES permit. The AFO/CAFO owner/operator will be considered in violation of this Chapter, the AWPCA, and NPDES requirements each day that the operation is not in compliance with the requirements of this Chapter until the required complete and correct Individual permit application is submitted and Individual permit coverage is issued by the Department.) |
| **Animal Feeding Operations: General Requirements** | |
| **WA.95.1.AL.** All AFOs must meet general state requirements (ADEM Admin. Code R. 335-6-7-.04(1) and (2)) [Added June 1999]. | Verify that all AFOs, regardless of size or registration status:<br><br>- maintain adequate records to document compliance with this Chapter<br>- fully implement and regularly maintain comprehensive waste management system Best Management Practices (BMPs) which meet or exceed NRCS technical standards and guidelines to prevent and minimize discharges of pollution during construction and operation<br>- implement appropriate pollution abatement/prevention facilities and structural and nonstructural BMPs, or Department approved equivalents prior to and concurrent with commencement of regulated until closure is approved by the Director or his designee. |

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| | Verify that all AFO owners/operators regularly inspect and evaluate their facility(s) to ensure compliance with provisions of this Chapter. |
| **WA.95.2.AL.** All AFOs that are CAFOs must register with the Director (ADEM Admin. Code R. 335-6-7-.04(2), (3) and (4)) [Added June 1999]. | Verify that each owner/operator of an AFO that is also a defined CAFO, or that meets the criteria for designation as a CAFO under this Chapter, notifies the Director or his designee of their status and register.<br><br>Verify that each CAFO owner/operator implements and maintains an approved Waste Management System Plan (WMSP), and submits formal certification/evaluation as required by this Chapter.<br><br>(NOTE: Each owner/operator of an AFO that has a question or is unsure regarding their status under this Chapter will contact the Director or his designee for clarification of their status.)<br><br>(NOTE: Except as provided otherwise by this Chapter and approved by the Director in writing, after 30 September 1999, continued operation of CAFO facilities existing after 1 April 1999 who have not submitted a complete and correct application or Notice of Registration (NOR) for coverage under a valid NPDES Registration, General permit (if issued), or Individual permit, are prohibited. Except as provided otherwise by this Chapter and approved by the Director in writing, after 1 April 1999, construction of, or commencement of regulated activity, at proposed CAFO facilities who have not submitted a complete and correct application or NOR and have not been granted coverage under a valid NPDES Registration, General permit, or Individual permit, and by the Director or his designee, is prohibited.)<br><br>(NOTE: Construction and operation of, and discharges from, CAFO facilities who have had coverage terminated or have been denied coverage under a valid NPDES Registration, General permit, or Individual permit, are prohibited.) |
| **Animal Feeding Operations: Permits and Registration** | |
| **WA.95.3.AL.** New construction or expansion of an AFO that exceeds 5 acres must meet registration/ permit requirements (ADEM Admin. Code R. 335-6-7-.07(4)) [Added June 1999]. | Verify that if the following AFOs are not already currently registered, they obtain coverage under an NPDES construction Registration, General permit, or Individual permit prior to commencement of construction, land disturbance, or associated regulated activity:<br><br>- AFOs with initial construction that exceeds 5 acres<br>- AFOs with additional construction that exceeds 5 acres at an existing AFO. |

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| .07(4)) [Added June 1999]. | |
| **WA.95.4.AL.** New CAFOs, and AFOs that expand or modify to become CAFOs, must meet registration requirements (ADEM Admin. Code R. 335-6-7-.10(1) through (3), (6) and (7)) [Added June 1999]. | Verify that no new CAFO is constructed or commences operation unless the owner/operator has submitted a complete and correct Notice of Registration (NOR) to the Department, and the Registration has been approved by the Department.<br><br>Verify that, after 30 September 1999, no CAFO existing after 1 April 1999 continues operation unless the owner/operator has first submitted a complete and correct NOR to the Department.<br><br>Verify that no existing AFO expands or modifies operations in a way that the AFO would become a defined CAFO or would be designated as a CAFO, unless the owner/operator has first submitted a complete and correct NOR to the Department, and the Registration has been approved by the Department.<br><br>(NOTE: See Appendix 12-2 for determination limits for CAFOs.)<br><br>(NOTE: Unless approved by the Director or his designee in writing, a CAFO that discharges all of its stormwater runoff and wastewater to a sanitary sewer system which discharges to a water of the State in accordance with a valid NPDES or State Indirect Discharge (SID) permit is not eligible to obtain registration coverage under this Chapter.)<br><br>(NOTE: An owner/operator of an AFO that is not defined by Rule as a CAFO or is not designated as a CAFO by the Director, that has registered may request termination of Registration at any time from the Department. Voluntary Registration by an AFO that is not defined by Rule as a CAFO or is not designated as a CAFO by the Director is not considered to be a CAFO after approval of the voluntary registration termination provided the AFO owner/operator continue to comply with all applicable requirements of this Chapter. The request shall be in a form acceptable to the Department.) |
| **Animal Feeding Operations: Recordkeeping and Reporting** | |
| **WA.95.5.AL.** AFOs must meet recordkeeping and reporting requirements (ADEM Admin. Code R. 335-6-7-.14(2) through (8), (10), | Verify that AFO owners/operators keep all required records either:<br><br>- at the facility and immediately available for inspection by the Department, or<br>- at a readily available alternative site and provided for inspection to the Director or his designee upon request. |

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| (12) and (13)) [Added June 1999]. | Verify that the AFO designates in writing, as part of any Registration, individual(s) responsible for inspections and record keeping.<br><br>Verify that incidents such as spills, or other discharges, along with information describing the pollution potential and quantity of the discharge, are documented and reported to the Director by all AFO owners/operators.<br><br>Verify that CAFO facility inspections and maintenance activities are documented and reported as required by this Chapter and records must be kept on site or at a Department approved location for a minimum of three years and until after the next inspection and certification/evaluation of the facility and applicable records by a PE as required by Rule 335-6-7-.28.<br><br>Verify that all reports required by this Chapter are submitted in a timely manner.<br><br>Verify that all discharge information and other data required to be maintained by the AFO owner/operator is made available to the Director upon request.<br><br>Verify that signed copies of monitoring reports are submitted to the Director or his designee if requested.<br><br>Verify that AFO owners/operators retain copies of all records required by this Chapter for a period of at least 3 yr from the date reported.<br><br>Verify that the registrant documents any planned physical alterations or additions to the facility, ensures that any change or facility expansion is in accordance with the provisions of this Chapter, and ensures that an applicable Registration issuance or Registration modification is obtained and approved by the Director prior to any change or modification.<br><br>Verify that, when the registrant becomes aware that it failed to submit any relevant facts, or submitted incorrect information, it promptly submits such facts or information to the Director.<br><br>(NOTE: While an AFO that is not a defined or designated CAFO is not required to maintain or submit these records unless required in writing by the Director, it is the responsibility of owners/operators of an AFO that may not be considered a CAFO requiring registration under this Chapter to maintain sufficient records that can document their status as a facility that has implemented best management practices that meet or exceed NRCS technical standards and guidelines, that has not discharged, or that is not otherwise required to register.) |
| **Animal Feeding Operations: Training** | |

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| **WA.95.6.AL.** AFOs must meet training requirements (ADEM Admin. Code R. 335-6-7-.18(1), (2), and (5)) [Added June 1999]. | Verify that all managing owners/operators and onsite supervisors of proposed or existing registered facilities and proposed or existing CAFO operations obtain certification of satisfactory completion of formal education or training in the areas of general BMPs, comprehensive waste/wastewater management, land application, nutrient budgeting, dead animal disposal, and other appropriate areas.<br><br>Verify that proof of satisfactory completion of up to 16 hr of approved group or individualized initial training and education is submitted with the NOR or no later than 1 yr after the effective date of the initial Registration<br><br>Verify that all managing owners/operators and onsite supervisors of all registered facilities and unregistered existing CAFO operations, which have been in operation for no less than 18 months, obtain certification of satisfactory completion of annual refresher training.<br><br>Verify that proof of satisfactory completion of up to 8 hr of annual approved group or individualized refresher training and education is submitted with each annual re-registration NOR.<br><br>Verify that, where employees are responsible for activities which relate to Rule compliance, those employees are regularly trained or informed of any information pertinent to the proper operation and maintenance of the facility and waste/wastewater disposal. |
| **Animal Feeding Operations: Closure** | |
| **WA.95.7.AL.** AFOs must meet closure requirements (ADEM Admin. Code R. 335-6-7-.24(1) through (4) and (6)) [Added June 1999]. | Verify that, should a CAFO or registrant cease operation, the owner/operator submit to the Department a closure/rehabilitation plan for the waste system storage/treatment structure(s) at least 30 days prior to the final day of operation.<br><br>Verify that owner/operator complies with all applicable requirements of this Chapter until such time as the facility closure plan is approved by the Department.<br><br>Verify that the approved closure plan is completed according to the approved schedule, unless an alternate date is approved in writing by the Director or his designee.<br><br>Verify that, once closure is completed, the owner/operator submits to the Department certification from a QCP that the facility has in fact been properly closed in accordance with the closure plan and the requirements of this Chapter. |

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| | (NOTE: Where the owner/operator or registrant of the facility is unable to ensure proper closure or environmental remediation of the facility as required by this Rule due to owner/operator death, liquidation bankruptcy, natural disaster, animal disease outbreak, etc., each landowner of the property where the facility is located and each person or entity (if different from the owner/operator) who owns or has an ownership interest in the facility, will submit and implement the Closure Plan required by this Rule or will submit and implement an effective environmental remediation plan prepared by a QCP to meet or exceed NRCS technical standards and guidelines, the requirements of this Chapter, and the requirements of the AWPCA, CWA, and regulations promulgated pursuant thereto, and additional conditions required by the Director or his designee to ensure the protection of water quality.) |
| **Animal Feeding Operations: Discharge and Waste Disposal Requirements** | |
| **WA.95.8.AL.** Discharges from AFOs to waters of the state are prohibited (ADEM Admin. Code R. 335-6-7-.25(1)) [Added June 1999]. | Verify that, except as specifically provided otherwise by this Chapter, there are no discharges of any wastewater from an AFO to waters of the State at any time.<br><br>(NOTE: Discharges that are a direct result of periods of chronic or catastrophic precipitation or weather conditions as determined by the Director, including precipitation equivalent to or in excess of the 25-yr, 24-hr storm event are allowed, provided:<br>- the Department is notified and discharges are sampled<br>- appropriate, effective waste management and land application practices that meet or exceed NRCS technical standards and guidelines have been fully implemented and regularly maintained prior to the causative precipitation event the discharge is unavoidable after the AFO owner/operator has taken action to the maximum extent possible to prevent discharges<br>- the owner/operator takes action to the maximum extent possible to terminate discharges as soon as possible<br>- the owner/operator takes action to the maximum extent possible to mitigate any impacts caused by the discharge(s) as soon as possible.)<br><br>Verify that no flowing surface waters or waters of the State (e.g. rivers, streams, canals, etc.) come into direct contact with the animals confined or concentrated in the facility or waste generated by the facility except as provided by NRCS technical standards and guidelines, the requirements of this Chapter, the requirements of the AWPCA, CWA, and regulations promulgated pursuant thereto.<br><br>Verify that uncontaminated drainage or runoff (which does not come into contact with waste products, animals, or other pollutants) is segregated and excluded from |

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| | wastewaters flowing to the animal waste control structures (settling basins and holding basins) to the maximum extent practicable unless specific provisions are made in a WMSP for the addition of water to aid land application or reduce odors. |
| **WA.95.9.AL.** AFOs must meet general location and requirements (ADEM Admin. Code R. 335-6-7-.25(2)(b), (g), (m) and (n)) [Added June 1999]. | Verify that new, modified, or expanded AFO facilities are be built in or over a surface water of the State or in or over specific sites with direct hydrologic connection to groundwater.<br><br>Verify that waste/wastewater handling/storage/treatment/retention facilities, confinement buildings, holding pens, etc. are not located in the 100-year flood plain unless the facility is effectively protected from inundation and damage that may occur during that flood event.<br><br>Verify that AFO facilities located in the drainage area of a municipal separate storm sewer system (MS4) comply with applicable requirements in the storm water management program developed under an NPDES permit issued to the MS4.<br><br>Verify that AFO facilities discharging through a publicly/privately owned treatment works (POTW) comply with applicable requirements in any NPDES permit issued to the POTW receiving the AFO facility discharge.<br><br>Verify that facilities do not expand operations, either in size or numbers, change land application procedures or areas, or implement significant changes in waste treatment, handling or disposal, unless the approved WMSP has been revised to meet or exceed NRCS technical standards and guidelines for the expanded/modified operations, and implementation of the approved, revised WMSP has been certified by the QCP. |
| **WA.95.10.AL.** AFOs that expand operations must meet specific requirements (ADEM Admin. Code R. 335-6-7-.25(2)(o) through (q)) [Added June 1999]. | Verify that facilities do not expand operations, either in size or numbers, prior to amending or enlarging the waste handling procedures and structures to accommodate any additional wastes that will be generated by the expanded operations.<br><br>Verify that facilities do not expand operations, either in size or numbers, unless adequate land is available and has been secured to properly land apply waste/wastewater for the existing operation and any additional waste/wastewater that will be generated by the expanded operations, or unless waste/wastewater disposal and land application responsibilities are properly contracted in writing to a valid CAWV.<br><br>Verify that waste and wastewater storage/treatment facilities, retention facilities, |

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| | holding pens, or waste/wastewater disposal sites are located in accordance with the approved plans and specifications designed and implemented that meet or exceed NRCS technical standards and guidelines, and as accepted by the Department. |
| **WA.95.11.AL.** AFOs must meet general operating requirements (ADEM Admin. Code R. 335-6-7-.25(2)(a), (c) through (f), (i) through (l), and (3)) [Added June 1999]. | (NOTE: The following technical requirements and management practices are applicable to the operation and maintenance of waste control facilities (settling basins, holding ponds, sumps, lagoons, tanks, etc.). Documentation supporting these requirements will be included in the WMSP that meets or exceeds NRCS technical standards and guidelines, and as approved by the Department.)<br><br>Verify that waste control facilities are constructed, maintained and operated so as to retain all contaminated rainfall from open lots and associated areas, process generated wastewater, and all other wastes from the AFO which will enter or be stored in the retention structure.<br><br>Verify that waste/wastewater operating levels in the waste control facilities are in accordance with the approved WMSP that meets or exceeds NRCS technical standards and guidelines.<br><br>Verify that net freeboard (margin of safety) on any settling basin, lagoon, waste storage pond, sumps, and holding pond(s) meets or exceeds NRCS technical standards but is in no case less than 12 in.<br><br>Verify that solid material (sludges, manure, or other pollutants) accumulated in the waste control facilities are removed as necessary according to the approved WMSP to maintain the facilities' design treatment and storage volume.<br><br>Verify that solids, sludges, manure, or other pollutants removed in the course of treatment or control of wastewaters are disposed or land applied in accordance with the requirements of this Chapter and in a manner to prevent pollutants from being discharged to waters of the State.<br><br>Verify that all basin, lagoon, and waste storage pond/sump liners are designed, constructed, and maintained to prevent leaking and control seepage in a manner that meets or exceeds NRCS technical standards and guidelines.<br><br>Verify that any leaks or observed seeps are documented and reported to the Department as required by this Chapter and appropriately corrected.<br><br>Verify that any discharge from the waste storage, treatment, or transport system, including but not limited to, discharges caused by overflow, observed or evident leaks or seeps, conveyance structure failure, broken pipe, broken pump or other equipment, etc. are reported to the Department.<br><br>Verify that waste handling, treatment, and management do not create an |

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| | environmental or a public health hazard, result in the contamination of drinking water, or cause or contribute to a violation of any Water Quality Standard(s).<br><br>Verify that the owner/operator takes all reasonable precautions to prevent the discharge of waters which have been, or could be contaminated by pesticides.<br><br>Verify that all wastes from dipping vats, pest and parasite control units, and other facilities utilized for the application of potentially hazardous or toxic chemicals are handled and disposed of in a manner to prevent any pollutant from such material from entering the waters of the State and according to applicable State and federal law.<br><br>Verify that confinement buildings, settling basins, lagoons, waste storage ponds, sumps, and other animal waste control structures comply with the set-back requirements of this Chapter in order to ensure the protection of water quality.<br><br>Verify that collection, storage, handling, transport, and disposal of solid animal waste are managed in accordance with recognized practices of good agricultural management and as authorized by the requirements of this Chapter.<br><br>Verify that appropriate measures necessary, as documented in the facility's SPCC plan, to prevent spills and to clean up spills of any toxic pollutant re fully implemented.<br><br>Verify that all influent to containment structures is composed entirely of process wastewaters and contaminated stormwater from the proper operation and maintenance of the AFO and any precipitation from the AFO areas, and that there is no disposal of any other materials or pollutants into the containment/treatment structures or waste management system that is not approved by the Director or his designee. |
| **WA.95.12.AL.** Land application and manure management must be conducted according to an approved Waste Management System Plan (WMSP) (ADEM Admin. Code R. 335-6-7-.26(1)) [Added June 1999]. | Verify that land application and manure management follow the requirements of the WMSP, prepared by the QCP with the NOR prior to construction and operation of a new CAFO, prior to construction and operation of additional facilities at an existing CAFO, as required to continue operation of an existing CAFO, or as otherwise required by the Director or his designee.<br><br>Verify that only areas identified in the approved WMSP are used for the disposal of animal liquid wastes, manure, litter, and mortality compost, and are located to prevent any pollutant from such materials from entering waters of the State to the maximum extent practicable.<br><br>(NOTE: Unless waste disposal and land application responsibilities are contracted in writing to a valid CAWV, all new sites not identified in the approved WMSP at the time of registration under this Chapter must be accepted by the Department |

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| | prior to its use as a land application site.) |
| **WA.95.13.AL.** CAFOs must develop and implement Pollution Prevention Plans (PPP) (ADEM Admin. Code R. 335-6-7-.28(1) and (2)) [Added June 1999]. | Verify that CAFO facilities develop and implement Pollution Prevention Plans (PPP) in accordance with the EPA Storm Water Rules.<br><br>(NOTE: The requirements for a PPP are considered to be met by a facility that has been properly designed, constructed, and is operated and maintained under terms of this Chapter.)<br><br>Verify that copies of all documentation signed by a CAFO owner/operator submitted to the Department by the registrant, including but not limited to WMSPs, construction plans and specifications, Notice of Registration for coverage under this Chapter, and any other required documents requested by the Department are kept at the facility.<br><br>(NOTE: These documents constitute the equivalent of a PPP.)<br><br>Verify that, if not included in the documents addressed above, the PPP and any additional information regarding requirements is prepared and certified by a QCP and signed by a CAFO owner/operator and retained on site for review by Department representatives. |
| **WA.95.14.AL.** CAFOs must develop, maintain and implement preventive maintenance routines (ADEM Admin. Code R. 335-6-7-.29) [Added June 1999]. | Verify that CAFO owners/operators and registrants develop, maintain and implement an appropriate schedule for routine effective preventive maintenance to their control facilities.<br><br>Verify that a maintenance log is maintained separately or as part of the approved animal waste system management plan and signed by the owner/operator documenting that preventive maintenance has been accomplished.<br><br>Verify that the preventive maintenance program involves inspection and maintenance of all runoff management devices (cleaning separators, catch basins, etc.) as well as inspecting and testing facility equipment and containment structures to uncover conditions that could cause breakdowns or failures which may result in the discharge of pollutants to waters of the State. |
| **WA.95.15.AL.** AFOs must meet notification requirements for discharges (ADEM Admin. Code R. 335-6-7-.31(1) and (2)(a) through (c)) | Verify that, if, for any reason, there is a discharge from an AFO, the owner/operator visually monitors the discharge and notifies the Director as soon as possible, but in no case later than 24 hr after becoming aware of any discharge to a water of the State caused by dike or structural failure, leakage, equipment breakdown, overflow caused by chronic or catastrophic rainfall events, human |

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| [Added June 1999]. | error, improper management, or any other reason.<br><br>Verify that the owner/operator documents the circumstances/reasons if elapsed time between becoming aware of the discharge and notification to the Department exceeds 4 hr.<br><br>Verify that the registrant documents the following information and submits a report to the Department within 5 days of becoming aware of such discharge:<br><br>- a description and cause of the discharge, including an estimate of the flow, discharge volume, and any analytical data<br>- the period of discharge, including exact begin and end dates and times, and, if not corrected, the anticipated time the discharge is expected to continue, and steps taken (or to be taken) to reduce, eliminate, and prevent the recurrence of the discharge<br>- if the discharge was caused by a precipitation event(s), information from the on-site rain gauge or weather station in close proximity to the facility concerning the size of the precipitation event(s). |
| **WA.95.16.AL.** AFOs must sample discharges (ADEM Admin. Code R. 335-6-7-.31(2)(d), (3), (4) and (5)) [Added June 1999]. | Verify that all AFO facilities sample and analyze all discharges to a water of the State from any treatment, storage, or other waste/wastewater retention facilities.<br><br>Verify that sample analyses are retained on site, and submitted to the Department within 5 days unless otherwise directed by the Director or his designee.<br><br>Verify that samples consist of grab samples taken from the overflow or discharges from the retention structures.<br><br>Verify that a minimum of one sample is obtained from the initial discharge immediately, but in no case later than 60 min after the registrant becoming aware of the discharge or the potential for discharge.<br><br>Verify that sampling continues at least once every 6 hr if the discharge continues, unless an alternate schedule is required by the Director or his designee.<br><br>Verify that the sample is obtained, stored, transported, and analyzed in accordance with EPA approved methods for water analysis listed in 40 CFR Part 136.<br><br>Verify that, should discharge occur for any reason, the sample analysis, at a minimum, includes the following:<br><br>- Fecal Coliform Bacteria (col./100 ml)<br>- 5-Day Biochemical Oxygen Demand (mg/l)<br>- Total Suspended Solids (mg/l)<br>- Ammonia Nitrogen (mg/l)<br>- Total Phosphorus (mg/l) |

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| | - any pesticide, hydrocarbon, or other pollutant which the owner/operator has reason to believe might be present in the discharge<br>- selected metals (e.g. zinc, copper, arsenic, etc.) which could become concentrated in animal wastes and in some cases are added to the animal feed producing the waste being tested<br>- any parameter(s) as may be required by the Director or his designee<br><br>Verify that the owner/operator keeps readily available onsite proper equipment and sample containers to obtain, store, handle, and transport any samples resulting from sampling conducted, or retains a QCP able to properly conduct sampling within timeframes as required by this Chapter.<br><br>Verify that, if the required sampling is not conducted for any reason, the registrant documents the reasons why discharge samples could not be collected or why the discharger was unable to conduct sampling due to climatic conditions which prohibit the collection of samples, including weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storm, etc.).<br><br>(NOTE: Once dangerous conditions have passed, the registrant will collect a sample of the discharge, if ongoing, or from the retention structure, storage pond/sump, or lagoon if the discharge has ceased. The sample will be analyzed in accordance with the above procedures.) |
| **WA.95.17.AL.** AFOs must meet specific requirements for bypass and upset (ADEM Admin. Code R. 335-6-7-.32 (3) and (4)) [Added June 1999]. | Verify that there are no bypasses, except that:<br><br>- a bypass is not prohibited if:<br>- it does not cause any applicable discharge limitation specified in this Chapter to be exceeded or cause or contribute to a violation of an applicable Water Quality Standard<br>- it is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system<br>- the AFO owner/operator submits a written request for authorization to bypass to the Direct or his designee or at least 5 days prior to the proposed bypass, the owner/operator is granted such authorization by the Director or his designee, and the owner/operator complies with any conditions imposed by the Director or his designee<br>- approval of the request is consistent with the requirements of this Chapter<br>- the AFO owner/operator monitors the discharge resulting from such bypass at a frequency, at least daily, or according to an alternate schedule as required by the Director or his designee, sufficient to prove compliance with applicable discharge limitations and requirements of this Chapter<br>- the facility has been designed, constructed, operated, and regularly maintained in a manner that meets or exceeds NRCS technical |

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| | standards and guidelines<br><br>- a bypass is not prohibited and need not meet the requirements and limitations of this Chapter if:<br>- it is unavoidable to prevent loss of life, personal injury, or severe property damage<br>- there are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime<br>- the AFO owner/operator submits a written request for authorization to bypass to the Direct or his designee or at least 10 days prior to the anticipated bypass (if possible) or if not possible, immediately notifies the Department telephonically or by facsimile and notifies the Department in writing, but in no case later than 48 hr after the bypass stating the valid reasons why prior notification could not be submitted, the owner/operator is granted authorization, and the owner/operator complies with any conditions imposed by the Director to minimize any adverse impact on human health or the environment resulting from the bypass<br>- the AFO owner/operator monitors the discharge resulting from such bypass as required by this Chapter at least daily or according to an alternate schedule as required by the Director or his designee<br>- the facility has been designed, constructed, operated, and regularly maintained in a manner that meets or exceeds NRCS technical standards and guidelines.<br><br>Verify that discharges that are claimed to be the result of upsets meet the following requirements in order to be exempt from the requirements and limitations of this Chapter:<br><br>- as soon as possible, but in no case later than 24 hr after becoming aware of the occurrence of the upset, the owner/operator orally reports the occurrence and circumstances of the upset to the Director or his designee<br>- no later than 5 days after becoming aware of the occurrence of the upset, the owner/operator furnishes the Director or his designee with evidence, including properly signed, contemporaneous operating/inspection logs, or other relevant evidence, demonstrating that:<br>- an upset occurred<br>- the owner/operator can identify the specific cause(s) of the upset<br>- the owner/operator's facility was being properly operated at the time of the upset<br>- the owner/operator promptly took all reasonable steps to minimize any adverse impact on human health or the environment resulting from the upset<br>- the AFO owner/operator monitors the discharge resulting from such upset as required by this Chapter at least daily or according to an alternate schedule as required by the Director or his designee; |

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| | - the facility has been designed, constructed, operated, and regularly maintained in a manner that meets or exceeds NRCS technical standards and guidelines.<br><br>(NOTE: The owner/operator has the burden of establishing that each of the conditions of above have been met to qualify for an exemption from the prohibitions against bypasses or discharges.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **LAND APPLICATION OF SLUDGE**<br><br>**WA.105.**<br>**GENERAL** | |
| **WA.105.1.AL.** Septage must be disposed only on land which has a land application permit (Rules of the Alabama Board of Health, (ABH) Admin. Code R. 420- 420-3-6) [Moved from WA.130.1.AL.]. | (NOTE: Septage is defined in Chapter 420-3-6 as sewage or a mixture of sewage, sludge, fatty materials, human feces, and liquid removed during the pumping of a domestic onsite sewage disposal system. It excludes marine sanitation and portable toilet wastes that have not been pretreated in a manner approved by the Board.)<br><br>Verify that septage or septage mixed with other wastes is applied only to land which has a current land application permit.<br><br>Verify that permit holders maintain a facility log and site plan in a legible form.<br><br>Verify that log is updated after each application to record: the date, time, volume, area, or sector of application, and name and permit number of the operator.<br><br>Verify that the site plan shows the entire facility area and the rotation pattern. |
| **WA.105.2.AL.** Land application facilities must meet closure requirements (Rules of the Alabama Board of Health, ABH Admin. Code R. 420-3-6.12) [Added August 1998]. | Verify that the closure of a septage land application facility has been approved by the Local Health officer or the Board.<br><br>Verify that the land application facility complies with the following notification procedures are followed prior to closure:<br><br>- notify the Local Health Officer in writing of an intention to close the facility, at least 90 days prior to the planned closure date.<br>- notify persons who are authorized to use the facility for land application of the intention to close the facility, at least 60 days prior to the planned closure date.<br>- submit a site closure plan to the Local Health Officer, at least 60 days prior to the closure date<br>- provide a statement to the property owner, if other than the permit holder, indicating the date on which the last application was made and the restrictions which apply to public access, the grazing of animals, and the growing of crops. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **WA.105.3.AL.** Septage land application facilities must meet operational requirements (Rules of the Alabama Board of Health, ABH Admin. Code R. 420-3-6.10) [Added August 1998]. | Verify that no person accepts, treats, stores, or spreads grease at a land application facility unless specifically authorized to do so under a Land Application Permit issued by the Local Health Officer.<br><br>Verify that the septage land application facility operates and manages land application activities in a manner which prevents the following:<br><br>- a nuisance or hazard menacing public health or the environment<br>- provide harborage or food for vermin or vectors<br>- cause contamination or pollution of groundwater, surface waters, or public or private drinking water wells.<br><br>Verify that, prior to land application, septage is pretreated according to the following procedures:<br><br>- septage, and other permitted waste if present, is mixed and lime-stabilized by the addition and thorough agitation of a sufficient quantity of quicklime or hydrated lime to uniformly raise the pH to 12 or higher for 30 minutes or more.<br>- no septage or septage mixed with other permitted waste is land applied where its pH is less than 12<br>- septage, and other permitted waste if present, is screened of plastic and metal objects, and other debris (disposed of in accordance with solid waste regulations)<br>- when quicklime or hydrated lime are used, they are administered in accordance with the product label directions, including all safety precautions.<br><br>Verify that no grease is spread on or applied to the land at any land application facility except when the following procedures are met:<br><br>- the grease is mixed with septage at a ratio of one (1) part grease, or less, to three (3) parts of septage<br>- the mixture is lime-stabilized<br>- the mixture is thoroughly agitated after being lime stabilized and before being spread or applied on the land<br>- the mixture of septage and grease is screened for metals and plastics.<br><br>Verify that the annual application rate for septage applied to agricultural land, forest land, or other non-public contact sites does not exceed the amount as determined by the following formula:<br><br>$AAR = \frac{N}{\text{------}}$ |

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| | 0.0026<br><br>(NOTE: AAR = Annual Application Rate in gallons per acre per 365-day period; and N = Amount of nitrogen in pounds per acre per 365-day period required by the crop or vegetation grown on the land.)<br><br>(NOTE: In the case of portable toilet and marine sanitation waste, which is properly pretreated, the Annual Application Rate (AAR) will be determined using the formula above, with 0.015 in place of the value 0.0026, to represent the higher concentration of nitrogen known to occur in those wastes.)<br><br>Verify that all septage, or mixtures of septage and portable toilet and marine sanitation waste, are spread uniformly over the approved area of the land application facility to ensure that no part receives waste in excess of the Annual Application Rate.<br><br>Verify that each application of septage or septage mixed with other permitted waste is made in sequence with previous applications to ensure uniform distribution and compliance with the annual application rate, and to derive the maximum benefit from the nutrients contained therein.<br><br>Verify that application vehicles are equipped with the following:<br><br>- a splash plate or similar device at the discharge pipe to achieve a uniform spread at least equal to the width of the vehicle<br>- a discharge valve control accessible to the driver, or other method to open the valve while the vehicle is in forward motion<br>- septage or septage mixed with other permitted waste is maintained under pressure in the vehicle tank during dispersal, if necessary to achieve the desired spread. |
| **WA.105.4.AL.** Septage land applicators must meet erosion control requirements (Rules of the Alabama Board of Health, ABH Admin. Code R. 420-3-6.10) [Added August 1998]. | Verify that a crop or vegetative cover is present during each application to prevent soil erosion and surface run-off of the waste, and to absorb the nitrogen present in the waste.<br><br>Verify that septage or septage mixed with other permitted waste is not applied to bare soil except immediately preceding the sowing or planting of a new crop or vegetative covert when it is plowed or disced into the soil.<br><br>Verify that septage or septage mixed with other permitted waste is not applied to land having a slope greater than 12 percent<br><br>Verify that no septage or septage mixed with other permitted waste is applied to land that is flooded, frozen, or snow-covered, during rains that would cause run- |

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| | off, or when the surface is saturated.<br><br>Verify that a method to control erosion, run-off and infiltration is employed at the facility.<br><br>Verify that the land application permit holder employs appropriate measures to properly store or dispose of septage or other permitted waste in the event of equipment failure; when access to the facility is restricted due to flooded, frozen, snow-covered, or other conditions; or during an emergency. |
| **WA.105.5.AL.** Septage land applicators must meet crop requirements and restrictions (Rules of the Alabama Board of Health, ABH Admin. Code R. 420-3-6.10) [Added August 1998]. | Verify that grazing animals are not allowed to enter and are restricted by means of appropriate fencing or gates, any part of the land application facility that has received septage or septage mixed with other permitted waste for a minimum of 30 days thereafter.<br><br>Verify that all land application facilities comply with the following crop restrictions:<br><br>- food crops with harvested parts that touch the septage/soil mixture and are totally above ground are not harvested for 14 months after application of domestic septage<br>- food crops with harvested parts below the surface of the land are not harvested for 20 months after application of domestic septage when the domestic septage remains on the land surface for four months or longer prior to incorporation into the soil<br>- food crops with harvested parts below the surface of the land are not harvested for 38 months after application of domestic septage when the domestic septage remains on the land surface for less than four months prior to incorporation into the soil<br>- animal feed, fiber, and those food crops whose harvested parts do not touch the soil surface are not harvested for 30 days after application of the domestic septage<br>- turf grown on land where domestic septage is applied is not harvested for one year after application of the domestic septage when the harvested turf is placed on either a lawn or land with a high potential for public exposure, unless otherwise specified by the permitting authority.<br><br>Verify that the land is protected by the growing and harvesting of a nitrogen-consuming crop to protect surface and groundwater from nitrogen pollution. |
| **WA.105.6.AL.** Septage land applicators must meet public access restrictions (Rules of | Verify that septage is not applied to a public contact site.<br><br>Verify that the permit holder takes appropriate measures to minimize public access |

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| the Alabama Board of Health, ABH Admin. Code R. 420-3-6.10) [Added August 1998]. | to the land application facility by the use of appropriate fencing materials and gates.<br><br>Verify that prominent entry points to the land application facility are posted with signs which meet the following requirements:<br><br>- stating the business name of the permit holder, the permit number, and the permit holder's telephone number.<br>- clearly visible with letters at least one (1) inch in height on material that is weather-resistant<br>- include the words: "septage application site" and "no trespassing area."<br><br>Verify that public access to the facility or any part thereof is restricted for at least 30 days after the last septage application.<br><br>Verify that the boundaries of the land application facility and setback distance (75 ft) are clearly marked by flagging or other material at regular intervals. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **LAND APPLICATION OF SLUDGE**<br><br>**WA.110**<br>**VECTORS AND PATHOGENS** | |
| **WA.110.1.AL.** Septage land applicators must meet vector control requirements (Rules of the Alabama Board of Health, ABH Admin. Code R. 420-3-6.10(17) and (18)) [Added August 1998]. | Verify that the permit holder employs adequate measures to minimize vermin and vector attraction at the land application facility.<br><br>Verify that, in addition to lime stabilization, the permit holder harvests or mows the crop or vegetative cover when necessary to reduce the potential for vector attraction.<br><br>Verify that septage or septage mixed with other permitted waste is spread uniformly over the land application area in order to prevent ponding or accumulation on the land application area, and to minimize the attraction of flies, rodents, and other vectors. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **LAND APPLICATION OF SLUDGE**<br><br>**WA.125 RECORDKEEPING AND REPORTING** | |
| **WA.125.1.AL.** Septage and sludge land applicators must meet record maintenance requirements (Rules of the Alabama Board of Health, ABH Admin. Code R. 420-3-6-.11) [Added August 1998]. | Verify that all records pertaining to the operation and management of the land application facility are maintained for a minimum period of five (5) years from the date each record is created.<br><br>Verify that the following records are be maintained in a legible form by the permit holder to record the daily activities and practices performed at the land application facility:<br><br>- the source of all septage or other permitted waste delivered to the facility<br>- the date and time when the waste was lime-stabilized; the amount of lime added to the waste; the time of initial pH measurement of 12 or greater and the pH after 30 minutes; and the method used to perform lime stabilization, such as in a vehicle tank or in a storage tank<br>- the location, identified by permit number, of each site on which septage or septage mixed with other permitted waste is applied<br>- the number of acres in each site on which septage or septage mixed with other permitted waste is applied, and the method of application<br>- the date and time septage or septage mixed with other permitted waste is applied to each site<br>- the nitrogen requirement for the crop or vegetation grown on each site during a 365-day period, and the type of crop or vegetation<br>- the rate, in gallons per acre per 365-day period, at which septage is applied to each site<br>- a certification statement.<br><br>Verify that a facility log accompanied by a site plan is available to all authorized persons while the facility is in use. |

**Appendix 12-1**

**Classification of Water and Wastewater Treatment Plants,**
**Water Distribution Systems, and Public Wastewater Collection Systems**
(Source: ADEM Admin. Code R. 335-10-1-.03)

| Grade | Description | Size |
|---|---|---|
| I | Wastewater treatment lagoon | > 0.025 MGD |
| | Water distribution system | All |
| II | Trickling filter and/or biological contactor process plant | 0 - 0.999 MGD |
| | Activated sludge process plant | 0 - 0.499 MGD |
| | Basic groundwater treatment plant | All |
| III | Trickling filter and/or biological contactor process plant | 1.000 - 10.000 MGD |
| | Activated sludge process plant | 0.500 - 5.000 MGD |
| | Basic surface water treatment plant | All |
| | Advanced groundwater treatment plant | All |
| IV | Trickling filter and/or biological contactor process plant | > 10.000 MGD |
| | Activated sludge process plant | > 5.000 MGD |
| | Advanced surface water treatment plant | All |
| I(C) | Public wastewater collection systems | All |

NOTE: Any water or wastewater treatment plant having a combination of treatment processes which are in different grades must be classified according to the process associated with the higher grade.

**Appendix 12-2**

**Classification of Concentrated Animal Feeding Operations (CAFOs)**
(Source: ADEM Admin. Code R. 335-6-7-.10(4) and (5)) [Added June 1999]

(4) For purposes of this Chapter, a CAFO is an AFO which is subject to the NPDES permitting requirements of 40 CFR 122.23 and as generally described by EPA's Guide Manual On NPDES Regulations For Concentrated Animal Feeding Operations (CAFOs) (December 1995), as amended, meeting any of the following criteria:

(a) An AFO with more than the following number(s) and type(s) of animals:
1. 1000 slaughter or feeder cattle
2. 700 mature dairy cattle (whether milked or dry cows)
3. 2500 swine each weighing over 25 kilograms (approximately 55 pounds)
4. 500 horses
5. 10,000 sheep or lambs
6. 55,000 turkeys
7. 125,000 laying hens, broilers, or other poultry
8. 5000 ducks, or
9. 1000 animal units of any other type/size animal as generally described in 40 CFR 122, Appendix B, or as determined by the Director.

(b) An AFO with more than the following number(s) and type(s) of animals and where there is a point source or nonpoint source discharge or a point source or nonpoint source discharge has occurred after 1 April 1999, of pollutants into groundwater or surface waters of the State through a man-made ditch, flushing system, other similar man-made devices, or improper handling, storage, transport, distribution, or land application of wastes:
1. 300 slaughter or feeder cattle
2. 200 mature dairy cattle (whether milked or dry cows)
3. 750 swine weighing over 25 kilograms (approximately 55 pounds)
4. 150 horses
5. 3,000 sheep or lambs
6. 16,000 turkeys
7. 37,500 laying hens, broilers, or other poultry
8. 1,500 ducks, or
9. 300 animal units of any other type/size animal as generally described in 40 CFR 122, Appendix B, or as determined by the Director.

(c) As determined necessary by the Director, a new or existing AFO, 100 animal units or larger, which is located in a localized watershed or defined stream segment that has been formally designated by the Director and publicly noticed by the Department as a priority, threatened, or water quality limited/impaired watershed due to documented, monitored pollutant concentrations which may be caused by or contributed to by actual or potential point or nonpoint source discharges from an AFO. The AFO shall remain registered until termination of the Registration is approved by the Director or his designee.

(d) An AFO of any size which has been designated by the Director following an on-site inspection by Department representatives as a significant contributor or potential significant contributor of pollution, or has caused or contributed to a violation of an applicable Water Quality Standard. An AFO that fails to fully implement and regularly maintain effective BMPs after notification from the Department shall be considered a significant contributor, shall be considered to have discharged pursuant to Rule 335-6-7-.10(4)(e), and shall be subject to enforcement action by the Department.

(e) An active AFO or inactive AFO that has not been properly closed according to the requirements of this Chapter of any size which has experienced or experiences a discharge to groundwater or surface water of

the State by lack of proper management, abandonment, negligence, by design, or for any other reason not authorized by this Chapter at any time after 1 April 1999.

(f) An AFO of any size which has experienced a discharge to groundwater or surface water of the State due to bypass or upset conditions as defined in Rule 335-6-7-.32(3) or (4), which has not fully implemented and regularly maintained a WMSP and associated land application plan which meets or exceeds NRCS technical standards and guidelines at any time after 1 April 1999 or did not notify the Department of an unpermitted discharge or the bypass or upset discharge as required by this Chapter or the AWPCA at any time after 1 April 1999.

(g) At any time after 1 April 1999, an AFO of any size with a liquid waste management system which has not fully implemented and regularly maintained a WMSP and associated land application plan which meets or exceeds NRCS technical standards and guidelines, as certified by NRCS personnel or a PE at the time of installation or as a result of a post-construction comprehensive inspection/evaluation. Unless determined otherwise by the Director or his designee, a facility is considered to have a liquid waste management system if liquid storage or treatment is used (flushing systems, lagoons, waste storage ponds, sumps, tanks, etc.), or if the waste is defined as liquid, slurry, or semi-solid according to American Society of Agricultural Engineers (ASAB) Standard S292.4, Section 2, Part 2.74, as amended.

(5) Animal units (AUs) for animals not specifically listed in this chapter (e.g. nutria, ratites, rabbits, reptiles, brood cows, goats, etc.), shall be determined on an individual basis by the Director or his designee considering the quantity and chemical characteristics of the waste using as a comparison listed animals that are similar.

**SECTION 13**

**WATER QUALITY MANAGEMENT**

**Alabama Supplement, July 2000**

This section covers the state requirements for Water Quality Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

## Adoption by Reference

The Alabama Department of Environmental Management Administrative Code Rules (ADEM Admin. Code R.) adopts by reference Section 307(a)(1) of the Federal Water Pollution Control Act (FWPCA) (Toxic Pollutant Criteria Applicable to States).

## Definitions

- *Abandoned Well* - an injection well into which the injection of pollutants has been terminated or a well in such a state of disrepair as to be unusable. A temporary abandonment is when injection has ceased but is expected to resume within 1 yr. A permanent abandonment is when injection has ceased and no future injection is planned or when no injection has taken place for a period of 1 yr or more (ADEM Admin. Code R. 335-6-8-.02).

- *Action Level* - the concentration of lead or copper in water which is used to determine compliance with the regulations concerning the control of lead and copper (ADEM Admin. Code R. 335-7-11-.01).

- *Aquifer* - a geological formation, group of formations or part of a formation that is capable of yielding a significant amount of water to a well or spring (ADEM Admin. Code R. 335-6-8-.02).

- *Area of Review* - the area around an injection well or well field in which migration of injected pollutants or formation fluids into an underground source of drinking water (USDW) may occur (ADEM Admin. Code R. 335-6-8-.02).

- *Blow-Out Preventer* - a mechanical device used to keep pressurized fluids in a well from leaving the well head while allowing access to the well casing by drilling tools and well-logging tools (ADEM Admin. Code R. 335-6-8-.02).

- *Casing* - a heavy pipe or tubing which is lowered into a borehole during or after drilling in order to support the sides of a hole and prevent caving; to prevent loss of drilling mud into porous formations; or to prevent water, gas or other fluid from entering or leaving the hole (ADEM Admin. Code R. 335-6-8-.02).

- *Cementing* - the operation whereby a cement slurry is placed into a borehole and/or forced behind a casing or between casings (ADEM Admin. Code R. 335-6-8-.02).

- *Class I Well* - an injection well used to inject a pollutant beneath the lowermost formation which contains an underground source of drinking water within 5 mi of the well bore (ADEM Admin. Code R. 335-6-8-.02).

- *Class II Well* - an injection well used either to inject the brine or other fluids which are brought to the surface in connection with oil or natural gas production and which may be commingled with waste waters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the

time of injection; for enhanced recovery of oil or natural gas; or for storage of hydrocarbons which are liquid at standard temperature and pressure (ADEM Admin. Code R. 335-6-8-.02).

- *Class III Well* - an injection well used to inject a pollutant beneath the lowermost formation which contains an underground source of drinking water within 5 mi of the well bore (ADEM Admin. Code R. 335-6-8-.02).

- *Class IV Well* - an injection well which is used for extraction of minerals or energy, including mining of sulfur by the French process, solution mining of minerals, in-situ combustion of fossil fuel and recovery of geothermal energy to produce electricity. Fossil fuels include coal, tar sands, oil shale and any other fossil fuel which can be mined in-situ combustion. Geothermal recovery wells used for heating and aquaculture are not considered Class III wells and are classified as Class V wells (ADEM Admin. Code R. 335-6-8-.02).

- *Class V Well* - an injection well not included in Classes I or IV. Class V wells include, but are not limited to, the following:
    1. injection wells used to return the water used for heating or cooling in a heat pump to the supply aquifer (air conditioning return flow wells)
    2. cesspools or other devices which receive pollutants and have an open bottom and sometimes have perforated sides
    3. injection wells used for the injection of water previously used for cooling (cooling water return flow wells)
    4. injection wells used to drain surface fluid, primarily storm runoff, into a subsurface formation (drainage wells)
    5. injection wells used to replenish the water in an aquifer (recharge wells)
    6. injection wells used for the injection of water into a fresh water aquifer to prevent the intrusion of salt water into the fresh water (salt water intrusion barrier wells)
    7. injection wells used for the injection of a mixture of water and sand, mill tailings, or other solids into mined out portions of subsurface mines or injection wells used for the injection of coal washer wastewater into subsurface mines
    8. injection wells used for the injection of any waste or effluent from a business establishment, multiple dwelling, community, or regional cesspool or septic tank
    9. injection wells (not used for the purpose of oil or natural has production) used for the injection of fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water (subsidence control wells)
    10. injection wells used in heating and aquaculture (geothermal wells)
    11. percolation fields or other subsurface structures used to inject industrial pollutants which are not hazardous or toxic (ADEM Admin. Code R. 335-6-8-.02).

- *Coagulation* - a process using coagulant chemicals and mixing to destabilize colloidal and suspended particles into floc (ADEM Admin. Code R. 335-7-12-.01).

- *Community Water System* - a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents (ADEM Admin. Code R. 335-7-12-.01).

- *Complained Limit* - the level of 0.015 mg/L of lead and 1.3 mg/L of copper in drinking water (ADEM Admin. Code R. 335-7-11-.01 and ADEM Admin. Code R. 335-7-1-.01).

- *Compliance Cycle* - the 9-yr. calendar year cycle during which public water systems must monitor. Each compliance cycle contains three 3-yr. compliance periods. The first compliance cycle begins 1 January 1993 and ends 31 December 2001 (ADEM Admin. Code R. 335-7-1-.01).

- *Compliance Period* - a 3-yr. calendar period within a compliance cycle (ADEM Admin. Code R. 335-7-1-.01).

- *Contaminant* - any physical, chemical, biological, radiological substance or matter in water (ADEM Admin. Code R. 335-7-1-.01).

- *Corrosion Inhibitor* - a substance capable of reducing the corrosivity of water towards metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials (ADEM Admin. Code R. 335-7-11-.01 and 335-7-1-.01).

- *Cross-Connection* - the interconnection of an approved drinking water source system with a facility or system which contains or provides an unapproved or unaccepted water source, supply, or product (ADEM Admin. Code R. 335-7-1-.01).

- *Department* - the Alabama Department of Environmental Management (ADEM) (ADEM Admin. Code R. 335-6-10-.02).

- *Director* - the Director of the ADEM or his designee (ADEM Admin. Code R. 335-7-1-.01).

- *Disinfectant* - any oxidant including, but not limited to, chlorine, chlorine dioxide, chloramines or ozone, added to water in any part of the treatment or distribution process with the intent to kill or inactivate pathogenic microorganisms (ADEM Admin. Code R. 335-7-1-.01).

- *Disinfection* - the process of applying an approved disinfectant to destroy, neutralize, or inhibit the growth of pathogenic microorganisms (ADEM Admin. Code R. 335-7-1-.01).

- *Domestic Wastewater* - wastewater that is generated by a dwelling at which industrial operations are not carried out or wastewater that is generated by toilets, showers, wash basins, and wastewaters from administrative areas at other than a dwelling and that are free of any wastewater resulting from an industrial or commercial process (ADEM Admin. Code R. 335-6-8-.02).

- *Effective Corrosion Inhibitor Residual* - a concentration of corrosion inhibitor sufficient to form a passivating film on the interior walls of a pipe (ADEM Admin. Code R. 335-7-11-.01).

- *Exemption* - the process of allowing a water system to be excused from meeting an established drinking water standard for a specific length of time (ADEM Admin. Code R. 335-7-1-.01).

- *Existing Injection Well* - an injection well that is in operation or under construction on 29 August 1994, provided that an injection well in operation which was required to be authorized, approved or permitted under existing local, State or Federal laws or regulations and which has not received an authorization, approval, or permit will not be considered an existing injection well. Under construction means:
    a. that the owner or operator had obtained all necessary Federal, State and local preconstruction approvals or permits
    b. a continuous physical onsite construction program has begun
    c. the owner or operator has entered into contractual obligations which cannot be canceled or modified without substantial loss for construction of the facility within a reasonable time (ADEM Admin. Code R. 335-6-8-.02).

- *Field* - a group of wells or similar construction, which are use for the same purpose, penetrate essentially the same geological formations and are located in the same area (ADEM Admin. Code R. 335-6-8-.02).

- *Filtration* - a process for removing particulate matter from water by passage through media (ADEM Admin. Code R. 335-7-1-.01).

- *Finished Water* - water to be used by a public water supply system which has received the application of water treatment chemicals and other processes necessary to meet drinking water standards (ADEM Admin. Code R. 335-7-1-.01).

- *First Draw Sample* - a 1-L sample of tap water which has been standing in plumbing piping for at least 6 h prior to collection and is collected without flushing the tap. Samples are taken from residential housing from a cold water kitchen or bathroom tap or from a nonresidential building collected at a tap used for water consumption (ADEM Admin. Code R. 335-7-11-.01).

- *Flocculation* - a process to enhance agglomeration of smaller floc particles into larger more easily settleable particles through gentle stirring by hydraulic or mechanical means (ADEM Admin. Code R. 335-7-1-.01).

- *Fluid* - a material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state (ADEM Admin. Code R. 335-6-8-.02).

- *Formation* - a body of rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface (ADEM Code R, 335-6-8-.02).

- *Formation Fluid* - a fluid present naturally as opposed to a fluid introduced into a formation form drilling or injection (ADEM Admin. Code R. 335-6-8-.02).

- *Groundwater Source* - a source of water that is obtained from wells or springs and not directly influenced by surface water (ADEM Admin. Code R. 335-7-1-.01).

- *Groundwater Under the Influence* - any water beneath the surface of the ground with:
    1. significant occurrence of insects or other macroorganisms, algae, or large diameter pathogens such as Giardia lamblia
    2. significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions (ADEM Admin. Code R. 335-7-1-.01).

- *Hazardous Waste* - a hazardous waste as defined by Code of Alabama §22-30-3(5) (ADEM Admin. Code R. 335-6-8-.02).

- *Industrial Waste* - liquid or other wastes resulting from any process of industry, manufacture, trade or business, or from the development of natural resources (ADEM Admin. Code R. 335-6-10-.02).

- *Initial Compliance Period* - the first full 3-yr. compliance period which starts 1 January 1993 and ends 31 December 1995 (ADEM Admin. Code R. 335-7-1-.01).

- *Injection* - the introduction of a pollutant into a subsurface location (ADEM Admin. Code R. 335-6-8-.02).

- *Injection Well* - a bored, drilled, or driven shaft or dug hole which is used for the injection of pollutants, including any subsurface structures such as septic tank percolation fields (ADEM Admin. Code R. 335-6-8-.02).

- *Injection Zone* - the formation, group of formations or part of a formation receiving pollutants through an injection well (ADEM Admin. Code R. 335-6-8-.02).

- *Large Water System* - a public water system serving 50,000 or more persons (ADEM Admin. Code R. 335-7-11-.01).

- *Lead Service Line* - a water service line made of lead connecting the water main to a building inlet. This service line includes all fittings (ADEM Admin. Code R. 335-7-11-.01).

- *Maximum Contaminant Level (MCL)* - the maximum permissible level of a contaminant in drinking water which is delivered to any user of a public water system (ADEM Admin. Code R. 335-7-1-.01).

- *Maximum Total Trihalomethane Potential* - the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after 7 days at a temperature of 25 °C or above (ADEM Admin. Code R. 335-7-1-.01).

- *Noncommunity Water System* - a public water system which does not meet the requirements of a community water system or a nontransient noncommunity water system (ADEM Admin. Code R. 335-7-1-.01).

- *Nontransient Noncommunity (NTNC) Water System* - a public water system that is not a community water system and that regularly serves at leas 25 of the same individuals at least 6 mo/yr (ADEM Admin. Code R. 335-7-1-.01).

- *NPDES* - National Pollutant Discharge Elimination System (ADEM Admin. Code R. 335-6-10-.02).

- *Operator* - the person responsible for operation of an injection well (ADEM Admin. Code R. 335-6-8-.02).

- *Optimal Corrosion Control Treatment* - treatment of the water that minimizes the lead and copper concentrations at users taps while insuring that the treatment does not cause noncompliance with other established drinking water standards (ADEM Admin. Code R. 335-7-11-.01).

- *Other Wastes* - all other substance, whether liquid, gaseous or solid, from all other sources including, but not limited to, any vessels or other conveyances traveling or using the waters of this state, except industrial wastes or sewage, which may cause pollution of any waters of the state (ADEM Admin. Code R. 335-6-20-.02).

- *Packer* - a mechanical or physical device used to seal off certain sections of an injection well (ADEM Admin. Code R. 335-6-8-.02).

- *Permit* - written authorization granted by the Department to construct, install, and operate a public water system and to furnish and supply water for human consumption or use (ADEM Admin. Code R. 335-7-1-.01).

- *Person* - any individual, firm, partnership, corporation, local governmental unit, party, company, association, federal agency, state agency, or any other public or private legal entity (ADEM Admin. Code R. 335-7-1-.01).

- *Plugging* - the act or process of stopping the flow of formation fluids or surface waters into a borehole or well or out of a borehole or well into formations or to the surface (ADEM Admin. Code R. 335-6-8-.02).

- *Pollutant* - includes, but is not limited to, dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. Pollutant does not mean sewage from vessels (ADEM Admin. Code R. 335-6-8-.02).

- *Pollution* - the discharge of a pollutant or combination of pollutants (ADEM Admin. Code R. 335-6-10-.02).

- *Public Water System* - a system for the provision to the public of water for human consumption, if the system has at least 15 service connections or regularly serves an average of at least 25 individuals at least 60 days out of the year. A public water system includes any source, collection, treatment, storage, and distribution facilities under the control of the operator of the system and used primarily in connection with the system, and any collection or pretreatment storage facilities not under the control of the operator which are used primarily in

connection with the system. A public water system is either a community water system, a noncommunity water system, or a nontransient noncommunity water system (ADEM Admin. Code R. 335-7-1-.01) [Revised June 1999].

- *Raw Water* - water which has received no treatment nor the application of treatment chemicals (ADEM Admin. Code R. 335-7-1-.01).

- *Repeat Compliance Period* - any subsequent compliance period after the initial compliance period (ADEM Admin. Code R. 335-7-1-.01).

- *Sample Sites for Community Water Systems* -
    1. Tier One Sites - sites include single family structures containing lead pipe or plumbing, are served by a lead service line, or contain copper pipes with lead solder and were constructed after 1982.
    2. Tier Two Sites - sites include buildings and multiple family residences containing lead pipe or plumbing, are served by a lead service line, or contain copper pipes with lead solder and were constructed after 1982.
    3. Tier Three Sites - sites include single family structures containing copper pipes with lead solder which were constructed prior to 1983 (ADEM Admin. Code R. 335-7-11-.07(a)).

- *Sampling Sites for NTNC Water Systems* -
    1. Tier One Sites - sites include buildings with lead pipes or plumbing, are served by a lead service line or contain copper pipes with lead solder constructed after 1982.
    2. Tier Two Sites - sites include buildings with copper pipes and lead solder constructed before 1983 (ADEM Admin. Code R. 335-7-11-.07(b)).

- *Sanitary Survey* - an onsite review of the water source, facilities, equipment, operation, and maintenance of a public water system for the purpose of evaluating the adequacy of the source, facilities, equipment, operation, and maintenance for producing and distributing safe drinking water (ADEM Admin. Code R. 335-7-1-.01).

- *Sedimentation* - a process using gravity or separation for removal or concentration of solids prior to filtration (ADEM Admin. Code R. 335-7-1-.01).

- *Service Line Sample* - a 1-L sample of water which has been standing in a lead service line for at least 6 h (ADEM Admin. Code R. 335-7-11-.01).

- *Sewage* - water-carried human wastes from residences, buildings, industrial establishments, or other places including, but not limited to, any vessels, or other conveyances traveling or using the waters of this state, together with the ground, surface, storm, or other waters which may be present (ADEM Admin. Code R. 335-6-10-.02).

- *Single Family Structure* - a building constructed as a single family residence that is currently used as either a residence or a place of business (ADEM Admin. Code R. 335-7-11-.01).

- *Small Water System* - a public water system that serves 3300 population or less (ADEM Admin. Code R. 335-7-11-.01).

- *State Waters* or *Waters of the State* - all waters of any river, stream, watercourse, pond, lake, coastal, or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership, or corporation unless the waters are used in interstate commerce (ADEM Admin. Code R. 335-6-10-.02).

- *Supplier of Water* - any person who owns, operates, controls, directs, or is responsible for a public water system (ADEM Admin. Code R. 335-7-1-.01).

- *Surface Water Source* - a source of raw, untreated water that is open to the atmosphere and subject to surface water runoff or direct atmospheric contamination; or groundwater which is subject to direct influence of surface water (ADEM Admin. Code R. 335-7-1-.01).

- *Treated Water* - water to be used by a public water system which has received the application of approved water treatment chemicals (ADEM Admin. Code R. 335-7-1-.01).

- *Trihalomethane* - one of the family of organic compounds named as derivatives of methane wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure (ADEM Admin. Code R. 335-7-1-.01).

- *Total Trihalomethanes (TTHM)* - the sum of the concentration in m/L of the trihalomethane compounds: chloroform, dibromochloromethane, bromodichloromethane, and bromoform, rounded to two significant figures (ADEM Admin. Code R. 335-7-1-.01).

- *Underground Source of Drinking Water (USDW)* - an aquifer or a portion of an aquifer:
    1. which supplies drinking water for human consumption, or
    2. in which the groundwater contains fewer than 10,000 mg/L of total dissolved solids and which is not an exempted aquifer (ADEM Admin. Code R. 335-6-8-.02).

- *Unregulated Contaminant* - any contaminant with established monitoring requirements but with no prescribed maximum MCL adopted (ADEM Admin. Code R. 335-7-1-.01).

- *Volatile Synthetic Organic Chemical* (NOTE: The ADEM Admin. Code R. 335-7 abbreviates Volatile Synthetic Organic Chemical as VOC. In order to avoid confusion with the standard abbreviation of Volatile Organic Chemical as VOC, the term Volatile Synthetic Organic Chemical is abbreviated as VOC in this Water Quality Protocol.) - a group of organic chemical compounds considered to be probable human carcinogens for which maximum contaminant levels and monitoring requirements have been adopted by the Department (ADEM Admin. Code R. 335-7-1-.01).

- *Well* - a hole drilled for the production of water. Also means a bored, drilled, or driven shaft or dug hole (ADEM Admin. Code R. 335-6-8-.02).

- *Well Log* - means a recording obtained from a well, showing information such as resistivity, radioactivity, spontaneous potential, acoustic velocity, and other information as a function of depth and/or time (ADEM Admin. Code R. 335-6-8-.02).

**WATER QUALITY MANAGEMENT**
**GUIDANCE FOR ALABAMA CHECKLIST USERS**

| | **REFER TO CHECKLIST ITEMS:** |
|---|---|
| Missing Checklist Items | WQ.2.1.AL. |
| Permits/Notifications/Exemptions | WQ.5.1.AL. through WQ.5.4.AL. |
| Operators | WQ.6.1.AL. |
| Public Water Systems | |
| General | WQ.10.1.AL. through WQ.10.6.AL. |
| Monitoring/Sampling | WQ.15.1.AL. through WQ.15.25.AL. |
| Disinfection and Filtration | WQ.20.1.AL. through WQ.20.14.AL. |
| Lead and Copper | WQ.25.1.AL. through WQ.25.14.AL. |
| Notification and Reporting Requirements | WQ.30.1.AL. through WQ.30.15.AL. |
| Community Water Systems | |
| Standards | WQ.35.1.AL. through WQ.35.4.AL. |
| Monitoring/Sampling | WQ.40.1.AL. through WQ.40.20.AL. |
| Notification and Reporting Requirements | WQ.45.1.AL. through WQ.45.9.AL. |
| Noncommunity Water Systems | |
| Monitoring/Sampling | WQ.65.1.AL. |
| Nontransient Noncommunity Water Systems | |
| Standards | WQ.76.1.AL. |
| Monitoring/Sampling | WQ.77.1.AL. through WQ.77.20.AL. |
| Notification and Reporting Requirements | WQ.79.1.AL. through WQ.79.10.AL. |
| State Specific Categories of Water Systems | |
| Private/Other | WQ.85.1.AL. through WQ.85.4.AL. |
| Drinking Water Well | WQ.90.1.AL. through WQ.90.11.AL. |
| Monitoring Wells | WQ.100.1.AL. and WQ.100.2.AL. |
| Injection Control Wells | WQ.110.1.AL. through WQ.110.12.AL. |
| Water Quality Standard | |
| General | WQ.115.1.AL. through WQ.115.3.AL. |
| Public Water Use Classification | WQ.115.4.AL. through WQ.115.10.AL. |
| Swimming and Other Whole Body Water-contact Sports Use Classification | WQ.115.11.AL. through WQ.115.16.AL. |
| Shellfish Harvesting Use Classification | WQ.115.17.AL. through WQ.115.23.AL. |
| Fish and Wildlife Use Classification | WQ.115.24.AL. through WQ.115.30.AL. |
| Agricultural and Industrial Water Supply Use Classification | WQ.115.31.AL. through WQ.115.35.AL. |
| Industrial Operations Use Classification | WQ.115.36.AL. through WQ.115.45.AL. |
| Outstanding Alabama Water Use Classification | WQ.115.46.AL. through WQ.115.53.AL. |

**WATER QUALITY MANAGEMENT**
**GUIDANCE FOR ALABAMA APPENDIX USERS**

| REFER TO APPENDIX NUMBERS: | REFER TO APPENDIX TITLES: |
|---|---|
| 13-1 | Maximum Contaminant Levels (MCL) for Nonvolatile Synthetic Organic Chemicals |
| 13-2 | Maximum Contaminant Levels (MCL) for Volatile Synthetic Organic Chemicals |
| 13-3 | Microbiological Sampling Requirements |
| 13-4 | Maximum Contaminant Levels (MCLs) for Natural Radionuclides |
| 13-5 | Maximum Contaminant Levels (MCLs) for Manmade Radionuclides |
| 13-6 | Unregulated Synthetic Organic Chemicals |
| 13-7 | Unregulated Volatile Organic Chemicals |
| 13-8 | Secondary Maximum Contaminant Levels (MCLs) |
| 13-9 | Number of Lead/Copper Sample Sites for Initial and Reduced Monitoring |
| 13-10 | Water Quality Monitoring |
| 13-11 | Maximum Contaminant Levels (MCL) for Inorganic Chemicals |

| COMPLIANCE CATEGORY:<br>WATER QUALITY MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **WQ.2**<br>**MISSING CHECKLIST ITEMS** | |
| **WQ.2.1.AL.** Facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings). | Determine whether any new regulations have been issued since the finalization of the manual.<br><br>Determine whether the facility has activities or facilities that are regulated but not addressed in the checklists.<br><br>Verify that the facility is in compliance with all applicable and newly issued regulations |

| COMPLIANCE CATEGORY:<br>WATER QUALITY MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **WQ.5. PERMITS/ NOTIFICATIONS/ EXEMPTIONS** | |
| **WQ.5.1.AL.** Public water systems must meet permitting requirements (ADEM Admin. Code R. 335-7-4-.02 and 335-7-4-.03) [Moved in structural reorganization of WQ.5 October 1999]. | Verify that all water systems which provide water for human consumption have a current Water Supply Permit.<br><br>Verify that the system has a current Water Supply Permit prior to the construction of distribution system additions which will significantly affect system hydraulics, water storage facilities, water sources, treatment plants, and pumping facilities.<br><br>Verify that the system submits monthly progress reports which provide the status of construction and the estimated date of completion. |
| **WQ.5.2.AL.** Public water systems must have a permit to utilize surface water as a source for a drinking water facility (ADEM Admin. Code R. 335-7-6-.01 and 335-7-6-.02) [Moved in structural reorganization of WQ.5 October 1999]. | Verify that the Federal facilities have a permit prior to utilizing surface water as a source for a drinking water facility. |
| **WQ.5.3.AL.** Public water systems using a surface water source as a supply of drinking water with a high rate of filtration must be approved by the Department (ADEM Admin. Code R. 335-7-6-.07) [Moved in structural reorganization of WQ.5 October 1999]. | Verify that filtration rates greater than 2 gal/min/$ft^2$ of filter area have a permit modification from the Department. |

| COMPLIANCE CATEGORY:<br>WATER QUALITY MANAGEMENT<br>Alabama Supplement | |
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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **WQ.5.4.AL.** Community and NTNC water systems distributing drinking water for consumption by the public must have a permit (ADEM Admin. Code R. 335-7-7-.01 and 335-7-7-.02) [Moved in structural reorganization of WQ.5 October 1999]. | Verify that projects involving water system storage, new sources, pumping stations, or water main additions that would significantly affect system hydraulics have been granted a permit by the Department prior to construction.<br><br>(NOTE: Nontransient noncommunity (NTNC) water systems are defined as public water systems that are not community water system and that regularly serves at least 25 of the same individuals at least 6 mo/yr. For public water systems that do not meet the requirements for either community or NTNC water systems see noncommunity systems (WQ.85.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000 [Reorganized October 1999]** |
| **WQ.6.**<br>**OPERATORS** | |
| **WQ.6.1.AL.** Operators of public water systems must be certified by the State of Alabama (ADEM Admin. Code R. 335-7-10-.02) [Moved in structural reorganization of WQ.5 October 1999]. | Verify that operators of public water systems are certified according to the following:<br>- for distribution systems operation and systems with only purchase water sources, Grade I<br>- for basic groundwater treatment and noncommunity slow sand filtration, Grade II<br>- for basic surface water treatment plant operation for community and NTNC systems and advanced groundwater treatment, Grade III<br>- for advanced or high rate surface water treatment plant operation, Grade IV. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **PUBLIC WATER SYSTEMS**<br><br>**WQ.10. GENERAL** | |
| **WQ.10.1.AL.** Public water systems must meet turbidity standards (ADEM Admin. Code R. 335-7-2-.05(1)). | Verify that systems using surface sources or groundwater sources under the direct influence of a surface water source provide a filtration process to produce a filtered water turbidity no greater than 0.5 turbidity units (TU) in 95 percent of filtered water samples analyzed each month.<br><br>Verify that all other groundwater sources produce a treated water which at no time exceeds 5.0 TU.<br><br>Verify that all systems failing to meet these standards provides the following:<br><br>- public notification within 14 days<br>- a plant operation improvement plan to ADEM within 60 days. |
| **WQ.10.2.AL.** Public water systems must meet microbiological standards (ADEM Admin. Code R. 335-7-2-.06(1)(a) through (e)). | Verify that total coliform bacteria are detected in:<br><br>- less than 5.0 percent of the samples collected by systems collecting 40 or more samples monthly<br>- at most only one of the samples collected by systems collecting less than 40 samples monthly.<br><br>Verify that no fecal coliform or *E. coli* bacteria are present in any repeat sample necessitated by a total coliform being present in the initial sample.<br><br>Verify that no total coliform bacteria are present in any repeat sample collected in response to either a fecal or *E. coli* positive routine sample.<br><br>Verify that, after learning of the violation, the system reports the violation no later than the end of the next business day. |
| **WQ.10.3.AL.** Public water systems must meet specific protection requirements (ADEM Admin. Code R. 335- | Verify that a suitable [not defined] backflow prevention device is installed on each service connection where an existing or potential health hazard to the water system exists or when any of the following conditions exist: |

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| 7-9-.03) [Cite Revised July 1997]. | - premises on which any substance is handled in a manner that creates an actual or potential hazard to a water system<br>- premises with an auxiliary water system, unless the system is accepted as an additional source by the Department<br>- premises with internal cross connections that, in the judgment of supplier of water or the Department, may not be easily correctable<br>- premises where, because of security requirements, intricate plumbing or other restrictions, it is impossible to make a complete cross connection survey<br>- premises with a repeated history of cross connections being established or reestablished<br>- NTNC systems and other facilities with fire protection systems utilizing combinations of sprinklers, fire loops, storage tanks, pumps, antifreeze protection or other chemical additives, or auxiliary water sources<br>- NTNC systems and other facilities with booster pumps which are connected to the water supply lime but not equipped with a low suction pressure cutoff device to shut off the booster pumps when suction pressure drops to 20 psi<br>- other premises specified by the Department when cause can be shown that a potential cross connection hazard exists. |
| **WQ.10.4.AL.** Public water systems using a surface water source as a supply of drinking water with a high rate of filtration must be approved by the Department (ADEM Admin. Code R. 335-7-6-.15) [Cite Revised June 1999]. | (NOTE: This checklist item moved here from WQ.5.3.AL.; June 1999.)<br><br>Verify that filtration rates greater than 2 gal/min/ft$^2$ of filter area have a permit modification from the Department. |
| **WQ.10.5.AL.** Public water systems using a surface water source as a supply of drinking water must conduct a source water assessment (ADEM Admin. Code R. 335-7-6-.04) [Added June 1999]. | Verify that source waters for all surface water treatment plants are assessed for susceptibility to contaminant sources located in its watershed.<br><br>Verify that the source water assessment consists of:<br><br>- watershed delineation<br>- contaminant source inventory<br>- susceptibility analysis<br>- contingency plans and<br>- public awareness.<br><br>Verify that assessments for existing systems are completed no later than 6 February 2003.<br><br>(NOTE: Assessments of proposed new water supply sources will be completed |

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| | and approved by ADEM prior to issuance of a construction permit for the intake.) |
| **WQ.10.6.AL.** Chemicals used in public water systems must meet specific standards (ADEM Admin. Code R. 335-7-6-.18 and .28) [Added July 2000]. | Verify that chemicals used in surface water treatment (other than alum, lime, chlorine, potassium permanganate, caustic soda, soda ash, powdered activated carbon, and hydrofluosilicic acid) are approved by the Department prior to use.<br><br>Verify that information regarding company name, telephone number, address and chemicals supplied are maintained in a file at the plant.<br><br>Verify that all chemical manufacturers supplying chemicals to the treatment plant for the past two years are maintained on this list.<br><br>Verify that the system determines that the chemical or substance to be added and the proposed application rate meets the ANSI/NSF standard 60 or 61, and provides a list of the type, name, and manufacturer, and certification document requesting Departmental approval prior to use of the substance or chemical.<br><br>Verify that there water treatment chemicals containing acrylamide or epichlorohydrin are not use in water treatment plants unless the system provides annually a written certification to the department that when acrylamide and/or epichlorohydrin are used to treat water, the combination of dose and monomer level does not exceed:<br><br>- for acrylamide: 0.05 percent dosed at 1 ppm or equivalent<br>- for epichlorohydrin: 0.01 percent dosed at 20 ppm or equivalent.<br><br>Verify that the name of the chemical used and daily average dose rate are shown on the monthly operation data report for the plant.<br><br>Verify that chemicals are stored in packages or containers as received, or otherwise their containers are labeled to indicate the name of the chemical.<br><br>Verify that chemicals are controlled to prevent contamination with other chemicals and to eliminate any dangerous mixing of chemicals.<br><br>Verify that acid storage tanks are vented to the outside atmosphere in a separate vent stack. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **PUBLIC WATER SYSTEMS**<br><br>**WQ.15. MONITORING/ SAMPLING** | |
| **WQ.15.1.AL.** Community and NTNC water systems must meet nitrite monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.03(5)(a), (b), and (e)). | Verify that the system collects one sample which is representative of each surface source.<br><br>Verify that the system collects one sample from the entry point to the distribution system representing each groundwater source or treatment plant utilized.<br><br>Verify that the system collects samples:<br><br>- the quarter following any analytical result for nitrate which exceeds 4.4 mg/L<br>- quarterly for at least 1 yr. following any one sample whose analytical result is greater than 0.54 mg/L.<br><br>(NOTE: Sampling may be reduced to annually if the average of four consecutive quarterly results is less than 0.54 mg/L.)<br><br>Verify that, when the MCL for nitrite is exceeded, systems initiate a second analysis within 24 h and use the average of the two analyses as the compliance level.<br><br>Verify that the Department is notified within 48 h when this level also exceeds the MCL.<br><br>Verify that a system unable to collect a confirmation within 24 h does the following:<br><br>- immediately notifies their customers<br>- collects a confirmation sample within 14 days. |
| **WQ.15.2.AL.** Public water systems must meet microbiological monitoring and sampling requirements (ADEM Admin. Code R. 335- | Verify that systems collect the number of bacteriological samples specified and collect at the sites specified in the sampling plan at regular time intervals throughout the month. |

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| 7-2-.06(3)). | |
| **WQ.15.3.AL.** Consecutive water systems must meet monitoring requirements (ADEM Admin. Code R. 335-7-2-.09). | Verify that systems which obtain water from another public water system conduct monitoring pursuant to the schedule specified by the Department. |
| **WQ.15.4.AL.** Public water systems must meet sampling requirements (ADEM Admin. Code R. 335-7-2-02) [Revised July 1997]. | Verify that samples used to demonstrate compliance with state regulations are collected using procedures, containers, and preservatives established by the USEPA.<br><br>(NOTE: Analysis of such samples must be performed using approved EPA methodology and by a laboratory certified by EPA or the Department which has demonstrated the ability to analyze the specific contaminants at an acceptable detectable limit established by EPA, except turbidity, chlorine residual, and secondary standards may be analyzed by a certified operator using procedures established by EPA. Confirmation samples may be required after the detection of a contaminant or the submittal of results which is questionable.) |
| **WQ.15.5.AL.** [Moved to WQ.40.1 and WQ.77.1 August 1998]. | |
| **WQ.15.6.AL.** [Moved to WQ.40.2 and WQ.77.2 August 1998]. | |
| **WQ.15.7.AL.** [Moved to WQ.40.3 and WQ.77.3 August 1998]. | |
| **WQ.15.8.AL.** [Moved to WQ.40.4 and WQ.77.4 August 1998]. | |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **WQ.15.9.AL.** [Moved to WQ.40.5 and WQ.77.5 August 1998]. | |
| **WQ.15.10.AL.** [Moved to WQ.40.6 and WQ.77.6 August 1998]. | |
| **WQ.15.11.AL.** [Moved to WQ.40.7 and WQ.77.7 August 1998]. | |
| **WQ.15.12.AL.** [Moved to WQ.40.8 and WQ.77.8 August 1998]. | |
| **WQ.15.13.AL.** [Moved to WQ.40.9 and WQ.77.9 August 1998]. | |
| **WQ.15.14.AL.** [Moved to WQ.40.10 and WQ.77.10 August 1998]. | |
| **WQ.15.15.AL.** [Moved to WQ.40.11 and WQ.77.11 August 1998]. | |
| **WQ.15.16.AL.** [Moved to WQ.40.12 and WQ.77.12 August 1998]. | |

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| **WQ.15.17.AL.** [Moved to WQ.40.13 and WQ.77.13 August 1998]. | |
| **WQ.15.18.AL.** [Moved to WQ.40.14 and WQ.77.14 August 1998]. | |
| **WQ.15.19.AL.** [Moved to WQ.40.15 and WQ.77.15 August 1998]. | |
| **WQ.15.20.AL.** Public water systems must meet microbiological monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.06 (2) through (5)) [Partially moved to WQ.40.16 and WQ.77.16; August 1998]. | Verify that the system analyzes the appropriate minimum number of samples on a monthly basis (see Appendix 13-3).<br><br>Verify that, if a routine sample is total coliform positive the system, collects a set of repeat samples within 24 h of being notified of the positive results, unless the Department gives an extension, and all repeat samples are collected on the same day.<br><br>(NOTE: The Department may waive the requirement to collect the downstream sample should the original sample be collected at the end of a distribution line.)<br><br>Verify that, if one or more repeat samples in a set is total coliform positive, the system collects an additional set of repeat samples for each positive sample.<br><br>Verify that these additional samples are collected within 24 h of notification of the positive result and that the system repeats this process until either:<br><br>- total coliforms are not detected in one complete set of repeat samples<br>- the system exceeds the MCL for total coliforms and notifies the Department.<br><br>Verify that systems, which are required to collect fewer than five routine samples per month and have a total coliform positive sample, collect at least five routine<br><br>Verify that the system notifies the public when it samples during the next month the system provides water to the public.<br><br>- fails to provide results from the minimum number of monthly samples<br>- repeatedly fails to provide results from required raw water samples |

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| | - fails to provide results from minimum repeat samples<br>- fails to collect repeat samples within 24 h of notification. |
| **WQ.15.21.AL.** [Moved to WQ.40.17 and WQ.77.17 August 1998]. | |
| **WQ.15.22.AL.** [Moved to WQ.40.18 and WQ.77.18 August 1998]. | |
| **WQ.15.23.AL.** [Moved to WQ.40.19 and WQ.77.19 August 1998]. | |
| **WQ.15.24.AL.** [Moved to WQ.40.20.AL. and 77.20.AL., August 1998]. | |
| **WQ.15.25.AL.** Public water systems must meet monitoring, sampling, and notification requirements for secondary MCLs and corrosivity characteristics (ADEM Admin. Code R. 335-7-3-.03, .04(a) through (c), .05, .06, .07, and .08). | Verify that the system monitors secondary contaminants (see Appendix 13-8), other than odor and foaming agents, at the same frequency as specified for inorganic contaminants, or at the frequency specified by the Department.<br><br>(NOTE: The Department may issue a deviation for a secondary contaminant to the system.)<br><br>Verify that the system monitors for the following corrosivity characteristics:<br><br>- pH<br>- total alkalinity<br>- carbon dioxide<br>- sodium<br>- sulfates<br>- calcium<br>- magnesium<br>- hardness<br>- temperature<br>- specific conductance or total dissolved solids. |

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| | Verify that the water system collects two samples, one during midwinter and one during midsummer, from a representative entry point to the water distribution system per plant for analysis for each system using surface water sources.<br><br>Verify that the water system collects one sample per plant for analysis for each plant using groundwater sources.<br><br>(NOTE: the minimum number of samples required to be taken by the system will be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with Departmental approval., be considered on treatment plant for determining the minimum number of samples. Additional monitoring may be required by the Department.)<br><br>Verify that the supplier reports to the Department the results of any test, measurement, or analysis for secondary MCLs and corrosivity characteristics no later than the 10th of the following month in which the result is received by the supplier.<br><br>(NOTE: The water system is not required to report analytical results to the Department in cases where a State Laboratory performs the analysis and reports the results to the Department.)<br><br>Verify that the samples are analyzed by a laboratory certified by the Department or a certified operator using USEPA methodology and detection limits.<br><br>(NOTE: The Department may require the water system to give notice to persons served by the system in a newspaper of general circulation in the area if the system exceeds the MCL of a secondary standard or if the system fails to comply with prescribed monitoring. The system will provide notices which:<br>- are written in a manner reasonably designed to inform fully the users of the system<br>- are conspicuous<br>- do not use unduly technical language, unduly small print, or other methods that would frustrate the purpose of the notice<br>- a clear statement that a secondary drinking water standard has been violated<br>- any preventative measures that should be taken by the public.)<br><br>(NOTE: The notice may include a balanced explanation of the significance or seriousness of the subject of the notice, a fair explanation of steps taken by the system to correct any problem, and the results of any additional sampling. Proof of completion of the notice will be received by the Department within 10 days of the completion of the notice. This proof will include a copy of the exact notice used with details as to manner and date of notification. Notice to the public may be given by the Department on behalf of the water system.) |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **PUBLIC WATER SYSTEMS**<br><br>**WQ.20. DISINFECTION AND FILTRATION** | |
| **WQ.20.1.AL.** Public water systems must meet turbidity monitoring and recording requirements (ADEM Admin. Code R. 335-7-2-.05(2)(a) and (b)) [Revised June 1999]. | Verify that, when the plant is in operation, samples of the raw, settled, and filtered water are collected at least every other hour and analyzed for turbidity.<br><br>Verify that filtered water samples are obtained and analyzed from each filter.<br><br>Verify that filtered water samples represent all filters in use each day of operation.<br><br>(NOTE: Results from a continuous turbidity monitoring analyzer may be used to demonstrate compliance with these standards if records indicating proper calibration of this instrument are maintained at the plant on a weekly basis.)<br><br>Verify that turbidity results are logged on a daily operation report and the highest value determined during that operating day recorded on the monthly operation data report.<br><br>(NOTE: Systems serving less than 500 persons may have monitoring requirements reduced to once per day.)<br><br>Verify that systems using only groundwater and which are required to monitor for turbidity by the Department analyze and record the results of at least one turbidity measurement each day the source is in operation.<br><br>(NOTE: If continuous turbidity monitoring devices are used the highest value indicated each day must be listed on the operational data report.) |
| **WQ.20.2.AL.** Public water systems must meet specific treatment requirements for surface water used as a drinking water source (ADEM Admin. Code R. 335-7-6-.11) [Cite Revised June 1999]. | Verify that all surface water used as a drinking water source is treated to produce water meeting both primary and secondary standards and is free of *Giardia lamblia*, viruses, heterotrophic plate count bacteria, and *Legionella*.<br><br>Verify that no treatment process is bypassed.<br><br>Verify that treatment includes at least the following:<br><br>- coagulation<br>- flocculation |

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| | - sedimentation<br>- filtration<br>- disinfection.<br><br>(NOTE: Other processes that include filtration may be used by noncommunity and NTNC plants.)<br><br>Verify that water treatment process and achieve the following results:<br><br>- at least 99.9 percent removal and/or inactivation of *Giardia lamblia* cyst prior to service of the first customer<br>- 99.99 percent removal and/or inactivation of viruses prior to service of the first customer<br>- drinking water that meets all primary and secondary standards. |
| **WQ.20.3.AL.** Public water systems using a surface water source as a supply of drinking water must meet mixing basin requirements (ADEM Admin. Code R. 335-7-6-.12) [Revised June 1999]. | Verify that basins or facilities are provided for both the rapid disbursement of coagulants in the raw water and development of a settable floc.<br><br>Verify that provisions are made for the application of chemicals at various points in the treatment train.<br><br>Verify that a detention time of no less than 30 min is available under normal flow conditions in the flocculation basin.<br><br>Verify that there are no bypass lines around the rapid mix or flocculation basins. |
| **WQ.20.4.AL.** Public water systems using a surface water source as a supply of drinking water must meet settling basin requirements (ADEM Admin. Code R. 335-7-6-.13) [Cite Revised June 1999]. | Verify that the public water system has at least two sedimentation basins or clarification basins.<br><br>Verify that there is at least a 4-h settling period in sedimentation basins.<br><br>Verify that there is at least a 2-h content detention in upflow clarifiers during normal operations.<br><br>Verify that settled sludge is withdrawn from sedimentation basins.<br><br>Verify that, for upflow clarifiers, sludge recycling and sludge blanket development occurs. |
| **WQ.20.5.AL.** Public water systems using a surface water source as a supply of drinking water must meet specific | Verify that community and NTNC systems use gravity type rapid sand filters, with at least two units at each plant or facility, for the treatment of surface water.<br><br>(NOTE: Noncommunity systems may use slow sand filters or pressure filters as |

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| filtration requirements (ADEM Admin. Code R. 335-7-6-.14) [Cite Revised June 1999]. | long as all standards are met.)<br><br>Verify that rapid sand filters meet the following requirements:<br><br>- rate of filtration does not exceed 2 gal/min/$ft^2$ of sand area, unless otherwise approved by the Department<br>- sufficient head room is available above filters to allow inspection of the facility and access to the filter<br>- sample taps are present on the filter effluent line from each filter<br>- media meet Departmental design requirements [not specified]<br>- the rate of flow through each filter is constantly controlled<br>- a filter flow indicator and head loss indicator is present at each filter<br>- the turbidity on the effluent from each filter is monitored. |
| **WQ.20.6.AL.** Public water systems using a surface water source as a supply of drinking water must meet specific filter cleaning requirements (ADEM Admin. Code R. 335-7-6-.16) [Cite Revised June 1999]. | Verify that equipment is installed that properly [not defined] cleans and backwashes filters.<br><br>Verify that filters are backwashed when one of the following occurs:<br><br>- the head loss exceeds 6 ft<br>- effluent turbidity approaches or exceeds 0.5 NTU<br>- there is a rapid increase in effluent turbidity.<br><br>Verify that water used for all backwashing procedures meet primary and secondary drinking water standards.<br><br>Verify that a flow control device is available to regulate and indicate the rate of backwashing.<br><br>Verify that filters are designed so that operators can observe the backwashing procedures.<br><br>Verify that, after backwashing, the filter is filtered to waste until the turbidity is less than 0.5 NTU. |
| **WQ.20.7.AL.** Public water systems using a surface water source as a supply of drinking water must meet specific disinfection requirements (ADEM Admin. Code R. 335-7-6-.17) [Cite Revised June 1999]. | Verify that a disinfectant application rate of at least a one log *Giardia lamblia* cyst and a two log virus inactivation is provided to all filtered water to provide.<br><br>Verify that, if chlorine is used as the disinfectant, the system meets one of the following requirements:<br><br>- either of the following concentration times:<br>  - a concentration time of at least 70 is available |

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| | - an alternative concentration time acceptable to the Department<br>- chlorine residual entering the distribution system from each plant is not less than 1.0 mg/L at any time.<br>Verify that, if a disinfectant other than chlorine is used, the Department has granted approval to do so.<br><br>Verify that, if the federal facility fails to meet disinfection requirements or correct a deficiency within 4 h of its occurrence, the public is notified of the failure within 14 days of the deficiency's occurrence.<br><br>Verify that the Department is notified of a disinfection deficiency and the resulting action within 48 h of the deficiency's occurrence. |
| **WQ.20.8.AL.** Public water systems using a surface water source as a supply of drinking water must meet specific requirements for chemicals used in water treatment (ADEM Admin. Code R. 335-7-6-.18) [Cite Revised June 1999]. | Verify that Departmental approval is obtained for any chemical prior to use in surface water treatment, other than the following:<br><br>- alum<br>- lime<br>- chlorine<br>- potassium permanganate<br>- caustic soda<br>- soda ash<br>- powdered activated carbon<br>- hydroflurosilic acid.<br><br>Verify that records of the chemical manufacturer or supplier's name, address and phone number, and the chemicals supplied are maintained at the plant for at least 2 yr.<br><br>Verify that the chemicals or substances added to the public water system and their application rates meet Standard 60 or 61 of ANSI/NSF.<br><br>Verify that the public water system does not use chemicals containing acrylamide or epichlorohydrin in water treatment unless the Department has approved their use.<br><br>Verify that chemicals are stored in either of the following ways:<br><br>- in packages or containers as received<br>- containers labeled with the name of the chemical.<br><br>Verify that chemicals are controlled to prevent contamination with other chemicals and to eliminate any dangerous mixing of chemicals.<br><br>Verify that acid storage tanks are vented to the outside atmosphere in a separate |

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| | vent stack. |
| **WQ.20.9.AL.** Public water systems using a surface water source as a supply of drinking water must meet specific requirements for treatment process equipment (ADEM Admin. Code R. 335-7-6-.19) [Cite Revised June 1999]. | Verify that, where a treatment process is necessary for the production of safe drinking water (e.g., chlorination or coagulation), the public water system is equipped with a minimum of two sets of chemical feeders.<br><br>Verify that a standby unit or combination of units is available to replace the largest set of chemical feeders during shutdowns.<br><br>Verify that chemical feeders meet the following capacity and design requirements:<br><br>- feeders are able to supply at all times the necessary [not defined] amounts of chemical at an accurate rate throughout the range of feed<br>- feeders prevent treatment chemicals from being siphoned into the water supply<br>- service water supply lines are equipped with backflow or backsiphonage prevention devices or an air gap exists between the supply line and solution tank<br>- chemical-contact materials and surfaces are resistant to the aggressiveness of the chemical solution. |
| **WQ.20.10.AL.** [Revised and moved to WQ.35.4 and 76.1 August 1998]. | |
| **WQ.20.11.AL.** Public water systems required to provide disinfection must meet disinfectant residual requirements (ADEM Admin. Code R. 335-7-10-.04). | Verify that any public water system required to provide disinfection maintains a residual level that protects the water throughout the distribution system.<br><br>Verify that distribution systems meet the following requirements:<br><br>- departmental approval is obtained for use of any disinfectant other than chlorination<br>- if chlorine is used, a free residual of 0.2 mg/L at representative sampling points in the distribution system is maintained<br>- if chemicals other than chlorine are used, a minimum disinfectant residual level established by the Department.<br><br>Verify that, if disinfectant levels in the service area distribution system fall below 0.2mg/L and are not corrected within 4 h, the following actions are taken:<br><br>- the treatment process is revised to correct the violation<br>- the Department is notified by the end of the next business day |

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| | - affected customers are notified via a newspaper of general circulation serving the area within 14 days of the occurrence<br>- if disinfectant residual is not restored within 24 h, microbiological samples are immediately collected from the representative locations within the area of insufficient disinfectant residual.<br><br>Verify that, if samples indicate that system contamination has occurred, the notification requirements for public water systems are met.<br><br>Verify that the following facilities utilize continuous disinfection of noncommunity groundwater sources:<br><br>- all groundwater sources constructed after 4 January 1989<br>- any system showing a positive total coliform result three or more months in any 12-mo period.<br><br>Verify that groundwater sources used by community and NTNC systems undergo continuous disinfection utilizing a chemical or treatment technique accepted by the Department.<br><br>Verify that a chlorine concentration time of at least 60 is met when the average monthly turbidity is less than 5 NTU and one of the following occurs:<br><br>- the geologic conditions make groundwater susceptible to contamination<br>- the average total coliform count of the raw water exceeds 20/100 mL but is less than 20/100 mL for an average of weekly samples for a minimum of four consecutive months<br>- the average fecal coliform count of the raw water exceeds 5/100 mL but is less than 20/100 mL for an average of weekly samples for a minimum of four consecutive months.<br><br>(NOTE: If a disinfectant other than chlorine is used, an equivalent concentration time is prescribed by the Department.)<br><br>Verify that water systems required to provide disinfection maintain an adequate [not defined] level of disinfectant residual in the distribution system at all times.<br><br>Verify that residual is determined and recorded daily from an approved sampling site or other representative point in the system. |
| **WQ.20.13.AL.** Public water systems must meet specific filtration requirements for groundwater sources (ADEM Admin. Code R. 335-7-5-.26 and .27) [Revised June 1999]. | Verify that coating materials inside the filter do not impart taste, odor, nor any regulated contaminants to the water.<br><br>Verify that the system incorporates provisions for:<br><br>- the control of the filtration and wash rates |

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| and .27) [Revised June 1999]. | - an adequate supply of backwash water<br>- a separate filter-to-waste system for each filter.<br><br>Verify that filtration rates do not exceed 4 gpm/sf, unless approved by the Department.<br><br>Verify that a minimum of two filter units are used in conjunction with other treatment processes when raw water quality from a groundwater source exceeds any of the following parameters:<br><br>- for turbidity, 5.0 NTU<br>- for total coliform, 100/100 mL of sample<br>- for fecal coliform, 20/100 mL of sample<br>- for iron, 0.6 mg/L<br>- for manganese, 0.1 mg/L. |
| **WQ.20.14.AL.** Public water systems must meet specific requirements for chemicals used in groundwater treatment (ADEM Admin. Code R. 335-7-5-.28) [Citation Revised June 1999]. | Verify that chemicals, other than the following, used in groundwater treatment are approved by the Department prior to use:<br><br>- alums<br>- lime<br>- chlorine<br>- potassium permanganate<br>- caustic soda<br>- soda ash<br>- powdered activated carbon<br>- hydrofluosilicic acid.<br><br>Verify that records are maintained for 2 yr of all chemicals supplied to the water treatment facility and the name, address, and telephone number of the chemical supplier or manufacturer.<br><br>Verify that water treatment plants which use chemicals contain acrylamide or epichlorohydrin submit a written certificate to the Department annually.<br><br>Verify that chemicals meet one of the following storage requirements:<br><br>- chemicals are stored in the packages or containers in which they are received<br>- chemicals stored in packages or containers other than those in which they were received are labeled to indicate the name of the chemical.<br><br>Verify that chemicals are controlled to prevent contamination with other chemicals and to eliminate any dangerous mixing of chemicals.<br><br>Verify that acid storage tanks are vented to the outside atmosphere in a separate |

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| | vent stack. |

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| **PUBLIC WATER SYSTEMS**<br><br>**WQ.25.**<br>**LEAD AND COPPER** | |
| **WQ.25.1.AL.** All water systems must meet specific lead ban requirements for plumbing materials (ADEM Admin. Code R. 335-7-8-.04 and 335-7-8-.05) [Revised August 1998]. | Verify that the federal facility does not use piping containing more than 8 percent lead in the repair or installation of water mains.<br><br>Verify that the federal facility does not use flux and solder containing more than 0.2 percent lead in joining copper piping.<br><br>Verify that water mains, plumbing, and other piping used to convey water for drinking purposes are not constructed or repaired with materials containing lead in excess of the following:<br><br>- for piping, 8 percent<br>- for flux and solder, 0.2 percent.<br><br>(NOTE: Leaded joints for use in the installation of cast iron water mains are exempt from lead ban requirements if the lead does not make contact with the drinking water.) |
| **WQ.25.2.AL.** Community and NTNC water systems must meet specific lead notification requirements (ADEM Admin. Code R. 335-7-8-.03). | Verify that any community and NTNC water system notifies customers regarding the potential for lead contamination from water in a format approved by the Department according to the time and frequency established by the Department. |
| **WQ.25.3.AL.** Community and NTNC water systems must meet specific requirements for cross connections (ADEM Admin. Code R. 335-7-9-.02). | Verify that any public water system is designed, installed, maintained, and operated in a manner that prevent contamination from being introduced through any connection to the system.<br><br>Verify that any public water system does not install or continue to use a water service connection to any premises where cross connections may exist, unless cross connections are properly [not defined] controlled.<br><br>Verify that any connection with a facility or system that could allow unapproved water to enter a public water system is approved by the Department. |

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| | water to enter a public water system is approved by the Department. |
| **WQ.25.4.AL.** Community and NTNC water systems must not exceed specific lead and copper action levels (ADEM Admin. Code R. 335-7-11-.03). | Verify that lead action levels in community and NTNC water systems do not exceed 0.015 mg/L.<br><br>Verify that copper action levels in community and NTNC water systems do not exceed 1.3 mg/L |
| **WQ.25.5.AL.** Community and NTNC water systems must meet specific lead and copper initial monitoring requirements (ADEM Admin. Code R. 335-7-11-.04). | Verify that large water systems have initially monitored lead and copper at the number of established monitoring sites (see Appendix 13-9) for two consecutive 6-mo monitoring periods beginning January 1992.<br><br>Verify that medium water systems have initially monitored lead and copper at the established monitoring sites (see Appendix 13-9) during each 6-mo compliance period beginning July 1992.<br><br>Verify that small systems and NTNC systems have performed lead and copper monitoring at the number of established monitoring sites (see Appendix 13-9) during compliance periods July through December 1993, and January through June 1994. |
| **WQ.25.6.AL.** Community and NTNC water systems must meet specific lead and copper repeat monitoring requirements (ADEM Admin. Code R. 335-7-11-.05). | Verify that water systems demonstrating satisfactory action levels during both initial 6-mo monitoring periods monitor at least the number of reduced monitoring sites specified in Appendix 13-9 no less than once per year.<br><br>Verify that all samples are taken from previous sampling sites and are collected during the months of June, July, August, or September of the same year.<br><br>Verify that water systems demonstrating compliance with lead and copper action levels for at least three consecutive years monitor sites at least once every 3 yr.<br><br>Verify that any medium or small water system exceeding lead or copper action levels increase monitoring sites to the initial number of sampling sites and frequencies until compliance with action level requirements is achieved.<br><br>Verify that any medium or small water system initiating optimum corrosion control treatment or source water treatment continues the monitoring done during the 6-mo compliance cycles for two 6-mo periods after the treatment has been installed. |

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| **WQ.25.7.AL.** Community and NTNC must meet specific requirements for lead and copper sample site selection (ADEM Admin. Code R. 335-7-11-.07(a) and (b)). | Verify that water systems complete a materials evaluation of their distribution system to identify targeted sample sites.<br><br>Verify that enough sites are selected in order to take the number of samples specified in Appendix 13-9.<br><br>Verify that any community water system either collects all lead and copper samples from tier one sites or documents the lack of sufficient sites, collecting the remaining samples from tier two sites.<br><br>Verify that community water systems with insufficient tier one and two sites utilize tier three sites.<br><br>Verify that any community water system whose distribution system contains lead service lines obtains at least 50 percent of the samples from lead service lines.<br><br>Verify that, if a sufficient number of sample sites are unavailable to provide 50 percent of the samples from lead service lines, written documentation is maintained to demonstrate reasons for site unavailability.<br><br>Verify that NTNC systems collect all lead and copper samples from tier one sites.<br><br>Verify that NTNC systems with insufficient tier one sites collect samples from tier two sites.<br><br>Verify that NTNC systems consisting of fewer structures than required sites collect more than one sample at a structure from different spigots in buildings containing copper pipes with lead solder installed before 1983. |
| **WQ.25.8.AL.** Community and NTNC water systems must follow specific lead/ copper sample collection procedures (ADEM Admin. Code R. 335-7-11-.08). | Verify that tap samples for lead and copper are first-draw samples.<br><br>Verify that water stands motionless in the plumbing system for at least 6 h prior to collection.<br><br>Verify that tap samples (including followup samples) are collected from one of the following sites:<br><br>- the cold water kitchen tap or bathroom sink tap of tier one sites<br>- an interior tap typically used for obtaining water for consumption from tier two and tier three sites.<br>Verify that taps used for sampling do not include faucets with point of use or treatment devices installed.<br><br>Verify that service line samples are 1 L in volume and have remained in the lead |

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| | service line for at least 6 h prior to collection.<br><br>Verify that service line samples are collected directly by either of the following means:<br><br>- tapping into the lead service line<br>- flushing the volume of water between the tap and the lead service line until one of the following occurs:<br>  - the calculated amount of water between the tap and the service line has been discharged<br>  - for single family residents, until there is a significant change in temperature indicating the water available was standing in the lead service line. |
| **WQ.25.9.AL.** Community and NTNC water systems with lead and/or copper levels exceeding state-specified limits must meet specific requirements (ADEM Admin. Code R. 335-7-11-.09 and 335-7-11-.14). | Verify that any community or NTNC water system with lead and/or copper action levels exceeding the state-specified limits meets the following requirements:<br><br>- adequate [not defined] corrosion control treatment equipment is installed and maintained<br>- for a system with corrosion control treatment equipment, parameters are monitored at the state-specified frequency and monthly reports are submitted by the tenth day of the subsequent month<br>- in the source water serving areas exceeding action levels, lead and copper levels are monitored to determine compliance with Alabama primary drinking water standards<br>- for any source water failing to comply with Alabama primary drinking water standards, the source is removed from service, equipped with satisfactory treatment, and approved by the Department for reuse<br>- for any system failing to meet lead/copper compliance limits after the installation of corrosion control, a program is developed to replace lead service lines and to meet the following requirements:<br>  - lead service lines are identified<br>  - at least 7 percent of lead service lines are replaced annually<br>- any more rapid replacement requirements specified by the Department are met<br>- public educational material is delivered to all customers, editorial departments of major daily and weekly newspapers are notified, public service announcements are broadcast to the public via television and radio.<br>Verify that, when a system determines it controls less than the entire service line, and removes only its portion, it offers to collect a first flush tap water sample.<br><br>Verify that, if a customer desires a sample collection, the sample is collected and results are provided to the customer within 14 days. |

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| **WQ.25.10.AL.** Community and NTNC water systems exceeding lead and/or copper compliance limits and new drinking water sources must meet corrosion control treatment requirements (ADEM Admin. Code R. 335-7-11-.10). | Verify that any community or NTNC exceeding lead and/or copper compliance limits or any new drinking water source (i.e., a source installed after 9 November 1992) meets the following requirements:<br><br>- installs and properly [not defined] operates optimum corrosion control processes, continuously reducing the potential for lead or copper exposure<br>- within 6 mo of exceeding the compliance limit, a detailed report indicating the process and equipment to be used in corrosion control treatment is submitted to the Department<br>- installation and startup of equipment is completed within 24 h of approval of the Department<br>- any corrosion control treatment study required by the Department is conducted and completed within 12 mo of exceeding an action level<br>- results of any corrosion control treatment study, along with a proposal, are submitted to the Department within 12 mo of exceeding any action level<br>- the proposal includes a construction schedule<br>- construction is completed within 24 mo of exceeding a lead/copper action level limit<br>- systems installing corrosion control treatment processes monitor the initial sample site during the subsequent two 6-mo compliance periods.<br><br>(NOTE: Systems with corrosion control treatment process exceeding a compliance limit may demonstrate compliance by properly [not defined] adjusting the treatment process and taking a second set of compliance samples within 30 days.)<br><br>Verify that the distribution system in any water system meets one of the following optimum corrosion control standards and water is continuously in compliance with lead and copper limits:<br><br>- water quality parameters reflected on the Baylis Curve indicates no incrusting or corrosion would occur<br>- the Langelier Index of the water is between -1.0 and -2<br>- the Rynzar Index is between 7 and 11 or applied at the manufacturer/ supplier's recommended level resulting in minimum complaints<br>- the calcium carbonate precipitation potential is maintained between 4 and 10 mg/L. |
| **WQ.25.11.AL.** Community and NTNC water systems must meet corrosion control study requirements (ADEM Admin. Code R. 335-7-11-.11). | Verify that any community or NTNC water system proposing to use a new source or exceeding lead and copper compliance limits evaluates the effectiveness of each of the following treatment processes:<br><br>- alkalinity and pH adjustment<br>- calcium hardness adjustment<br>- a combination of treatment process, when appropriate [not defined] |

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| | - the addition of a phosphate or silicate based corrosion inhibitor at a concentration to maintain an effective [not defined] residual in the distribution system.<br><br>Verify that the corrosion control study uses either a pipe-loop test, metal coupon test, partial system test, or analysis based on documented treatment activities from other water systems with similar water chemistry, similar system size, and the same distribution system configuration.<br><br>Verify that the following water quality parameters are measured during the test conducted to allow proper [not defined] evaluation of the process:<br><br>- lead<br>- copper pH<br>- total alkalinity<br>- calcium<br>- conductivity<br>- orthophosphate (when a phosphate inhibitor is evaluated)<br>- silicate (when a silicate compound is evaluated)<br>- water temperature.<br><br>Verify that the corrosion control study accomplishes the following:<br><br>- identifies all chemical or physical constraints that may limit or prohibit the use of a particular corrosion treatment method<br>- identifies any previously used corrosion control treatment found to be ineffective or had adversely affected any treatment processes<br>- evaluates the effect of the proposed chemicals to be used on the water quality demonstrating adequate corrosion control<br>- provides a recommendation of the proposed process to be installed.<br><br>Verify that information included with the recommended process includes the following:<br><br>- cost of the proposed installation<br>- equipment to be used including the model number and brand<br>- chemical to be added including proposed concentration rate<br>- NSF approval document<br>- availability information on the chemical<br>- construction schedule demonstrating the equipment can be operational within 24 mo of the study submittal.<br><br>Verify that, after the Department has set the parameter values for optimum corrosion control processes, lead and copper monitoring continues for each 6-mo compliance period. |

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| **WQ.25.12.AL.** Community and NTNC water systems must meet requirements for lead/copper corrosion control parameter monitoring (ADEM Admin Code R. 335-7-11-.12). | Verify that any community or NTNC water system utilizing a corrosion control process to meet corrosion control requirements begins monitoring within 10 days of process activation and maintains water quality parameter values within the ranges established by the Department.<br><br>Verify that, if analysis indicates a value outside the Department-established level, immediate steps are taken to adjust the treatment process and additional samples are collected within 24 h to verify compliance with acceptable values.<br><br>Verify that any water system complies with the monitoring parameters determined for the following:<br><br>- pH<br>- alkalinity<br>- orthophosphate<br>- silica<br>- calcium<br>- conductivity<br>- water temperature<br>- other parameters designated by the Department.<br><br>Verify that any system using the Baylis Curve monitor treated water from each water source on a daily basis for pH and total alkalinity.<br><br>Verify that any system using the Langelier Index or Ryznar Index for evaluating the corrosive level of the water monitors pH and alkalinity daily, and calcium, water temperature, and harness weekly.<br><br>Verify that any system using an orthophosphate or silicate inhibitor monitors pH on daily and the phosphate or silicate level weekly.<br><br>Verify that, upon the approval of the Department, a system selects representative sample sites throughout the distribution system, the system takes the following into account and samples at the number of sites specified in Appendix 13-10:<br><br>- the number of different sources of water<br>- different treatment methods<br>- seasonal variability<br>- density of service.<br><br>Verify that two samples are taken from each of the designated sample sites and two samples from each entry point from a treatment facility, being analyzed for the following:<br><br>- pH<br>- alkalinity<br>- Orthophosphate (when a phosphate compound is used)<br>- silica (when a silicate compound is used) |

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| | - calcium<br>- conductivity<br>- water temperature.<br><br>Verify that samples are collected every 6-mo monitoring period and reported by the tenth day of the following month. |
| **WQ.25.13.AL.** Community and NTNC water systems must meet specific requirements for source water monitoring and treatment of lead and copper (ADEM Admin. Code R. 335-7-11-.13). | Verify that any community or NTNC water system that exceeds the lead and copper compliance limits analyzes the treated water being provided by each source used by the system.<br><br>Verify that analysis is completed within 6 mo after the exceedance.<br><br>Verify that, if levels exceed 0.015 mg/L lead or 1 mg/L copper, confirmation samples are collected within 7 days.<br><br>Verify that results of the initial and confirmation samples are averaged together.<br><br>Verify that treatment modifications are installed, resulting in the finished water meeting the drinking water standard.<br><br>Verify that, unless use is approved by the Department, lead and/or copper lines exceeding compliance limits are removed from service until additional treatment requirements are met.<br><br>Verify that, prior to reactivation of the source, samples of the treated water are analyzed, comply with drinking water standards, and a second set of lead and copper samples are collected in 6 mo.<br><br>Verify that all sample sites for lead and copper are monitored for the subsequent two 6-mo compliance periods.<br><br>Verify that any modification to the treatment process is approved and permitted by the Department. |
| **WQ.25.14.AL.** Community and NTNC water systems must meet specific requirements for lead public education (ADEM Admin. Code R. 335-7-11-.15). | Verify that any system with a lead action level exceeding compliance limits provide public education materials to consumers within 60 days of the exceedance.<br><br>Verify that, in communities with a significant [not defined] proportion of the population consists of non-English speakers, materials are published in a language comprehended by the non-English speaking population.<br><br>Verify that any community water system with a lead action level exceeding compliance limits inserts lead notices in each customer's utility bill and provides |

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| | lead/copper information to the local newspapers, schools, radio and television stations, and health care facilities once every 6 mo.<br><br>Verify that any NTNC water system with a lead action level exceeding compliance limits provides public education by posting informational posters about lead in drinking water in areas served by the system.<br><br>Verify that any NTNC water system with a lead action level exceeding compliance limits provides brochures on lead in drinking water to every person served by the NTNC water system.<br><br>Verify that lead notices for NTNC systems are provided at least once during each year that the action level is exceeded. |

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| **PUBLIC WATER SYSTEMS**<br><br>**WQ.30. NOTIFICATION AND REPORTING REQUIREMENTS** | |
| **WQ.30.1.AL.** Public water systems must meet turbidity reporting and notification requirements (ADEM Admin. Code R. 335-7-2-.05(2)(b), (c), and (3)). | Verify that when any filtered water turbidity values exceed 0.5 TU the site is resampled within 30 min and, if this repeat sample also exceeds 0.5, the Department is notified within 24 h.<br><br>Verify that operation data reports showing daily levels of turbidity are provided to the Department within 10 days after the end of each month.<br><br>(NOTE: Should any daily level exceed 0.5 NTU the total number of monthly turbidity measurements of the filtered water are reported along with the total number of measurements exceeding 0.5 TU.)<br><br>Verify that when any turbidity results of the finished or filtered water exceed 5.0 TU, that site is resampled within 60 min and if this result exceeds 5.0 TU also then the Department is notified within 24 h.<br><br>(NOTE: If the average of these samples exceeds 5.0 units, the standard is exceeded.)<br><br>Verify that the system provides public notification, unless the source is immediately taken out of service after the second sample.<br><br>Verify that turbidity measurements are reported to the Department within 10 days after the end of each month. |
| **WQ.30.2.AL.** Public water systems must meet microbiological reporting and notification requirements (ADEM Admin. Code R. 335-7-2-.06(1)(e) and (2)). | Verify that systems report total coliform MCL violations to ADEM no later than the end of the next business day after awareness of the violation.<br><br>Verify that the system monitors for microbiological contaminants at sites which are representative of water throughout a distribution system during any month of operation according to a written sample plan acceptable to the Department.<br><br>Verify that all routine and repeat samples which are total coliform positive are analyzed for fecal coliforms or E. Coli bacteria and that the ADEM is notified |

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| | when either are present no later than the end of the day in which the results are provided to the system.<br><br>Verify that chlorine or disinfectant residuals are determined at the time of sample collection for each location and recorded. |
| **WQ.30.3.AL.** Public water systems must meet reporting and public notification requirements (ADEM Admin. Code R. 335-7-2-.10(a) through (d) and .11(6)). | Verify that the public water system reports the results of any test, measurement, or analysis to the Department in the shorter of the following time periods, unless a shorter reported period is specified:<br><br>- within the first 10 days following the month in which the result is received<br>- the first 10 days following the end of the required monitoring period as stipulated by the Department.<br><br>Verify that the public water system reports to the Department within 48 h of the failure to comply with any primary drinking standards, including the failure to comply with monitoring requirements.<br><br>(NOTE: The water system is not required to report analytical results to the Department in cases where a state laboratory performs the analyses and reports the results to the Department.)<br><br>Verify that a representative copy of each type of notice is submitted to the Department within 10 days of completion of each public notification, including notice distributed, published, posted, or made available to the persons served by the system, or to the media.<br><br>Verify that water systems required to monitor for unregulated contaminants notifies persons served by the water system of the availability of the results.<br><br>Verify that this notice is:<br><br>- included in the first set of water bills issued by the system after receipt of the results<br>- written to each customer within 3 mo or<br>- in a newspaper of general circulation.<br><br>(NOTE: For systems required to monitor quarterly, public notification is required only after the first quarter's monitoring and must include a statement that additional monitoring will be conducted for three or more quarters with the results available upon request. The notice will identify the system's owner, operator, or designee and telephone number to contact for information of the monitoring results.) |

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| **WQ.30.4.AL.** [Moved to WQ.79.10.AL. August 1998]. | |
| **WQ.30.5.AL.** Public water systems must meet reporting standards for control tests (ADEM Admin. Code R. 335-7-10-.03(c) and (d)). | Verify that results of water quality control tests are submitted to the Department within 10 days after the end of each month.<br><br>Verify that values of the monthly control test reports reflect the following:<br><br>- for disinfectant residual values, the lowest daily value<br>- for filtered water turbidity levels, the highest daily value<br>- for other test results, average daily values.<br><br>Verify that the Department is notified within 24 h of any instance the following:<br><br>- filtered surface water or finished groundwater turbidity exceeding the maximum contaminant level<br>- the disinfectant residual in the system being less than 0.2 mg/L<br>- waterborne disease outbreak potential. |
| **WQ.30.6.AL.** [Moved to WQ.45.1.AL. and WQ.79.1.AL. August 1998]. | |
| **WQ.30.7.AL.** [Moved to WQ.45.2.AL. and WQ.79.2.AL. August 1998]. | |
| **WQ.30.8.AL.** [Moved to WQ.45.3.AL. and WQ.79.3.AL. August 1998]. | |
| **WQ.30.10.AL.** [Moved to WQ.45.4.AL. and WQ.79.4.AL. August 1998]. | |

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| **WQ.30.11.AL.** [Moved to WQ.45.5.AL. and WQ.79.5.AL. August 1998].<br><br>**WQ.30.12.AL.** [Moved to WQ.45.6.AL. and WQ.79.6.AL. August 1998].<br><br>**WQ.30.13.AL.** [Moved to WQ.45.7.AL. and WQ.79.7.AL. August 1998].<br><br>**WQ.30.14.AL.** [Moved to WQ.45.8.AL. and WQ.79.8.AL. August 1998].<br><br>**WQ.30.15.AL.** [Moved to WQ.45.9.AL. and WQ.79.9.AL. August 1998]. | |

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| **COMMUNITY WATER SYSTEMS**<br><br>**WQ.35.**<br>**STANDARDS** | |
| **WQ.35.1.AL.** Community water systems must meet maximum contaminant level (MCL) requirements for inorganic chemicals in drinking water (ADEM Admin. Code R. 335-7-2-.03(2)). | Verify that, in the event of an inorganic MCL (see Appendix 13-11) excess, the water system establishes a treatment process using the best available technology to achieve compliance or ceases using the source of supply in conjunction with a Department-issued compliance schedule. |
| **WQ.35.2.AL.** Community water systems must meet cross connection control standards (ADEM Admin. Code R. 335-7-9-.04 and 335-7-9-.05). | Verify that any community water system establishes and operates a cross connection control and backflow prevention program consistent with the extent of the system within the jurisdiction of the utility.<br><br>Verify that the backflow prevention program includes inspection and maintains records of health hazards discovered and corrective actions taken for at least 5 yr.<br><br>Verify that the community water system has a formally adopted written cross connection control policy.<br><br>Verify that water service is discontinued if a required backflow prevention device is not installed or properly [not defined] maintained.<br><br>Verify that service are not restored to premises deficient in backflow prevention devices until deficiencies have been corrected or eliminated to the satisfaction of the Department. |
| **WQ.35.3.AL.** Community public water systems utilizing groundwater sources must develop and implement a Local Wellhead Protection Plan (LWHPP) for new wells (ADEM Admin. Code R. 335- | Verify that an existing community public water system utilizing a groundwater source has developed an implements a LWHPP for all existing and active wells and springs.<br><br>Verify that any new community public water system or well additions to an existing community water system meet the following requirements: |

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| 7-12.02 and 335-7-12.03) [Added August 1998]. | - no new wells may be constructed without the following :<br>- the delineation of a WHPA<br>- a potential contamination source inventory.<br>- a LWHPP. |
| **WQ.35.4.AL.** Community water systems must meet specific water quality control test requirements (ADEM Admin. Code R. 335-7-10-.03(a) and (b)) [Revised and moved from WQ.20.10.AL. August 1998]. | Verify that surface water systems conduct and record control tests according to the following schedule:<br><br>- disinfectant residual of the finished water, every other hour<br>- recording of disinfectant residual, continuously, for plants serving a population of 3300 or more<br>- carbon dioxide of the raw water, once per shift<br>- color of the raw and finished water:<br>- weekly, if the previous sample was less than 10 units<br>- daily for three consecutive days, after any sample exceeds 10 units<br>- fluoride of the finished water, daily when the concentration is adjusted<br>- fecal bacteria or total coliform bacteria, as required [not defined]<br>- manganese of the raw and finished water:<br>- weekly, if the manganese concentration of the raw water is less than 0.05 mg/L<br>- daily, if the manganese concentration exceeds 0.05 mg/L<br>- iron of the raw and finished water:<br>- weekly, if the iron concentration of the raw water is less than 0.1 mg/L<br>- daily, if the iron concentration exceeds 0.1 mg/L<br>- pH of the raw and finished water, each shift<br>- total alkalinity of the raw and finished water, each day<br>- turbidity of the raw, settled, and filtered water from each filter:<br>- hourly, if a recording turbidimeter is not used<br>- continuously, if a recording turbidimeter is used<br>- other tests of a kind and frequency specified by the Department.<br><br>Verify that groundwater treatment facilities serving community and NTNC systems perform the following tests on at least a daily basis:<br><br>- free chlorine residual of the finished water representing each source or plant<br>- fluoride of the finished water if the level is adjusted<br>- iron of the raw and finished water, when the raw water concentration exceeds 0.3 mg/L<br>- manganese of the raw and finished water, when the raw water concentration exceeds 0.05 mg/L<br>- pH of the finished water from each source or plant if a chemical is fed to adjust the pH or if the pH is below 7.0<br>- turbidity of the raw water in either of the following cases:<br>- if so directed by the Department<br>- if the turbidity exceeds 5.0 NTU |

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| | - other tests of a kind and frequency specified by the Department. |

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| **COMMUNITY WATER SYSTEMS** | (NOTE: WQ.40.1.AL. through WQ.40.15 and WQ.40.17.AL. through WQ.40.20.AL are repeated in the Nontransient Noncommunity Water Systems Monitoring/Sampling requirements WQ.77.1.AL. through WQ.77.15 and WQ.77.17.AL. through WQ.77.20.AL..) |
| **WQ.40 MONITORING/ SAMPLING** | |
| **WQ.40.1.AL.** Community water systems must meet asbestos monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.03(3)) [Moved from WQ.15.5.AL. August 1998]. | Verify that water systems analyze for asbestos during the first 3-yr. compliance period of each 9-yr. compliance cycle.<br><br>(NOTE: A water system that is not vulnerable to asbestos contamination may receive a waiver for asbestos monitoring from the state for each 3-yr. monitoring period.)<br><br>Verify that water systems vulnerable to asbestos contamination due to corrosion of asbestos-cement pipe collect at least one sample from a tap served by asbestos-cement pipe under conditions where asbestos contamination is most likely to occur.<br><br>Verify that water systems vulnerable to asbestos contamination in source water monitor at least one sample representative of each suspected source after treatment.<br><br>Verify that water systems which exceed the MCL analyze for asbestos quarterly beginning in the next quarter after violation occurred and that:<br><br>- groundwater systems analyze a minimum of two quarterly samples<br>- surface systems analyze a minimum of four quarterly samples.<br><br>(NOTE: Sampling may be reduced to initial monitoring requirements if the average of all analytical results is less than 3.5 million fibers per L.)<br><br>Verify that, when the MCL for asbestos is exceeded, systems initiate a second analysis within 2 weeks and use the average of the two analyses as the compliance level.<br><br>Verify that the Department is notified within 48 h when this level also exceeds the MCL. |
| **WQ.40.2.AL.** Community | Verify that, for each surface source, the system analyzes samples collected from |

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| and NTNC water systems utilizing surface sources must meet nitrate monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.03(4)(a) and (b) [Moved from WQ.15.6.AL. August 1998]. | the entry point to the distribution system for nitrates.<br><br>Verify that this nitrate analysis is done for four consecutive quarters starting January 1993.<br><br>Verify that, when all analytical results from four consecutive quarters are less than 4.5 mg/L, the analysis is thereafter done annually.<br><br>Verify that the system returns to quarterly monitoring when any one sample is greater than 4.4 mg/L.<br><br>Verify that the water system initiates a second analysis within 2 weeks when the MCL for nitrate is exceeded and use the average of the two analyses as the compliance level. |
| **WQ.40.3.AL.** Community water systems utilizing groundwater sources must meet nitrate monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.03(4)(c), (d), and (g)) [Moved from WQ.15.7.AL. August 1998]. | Verify that the system analyzes for nitrates annually.<br><br>Verify that the samples are collected:<br><br>- during periods of normal operating conditions<br>- from the entry points to the distribution system<br>- are representative of each source or treatment plant.<br><br>Verify that, following any single sample whose analytical result is greater than 4.4 mg/L, the system analyzes for nitrates quarterly for at least 1 yr.<br><br>(NOTE: Sampling may be reduced to annually if the average of four consecutive quarterly results is less than 4.5 mg/L.)<br><br>Verify that water systems initiate a second analysis within 24 h when the MCL for nitrate is exceeded and use the average of the two analyses as the compliance level. Should the system be unable to collect a confirmation sample within 24 hours, the system must immediately notify their customers and collect a confirmation sample within 14 days.<br><br>Verify that the Department is notified within 48 h when this level also exceeds the MCL. |
| **WQ.40.4.AL.** Community water systems utilizing surface sources must meet monitoring and sampling requirements for other inorganic chemicals | (NOTE: Waivers are not granted for inorganic chemicals other than asbestos.)<br><br>Verify that the water system utilizing surface water analyzes for inorganic chemicals annually. |

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| (ADEM Admin. Code R. 335-7-2-.03(6)(a) and (d)) [Moved from WQ.15.8.AL. August 1998]. | Verify that samples are taken from a representative point in the distributions system for each surface source. |
| **WQ.40.5.AL.** Community water systems utilizing groundwater sources must meet monitoring and sampling requirements for other inorganic chemicals (ADEM Admin. Code R. 335-7-2-.03(6)(b)) [Moved from WQ.15.9.AL. August 1998]. | Verify that the water system utilizing groundwater analyses samples taken from the distributions system representing each source or treatment plant utilized.<br><br>Verify that analysis is performed on no less than a 3-yr. cycle. |
| **WQ.40.6.AL.** Community water systems must meet monitoring and sampling requirements for other inorganic chemicals (ADEM Admin. Code R. 335-7-2-.03(6)(e) and (h)) [Moved from WQ.15.10.AL. August 1998]. | Verify that, beginning the quarter after the discovery of a violation of the MCL for an inorganic contaminant (other than asbestos, nitrate and nitrite), the water system analyzes quarterly for that contaminant.<br><br>Verify that groundwater systems analyze a minimum of two quarterly samples, and surface water systems analyze a minimum of four quarterly samples.<br><br>(NOTE: Sampling may be reduced to initial monitoring requirements if the average of all analytical results is less than one-half of the MCL.)<br><br>Verify that, when an inorganic contaminant other than asbestos, nitrates, and nitrites exceeds the established MCL, systems analyze an additional sample from the same sampling point within 14 days and use the average of the two samples to determine the compliance level.<br><br>(NOTE: If more than the minimum number of samples are collected during a compliance period, the average of the values will be used as the compliance level.) |
| **WQ.40.7.AL.** Community water systems utilizing surface sources must meet monitoring and sampling requirements for synthetic organic chemicals (SOC) (ADEM Admin. Code R. 335-7-2-.04(2)(a), (d), (e) and (f)) [Moved from WQ.15.11.AL. August 1998; | (NOTE: For community water systems, regardless of their source, SOC confirmation samples may be required by the Department to confirm a negative or positive result. Confirmation samples are collected from a point representing the source and, unless investigation proves initial samples were contaminated because of conditions at the sampling site or because of sampling procedure, the confirmation results will be averaged with the initial result to determine compliance.)<br><br>(NOTE: The system may receive a waiver from monitoring of any SOC which |

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| Revised June 1999]. | may reduce initial monitoring during the compliance period.)<br><br>Verify that any community water system which utilizes surface water analyzes for SOC (see Appendix 13-1) four consecutive quarters beginning January 1993.<br><br>Verify that community water systems sample all new sources for SOCs for four consecutive quarters.<br><br>(NOTE: The system may apply for a waiver for the new source after two quarters of monitoring for any SOC which has not been detected above the monitoring trigger.)<br><br>Verify that samples are collected from the entry point to the distribution system for each surface source.<br><br>Verify that samples are collected during the period most susceptible to pesticide contamination. |
| **WQ.40.8.AL.** Community water systems utilizing groundwater sources must meet monitoring and sampling requirements for SOC (ADEM Admin. Code R. 335-7-2-.04(2)(b)) [Moved from WQ.15.12.AL. August 1998]. | Verify that any community water system which utilizes groundwater analyzes for SOC (see Appendix 13-1) four consecutive quarters beginning in the compliance period starting January 1993.<br><br>Verify that samples are collected from the entry point to the distribution system representing each source of water used after any application of treatment.<br><br>(NOTE: Raw water analysis may be used to determine compliance if no treatment processes are used for the reduction of SOC. The system may have a waiver from monitoring of any SOC. The waiver may reduce initial monitoring during the compliance period. The waiver if granted will be in effect for one compliance period and the system must reapply for the waiver for each compliance period.) |
| **WQ.40.9.AL.** Community water systems utilizing more than one source must meet monitoring and sampling requirements for SOC (ADEM Admin. Code R. 335-7-2-.04(2)(c)) [Moved from WQ.15.13.AL. August 1998]. | Verify that any community water system which utilizes multiple sources which are blended prior to the entry point to the distribution system samples at the entry point to the distribution system during periods of normal operating conditions.<br><br>Verify that the system samples each source before blending unless raw water sampling indicates compliance with the MCLs. |
| **WQ.40.10.AL.** Community water system must meet | Verify that, after initial sampling has been completed, repeat samples are analyzed according to the following schedule: |

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| monitoring and sampling requirements for SOC (ADEM Admin. Code R. 335-7-2-.04(2)(i), (j), and (k)) [Moved from WQ.15.14.AL. August 1998; Revised June 1999]. | according to the following schedule:<br><br>- if no SOC are detected in the initial compliance period:<br>  - systems serving 3,300 or fewer persons must collect one sample during each repeat compliance period<br>  - systems serving more than 3,300 persons must collect two samples during each repeat compliance period<br>- if an SOC is detected above the monitoring trigger, the system must monitor quarterly for the particular SOC which is detected<br>- if related contaminants (aldicarb, aldicarb sulfone, aldicarb sulfoxide and heptachlor, heptachlor epoxide) are detected, the system must monitor for all related compounds<br>- systems which exceed the MCL for a SOC must analyze quarterly for that contaminant beginning in the next quarter after the violation occurred.<br><br>(NOTE: Monitoring may be reduced to annually if the average of all analytical results within the past 2 yr. is less than one-half the MCL and no analytical result within the past 2 yr. exceeds 75 percent of the MCL. Community and NTNC systems must analyze a minimum of four quarterly samples, groundwater systems must analyze a minimum of two quarterly samples, and surface water systems must analyze a minimum of four quarterly samples.)<br><br>- systems which have three consecutive annual sample results with no detection after a previous detection of a SOC may receive a waiver from the states<br>- systems serving 3,300 or fewer persons which have been granted such a waiver must collect a minimum of one sample during each repeat compliance period<br>- systems serving more than 3,300 persons which have been granted such a waiver must collect a minimum of two quarterly samples in 1 yr. during each repeat compliance period.<br><br>(NOTE: Noncompliance with any SOC MCL occurs when:<br>- the average of four consecutive quarterly analyses exceeds the MCL<br>- one quarterly sample analysis exceeds four times the MCL, or if subsequent sample results would cancel the annual average to be exceeded<br>- any sample analysis exceeds the MCL, if monitoring is being conducted annually or less frequently.)<br><br>Verify that the system, upon exceeding an MCL, establishes a treatment process using the best available technology to achieve compliance with the MCL or ceases using the source of supply in conjunction with a Department-issued compliance schedule. |
| **WQ.40.11.AL.** Community water systems must meet monitoring and sampling | Verify that systems using surface sources monitor for TTHM on a quarterly basis. |

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| requirements for total trihalomethanes (TTHM) (ADEM Admin. Code R. 335-7-2-.04(3)) [Moved from WQ.15.15.AL. August 1998; Revised June 1999]. | Verify that systems using surface sources:<br><br>- obtain at least four TTHM samples representative of each treatment plant used by the system on a quarterly basis, of which:<br>  - 25 percent are taken at a location within the distribution system reflecting the maximum residence time of the water in the system<br>  - 75 percent are taken at representative locations in the distribution system taking into account the number of persons served, different sources of water, and different treatment methods employed<br>- collect all samples within a 24-h period<br>- average the results from all samples to provide the quarterly compliance value.<br><br>Verify that, if the Department reduces the monitoring frequency from four samples per quarter to one sample per quarter for each treatment plant, the single sample collected is taken from a point in the distribution system reflecting the maximum residence time of the water in the system.<br><br>Verify that, if the results of a single quarterly sample equal or exceed 0.10 m/L of TTHM and this is confirmed by at least one confirmation sample, or if the system makes significant changes in the source of water or treatment process, the system reverts to obtaining four samples per quarter per source for TTHM.<br><br>Verify that systems which purchase water, add disinfectant, and serve a population greater than 10,000 monitor for TTHM no less than once per year.<br><br>(NOTE: Systems using groundwater sources and serving a population greater than 10,000 are only required to monitor for TTHM if specifically notified by the Department.)<br><br>Verify that systems which use only groundwater sources and serve a population greater than 10,000 monitor for TTHM on a quarterly basis for four consecutive quarter and that one sample representing the maximum TTHM potential per aquifer used by the system is analyzed.<br><br>(NOTE: After four quarters of monitoring, the frequency may be reduced to one maximum TTHM potential sample each year per aquifer should the previous results consistently be less than the MCL.)<br><br>Verify that, if the maximum TTHM potential sample exceeds 0.10 mg/L during the reduced monitoring frequency and a confirmation sample collected from the distribution maximum retention area confirms the results, the monitoring frequency reverts to quarterly sampling.<br><br>Verify that when the system makes a significant modification to the existing treatment process for the purpose of achieving compliance with TTHM standards, the system submits an engineering report demonstrating that: |

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| | - the treatment changes will allow the system to continue to meet bacteriological standards<br>- the quality of the water will not be adversely impacted by the treatment change. |
| **WQ.40.12.AL.** Community water systems utilizing surface sources must meet monitoring and sampling requirements for volatile synthetic organic chemicals (VOC) (ADEM Admin. Code R. 335-7-2-.04(4)(a)) [Moved from WQ.15.16.AL. August 1998]. | Verify that any community or NTNC water system which utilizes surface water analyzes for VOC (see Appendix 13-2) four consecutive quarters beginning January 1993.<br><br>Verify that samples are collected from the entry point to the distribution system representing each source of water used after any application of treatment.<br><br>(NOTE: Raw water analysis may be used to determine compliance if no treatment processes are used for the reduction of VOC.) |
| **WQ.40.13.AL.** Community water systems utilizing groundwater sources must meet monitoring and sampling requirements for VOCs (ADEM Admin. Code R. 335-7-2-.04(4)(b)) [Moved from WQ.15.17.AL. August 1998]. | Verify that the system analyzed for VOC (see Appendix 13-2) for four consecutive quarters beginning January 1993.<br><br>Verify that samples are collected from the entry point to the distribution system representing each source of water used after any application of treatment.<br><br>(NOTE: Raw water analysis may be used to determine compliance if no treatment processes are used for the reduction of VOC.) |
| **WQ.40.14.AL.** Community water systems utilizing more than one source must meet monitoring and sampling requirements for VOC (ADEM Admin. Code R. 335-7-2-.04(4)(d) and (e)) [Moved from WQ.15.18.AL. August 1998; Revised June 1999]. | Verify that community water systems sample all new sources for VOCs for four consecutive quarters.<br><br>(NOTE: The system may apply for a waiver for the new source after two quarters of monitoring for any VOC which has not been detected above the monitoring trigger.)<br><br>Verify that community water systems using water from more than one source and blending prior to the entry point to the distribution system during periods of normal operating conditions.<br><br>(NOTE: Sampling of raw water from each source may be required if a contaminant is detected.) |
| **WQ.40.15.AL.** Community water systems must meet monitoring and sampling | (NOTE: VOC analysis results after 1 January 1988 may be used to determine compliance and to satisfy initial monitoring requirements if sample collection procedures and laboratory methods are consistent with the requirements of this |

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| requirements for VOC (ADEM Admin. Code R. 335-7-2-.04(4)(c), (f), (g), (j), (k), and (l)) [Moved from WQ.15.19.AL. August 1998; Revised June 1999]. | protocol.)<br><br>(NOTE: Confirmation samples may be required by the Department to confirm a negative or positive result. Confirmations samples are collected from a point representing the source and, unless investigation proves initial samples were contaminated because of conditions at the sampling site or because of sampling procedure, the confirmation results will be averaged with the initial result to determine compliance.)<br><br>(NOTE: The system may receive a waiver from monitoring of any VOC.)<br><br>Verify that the system, upon exceeding the MCL, establishes a treatment process using the best available technology to achieve compliance with the MCL or phases out using the source of supply in conjunction with a Department-issued compliance schedule.<br><br>(NOTE: Noncompliance with any VOC MCL occurs when:<br>- the average of four consecutive quarterly samples exceeds the MCL<br>- one quarterly sample analysis exceeds four times the MCL, or if subsequent sample results would cancel the annual average to be exceeded<br>- any sample analysis exceeds the MCL, if monitoring is being conducted annually or less frequently.)<br><br>Verify that repeat samples are analyzed after initial sampling has been completed and that sampling follows this schedule:<br><br>- annually if no regulated VOC are detected above the monitoring trigger in the initial compliance monitoring<br>- quarterly if a regulated VOC is detected above the monitoring trigger.<br><br>(NOTE: Monitoring may be reduced to annually if the average of all analytical results within the past 2 yr. is less than one-half the MCL and no analytical result within the past 2 yr. exceeds 75 percent of the MCL.)<br><br>(NOTE: Monitoring may be reduced to one sample per compliance period if no regulated VOC are detected above the monitoring trigger after a minimum of 3 yr. of annual sampling.)<br><br>Verify that groundwater systems analyze a minimum of two quarterly samples and surface water systems a minimum of four quarterly samples.<br><br>Verify that systems which exceed the MCL for a VOC analyze quarterly for that contaminant beginning in the next quarter after the violation occurred.<br><br>(NOTE: Sampling may be reduced to annually if the average of all analytical results within the past 2 yr. is less than one-half the MCL and no analytical result within the past 2 yr. exceeds 75 percent of the MCL.) |

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| | Verify that all systems analyze a minimum of four quarterly samples.<br><br>(NOTE: Consecutive systems which obtain all of their water from a public water system are exempt from monitoring for the regulated VOC.) |
| **WQ.40.16.AL.** Community water systems must meet microbiological monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.06 (2) through (5)) [Moved from WQ.15.20.AL. August 1998]. | Verify that any community system obtains at least:<br><br>- three repeat samples for each total coliform positive sample<br>- one repeat sample from the sampling tap where the original total coliform positive sample was taken<br>- one repeat sample at a tap within five service connections upstream and downstream. |
| **WQ.40.17.AL.** Community water systems must meet natural radionuclide monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.07(3)) [Moved from WQ.15.21.AL. August 1998]. | Verify that an initial sampling of all new sources to determine compliance for naturally occurring radionuclides is completed at the intervals specified by the Department.<br><br>(NOTE: Initial compliance is based on the average of the analyses of four samples obtained at quarterly intervals.)<br><br>Verify that a gross alpha particle activity measurement is substituted for the required radium-226 and radium-228 analyses only when the measured gross alpha particle activity does not exceed 5 pCi/L at a confidence level of 95 percent.<br><br>Verify that where radium-228 is present in drinking water, the system analyzes for radium-226 and/or radium-228 when the gross alpha particle activity exceeds 2 pCi/L.<br><br>Verify that when the gross alpha particle activity exceeds 5 pCi/L the system analyzes the same or an equivalent sample for radium-226 and that, if the concentration of radium-226 exceeds 3 pCi/L the system analyses the same or an equivalent sample for radium-228.<br><br>(NOTE: If the source of supply is groundwater using a common aquifer with adjacent systems one sample may be accepted for compliance if the result is less than 50 percent of the MCL (see Appendix 13-4).)<br><br>Verify that the system monitors for naturally occurring radionuclides on a 4-yr. cycle.<br><br>(NOTE: The Department may allow analysis of a single sample to be substituted for the quarterly sampling. When a single sample is substituted the monitoring is to be conducted at the same frequency as that required for inorganic monitoring.) |

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| | Verify that the system monitors for any natural contaminant and at the frequency required by the Department.<br><br>(NOTE: Suppliers of water may be required to conduct annual monitoring of any community water system in which the radium-226 concentration exceeds 3 pCi/L. If the average annual MCL for gross alpha particle activity or total radium is exceeded (see Appendix 13-4), the supplier of a community water systems must notify the Department within 14 days and provide public notification. Monitoring at quarterly intervals must be performed until the annual average concentration no longer exceeds the MCL or until a monitoring schedule as a condition to an exemption or enforcement action becomes effective.) |
| **WQ.40.18.AL.** Community water systems must meet manmade radionuclide monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.07(4)(a)) [Moved from WQ.15.22.AL. August 1998]. | Verify that systems using surface water sources and serving more than 100,000 persons monitor for compliance with the MCL for manmade radionuclides (see Appendix 13-5) by analyzing four quarterly samples.<br><br>(NOTE: Compliance may be assumed without further analysis if the average annual concentration of gross beta particle activity is less than 50 pCi/L and if the average annual concentrations of tritium and strontium-90 are less than the MCL (see Appendix 13-5), provided both radionuclides are present, the sum of their annual dose equivalents to bone marrow must not exceed 4 millirem/yr. If the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses must be calculated to determine compliance.)<br><br>Verify that suppliers of water conduct any additional monitoring ordered by the Department.<br><br>Verify that systems using water contaminated by effluents from nuclear facilities monitor quarterly for gross beta particle and iodine-131 radioactivity and annually for strontium-90 and tritium.<br><br>Verify that monitoring for gross beta particle activity is based on the analyses of monthly samples.<br><br>Verify that, if the gross beta particle activity in a sample exceeds 15 pCi/L, the system analyzes the same or an equivalent sample for strontium-89 and cesium-134.<br><br>Verify that, if the gross beta particle activity in a sample exceeds 50 pCi/L, the system analyzes the sample to identify the major radioactive constituents present and the appropriate organ and total body doses are calculated to determine compliance.<br><br>Verify that a composite of five consecutive daily samples, or the frequency |

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| | specified by the Department, are analyzed once each quarter for iodine-131.<br><br>Verify that annual compliance for strontium-90 and tritium is based on the analyses of four quarterly samples.<br><br>(NOTE: The Department may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of manmade radioactivity by the water system.)<br><br>Verify that when the average annual MCL for manmade radioactivity is exceeded (see Appendix 13-5) the water system monitors at monthly intervals until the concentration no longer exceeds the MCL or until a monitoring schedule as a condition of an exemption or enforcement action becomes effective. |
| **WQ.40.19.AL.** Community water systems must meet monitoring and sampling requirements for unregulated contaminants (ADEM Admin. Code R. 335-7-2-.08(3)(a) through (d)) [Moved from WQ.15.23.AL. August 1998]. | Verify that the system collects four consecutive quarterly samples at each sampling point for the unregulated synthetic organic chemicals (see Appendix 13-6) at the same time as the initial samples are collected for the analysis of the Synthetic Organic Chemicals (SOC).<br><br>(NOTE: The system may have a waiver from monitoring any unregulated SOC from the Department. Reduced initial monitoring may be allowed during the compliance period for the herbicide, pesticide, or PCB for which the waiver is granted.)<br><br>Verify that the system collects one sample at each sampling point for the unregulated inorganic chemicals at the same time as samples are collected for the analysis of the regulated inorganic chemicals during the first monitoring period.<br><br>Verify that the system monitors and analyzes the unregulated VOCs (see Appendix 13-7) at the same frequency as specified for SOCs.<br><br>(NOTE: Monitoring for EDB and DBCP may not be required if the Department determines that the system is not vulnerable to contamination by either of the contaminants.) |
| **WQ.40.20.AL.** Community water systems must meet monitoring and sampling requirements for secondary MCLs and corrosivity characteristics (ADEM Admin. Code R. 335-7-3-.03 and .04(a), (b), .06, and .07) [Moved from WQ.15.24.AL. August 1998]. | Verify that the system monitors secondary contaminants (see Appendix 13-8), other than odor and foaming agents, at the same frequency as specified for inorganic contaminants, or at the frequency specified by the Department.<br><br>(NOTE: The Department may issue a deviation for a secondary contaminant to the system.)<br><br>Verify that the system monitors for the following corrosivity characteristics:<br><br>- pH |

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| August 1998]. | - total alkalinity<br><br>- carbon dioxide<br>- sodium<br>- sulfates<br>- calcium<br>- magnesium<br>- hardness<br>- temperature<br>- specific conductance or total dissolved solids.<br><br>Verify that the water system collects two samples, one during midwinter and one during midsummer, from a representative entry point to the water distribution system per plant for analysis for each system using surface water sources.<br><br>Verify that the water system collects one sample per plant for analysis for each plant using groundwater sources.<br><br>(NOTE: the minimum number of samples required to be taken by the system will be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with Departmental approval., be considered on treatment plant for determining the minimum number of samples. Additional monitoring may be required by the Department.)<br><br>Verify that the samples are analyzed by a laboratory certified by the Department or a certified operator using USEPA methodology and detection limits. |

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| **COMMUNITY WATER SYSTEMS**<br><br>**WQ.45**<br>**NOTIFICATION AND REPORTING REQUIREMENTS** | (NOTE: WQ.45.1.AL. through WQ.45.9.AL. are repeated in the Notification and Reporting Requirements for Nontransient Noncommunity Water Systems WQ.79.1.AL. through WQ.79.9.AL.) |
| **WQ.45.1.AL.** Community water systems must maintain specific records (ADEM Admin. Code R. 335-7-10-.05 and 335-7-10-.06) [Moved form WQ.30.6.AL. August 1998]. | Verify that operational records of all required water control tests are maintained for at least 2 yr.<br><br>Verify that log sheets for systems utilizing surface water are completed daily and maintained for at least 5 yr.<br><br>Verify that records of bacteriological analyses are maintained for at least 5 yr.<br><br>Verify that records of chemical analyses are maintained for at least 10 yr.<br><br>Verify that records of complaints are maintained for at least 3 yr.<br><br>Verify that records of action taken by the system to correct violations of primary drinking water regulations are maintained for at least 3 yr.<br><br>Verify that copies of any written reports, summaries or communications relating to sanitary surveys are maintained for at least 10 yr.<br><br>Verify that records concerning an exemption granted to the system are maintained for at least 5 yr. following the expiration of the exemption.<br><br>Verify that, in addition to the required monthly water quality control test reports, records of the daily disinfectant levels are submitted to the Department no later than the tenth day of the following month. |
| **WQ.45.2.AL.** Community water systems must meet site justification and reporting requirements for lead and copper (ADEM Admin. Code R. 335-7-11-.07(c)) [Moved from WQ.30.7.AL. August | Verify that any community or NTNC water system using other than tier one sample sites submits to the Department written justification for use of those sites, demonstrating that inadequate tier one sites were available.<br><br>Verify that the justification is submitted to the Department prior to or along with the sample results. |

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| 1998]. | Verify that any change in sampling sites after the initial 6-mo compliance period is designated, and written explanation is submitted to the Department, justifying changing sampling sites.<br><br>Verify that, if 50 percent of samples from community and NTNC water systems served by lead service lines are not from lead service sites, written justification demonstrating reasons for lead service line unavailability is submitted to the Department. |
| **WQ.45.3.AL.** Community water systems must meet specific reporting requirements for lead and copper control (ADEM Admin. Code R. 335-7-11-.16) [Moved from WQ.30.8.AL. August 1998]. | Verify that the water system submits the following information to the Department by the tenth day of every month:<br><br>- results of all tap sample analysis for lead and copper, including the following:<br>  - information about the tap<br>  - the tier level of the site<br>  - certification that a first draw sample of 1 L in volume was collected from each site and that the water stood motionless in the service line at least 6 h prior to collection<br>  - certification that residents collecting samples were informed of proper sampling procedures<br>  - an explanation for any site not sampled during the previous monitoring period or why sampling sites have changed<br>- for systems with lead service lines not providing 50 percent of the monitoring from lead service sites, a letter explaining the unavailability of sufficient lead service sites<br>- lead/copper results from source water required to be monitored<br>- for corrosion control treatment systems with a Department-approved corrosion control treatment system operating on 9 November 1992, monthly monitoring reports<br>- for systems required to establish optimized corrosion control, daily and weekly analysis<br>- for systems monitoring during a 6-mo compliance cycle, the analysis.<br><br>Verify that lead service line systems replacing lead service lines submit annual reports no later than 31 December, covering the following information:<br><br>- number and location of service lines replaced<br>- the number remaining<br>- the location and lead concentration of any lead service line sample<br>- any proposed modification to the lead service line removal.<br><br>Verify that any system required to provide public education submits to the Department certification of the education it performed prior to 31 December.<br><br>Verify that, for at least 12 yr., any system retains in its office or on its premises original records of all sampling data, analysis, reports, surveys, letters, |

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| | evaluations, schedules, state determinations, and other information required by the Department.<br><br>Verify that, when the system initiates a second analysis within 2 wk of an asbestos MCL being exceeded and averages the original and repeat analyses to calculate the compliance level, the system notifies the Department within 48 h when this compliance level also exceeds the MCL. |
| **WQ.45.4.AL.** Community water systems must meet nitrate notification requirements (ADEM Admin. Code R. 335-7-2-.03(4)(g) and (5)(e)) [Moved from WQ.30.10.AL. August 1998]. | Verify that, when the water system initiates a second analysis within 2 wk of a nitrate MCL being exceeded and averages the original and repeat analyses to calculate the compliance level, the system notifies the Department within 48 h when this compliance level also exceeds the MCL. |
| **WQ.45.5.AL.** Community water systems must meet other inorganic chemical notification requirements (ADEM Admin. Code R. 335-7-2-.03(6)(g)) [Moved from WQ.30.11.AL. August 1998]. | Verify that the supplier of the water reports to the department within 7 days of receipt of the results when the results of an analysis for an inorganic contaminant other than asbestos, nitrates, and nitrites exceed the established MCL. |
| **WQ.45.6.AL.** Community water systems must meet manmade radionuclide notification requirements (ADEM Admin. Code R. 335-7-2-.07(4)(b)5) [Moved from WQ.30.12.AL. August 1998]. | Verify that, if the average annual MCL for manmade radioactivity is exceeded (see Appendix 13-5), the water system notifies the Department within 14 days and notifies the public. |
| **WQ.45.7.AL.** Community water systems must meet notification requirements for unregulated contaminants (ADEM Admin. Code R. 335-7-2-.08(3)(e)) [Moved from WQ.30.13.AL.; May 1998]. | Verify that persons served by the system are notified of the availability of the sampling results.<br><br>Verify that monitoring results and the public notice are submitted to the Department within 30 days of completing sampling. |

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| **WQ.45.8.AL.** Community water systems must meet public notification requirements (ADEM Admin. Code R. 335-7-2-.11(1)(a) through (c), (f), (2), (3), (4)(a), (b), and (5)) [Moved from WQ.30.14.AL. August 1998]. | Verify that persons served by the system are notified if any of the following occurs:<br><br>- fails to comply with an applicable MCL<br>- is granted an exemption from an applicable MCL<br>- fails to comply with an applicable treatment process<br>- fails to comply with the requirements of any schedule prescribed pursuant to an exemption.<br><br>Verify that the system provides initial notice by publication as soon as possible, but in no case later than 14 days after the violation or failure, in/by one of the following:<br><br>- a daily newspaper of general circulation in the area served by the system<br>- a weekly newspaper of general circulation serving the area<br>- by hand delivery, repeated at least every 3 mo for as long as the violation or failure exists<br>- a continuous posting in conspicuous places within the area served by the system continuously for the longer of the following time periods:<br>  - for as long as the violation or failure exists<br>  - for a minimum of 10 days.<br><br>Verify that the system provides publication no later than 45 days after the violation or failure by:<br><br>- direct mail and<br>- inclusion with a water bill or hand delivery.<br><br>(NOTE: The Department may waive the mail or hand delivery requirement. The Department will make the waiver in writing within the 45-day period.)<br><br>Verify that, following the initial notice, the system gives notice at least once every 3 mo by mail or hand delivery for as long as the violation or failure exists.<br><br>Verify that when violations of the MCL of contaminants that may pose an acute risk to human health occur the system, in addition to direct customer notification, provides a copy of the notice to the radio and television stations serving the area served by the system within 72 h of the discovery of the violation.<br><br>(NOTE: The following violations are considered to be acute risk to human health:<br>- violation of the microbiological MCL, when fecal coliform or *E. coli* are present<br>- violation of the MCL for nitrates and/or nitrites<br>- violation of the MCL for organic or inorganic chemicals at a level determined by the Department to be an acute risk to human health.) |

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| | Verify that the system provides a copy of the most recent public notice for any outstanding violation of any MCL, variance, or exemption schedule to all new billing units or new hookups prior to or at the time service begins.<br><br>Verify that the system provides notices which:<br><br>- are written a manner reasonably designed to inform fully the users of the system<br>- are conspicuous<br>- do not use unduly technical language, unduly small print, or other methods which would frustrate the purpose of the notice<br>- disclose all material facts regarding the subject, including:<br>  - the nature of the violation<br>  - any potential adverse health effects<br>  - the population at risk.<br>- reasonably available methods of mitigating known or potential contamination in drinking water<br>- steps being taken by the system to mitigate problems in drinking water<br>- the necessity for seeking alternative water supplies, if any<br>- contain the telephone number of the water system's owner, operator, or designee as an additional source of information regarding any notice<br>- a clear statement that a primary drinking water standard has been violated and any preventative measures that should be taken by the public, when appropriate.<br><br>Verify that public notices for violation of the MCL for microbiological contaminants, fluoride, regulated VOCs, filtration treatment processes, and turbidity contain the specific language required by the Department.<br><br>Verify that the system notify persons served by the system of any:<br><br>- failure to comply with an applicable testing procedure<br>- failure to perform required monitoring<br>- failure to maintain the required disinfectant residual<br>- granting of an exemption.<br><br>Verify that the system provides notice by publication no later than 14 days after the failure, in/by one of the following:<br><br>- a daily newspaper of general circulation in the area served by the system<br>- a weekly newspaper of general circulation serving the area<br>- by hand delivery, repeated at least every 3 mo for as long as the violation or failure exists<br>- by mailing of a notice to the users of the system.<br><br>Verify that the system provides notification by hand delivery or mailing if a daily or weekly newspaper of general circulation does not serve the area served by the |

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| | system.<br><br>Verify that notice by hand delivery is repeated quarterly for as long as the violation exists or an exemption remains in effect.<br><br>(NOTE: Continuous posting in conspicuous places in the area served by the system is acceptable for systems serving less than 100 customers. Posting must continue for as long as the violation continues or an exemption remains in effect.)<br><br>Verify that the system issues notice when required by the Department to persons served by the system that may be affected by lead contamination of their drinking water.<br><br>(NOTE: This notification is required even if there is no violation of the primary drinking water standards for lead.)<br><br>Verify that public notices for violation of the MCL for lead contain the specific language required by the Department. |
| **WQ.45.9.AL.** Community water systems must meet reporting requirements for secondary MCLs and corrosivity characteristics (ADEM Admin. Code R. 335-7-3-.03, .04(c), (d), .05, .06, and .08) [Moved from WQ.30.15.AL. August 1998]. | Verify that the community or NTNC system identifies the presence of the following construction materials in the distribution system and reports to the Department as required:<br><br>- lead piping, service lines, goosenecks, solder, caulking, or interior lining of distribution mains<br>- galvanized pipe or service lines<br>- asbestos cement pipe<br>- vinyl lined asbestos cement pipe<br>- coal tar lined pipes and tanks.<br><br>Verify that the supplier reports to the Department the results of any test, measurement, or analysis for secondary MCLs and corrosivity characteristics no later than the 10th of the following month in which the result is received by the supplier.<br><br>(NOTE: The water system is not required to report analytical results to the Department in cases where a State Laboratory performs the analysis and reports the results to the Department.)<br><br>Verify that the samples are analyzed by a laboratory certified by the Department or a certified operator using USEPA methodology and detection limits.<br><br>(NOTE: The Department may require the water system to give notice to persons served by the system in a newspaper of general circulation in the area if the system exceeds the MCL of a secondary standard or if the system fails to comply with |

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| | prescribed monitoring. The system will provide notices which:<br><br>- are written a manner reasonably designed to inform fully the users of the system<br>- are conspicuous<br>- do not use unduly technical language, unduly small print, or other methods which would frustrate the purpose of the notice<br>- a clear statement that a secondary drinking water standard has been violated<br>- any preventative measures that should be taken by the public.<br><br>(NOTE: The notice may include a balanced explanation of the significance or seriousness of the subject of the notice, a fair explanation of steps taken by the system to correct any problem, and the results of any additional sampling. Proof of completion of the notice will be received by the Department within 10 days of the completion of the notice. This proof will include a copy of the exact notice used with details as to manner and date of notification. Notice to the public may be given by the Department on behalf of the water system.) |

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| **NONCOMMUNITY WATER SYSTEMS**<br><br>**WQ.65. MONITORING/ SAMPLING** | |
| **WQ.65.1.AL.**<br>Noncommunity water systems must meet microbiological monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.06 (2) through (5)) [Moved from WQ.15.20.AL. August 1998]. | Verify that any noncommunity system obtains at least three repeat samples for each total coliform positive sample, which meet the following requirements:<br><br>- one repeat sample is from the sampling tap where the original total coliform positive sample was taken<br>- two repeat samples are from representative taps from opposite sides of the facility served by the system. The system must collect all repeat samples on the same day. |

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| **NONTRANSIENT NONCOMMUNITY WATER SYSTEM**<br><br>**WQ.76 STANDARDS** | |
| **WQ.76.1.AL.** Community and NTNC water systems must meet specific water quality control test requirements (ADEM Admin. Code R. 335-7-10-.03(a) and (b)) [Revised and moved from WQ.20.10.Al. August 1998]. | Verify that surface water systems conduct and record control tests according to the following schedule:<br><br>- disinfectant residual of the finished water, every other hour<br>- recording of disinfectant residual, continuously, for plants serving a population of 3300 or more<br>- carbon dioxide of the raw water, once per shift<br>- color of the raw and finished water:<br>  - weekly, if the previous sample was less than 10 units<br>  - daily for three consecutive days, after any sample exceeds 10 units.<br>- fluoride of the finished water, daily when the concentration is adjusted<br>- fecal bacteria or total coliform bacteria, as required [not defined]<br>- manganese of the raw and finished water:<br>  - weekly, if the manganese concentration of the raw water is less than 0.05 mg/L<br>  - daily, if the manganese concentration exceeds 0.05 mg/L.<br>- iron of the raw and finished water:<br>  - weekly, if the iron concentration of the raw water is less than 0.1 mg/L<br>  - daily, if the iron concentration exceeds 0.1 mg/L.<br>- pH of the raw and finished water, each shift<br>- total alkalinity of the raw and finished water, each day<br>- turbidity of the raw, settled, and filtered water from each filter:<br>  - hourly, if a recording turbidimeter is not used<br>  - continuously, if a recording turbidimeter is used.<br>- other tests of a kind and frequency specified by the Department.<br><br>Verify that groundwater treatment facilities serving community and NTNC systems perform the following tests on at least a daily basis:<br><br>- free chlorine residual of the finished water representing each source or plant<br>- fluoride of the finished water if the level is adjusted<br>- iron of the raw and finished water, when the raw water concentration exceeds 0.3 mg/L<br>- manganese of the raw and finished water, when the raw water concentration exceeds 0.05 mg/L<br>- pH of the finished water from each source or plant if a chemical is fed to |

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| | adjust the pH or if the pH is below 7.0<br>- turbidity of the raw water in either of the following cases:<br>- if so directed by the Department<br>- if the turbidity exceeds 5.0 NTU.<br>- other tests of a kind and frequency specified by the Department. |

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| **NONTRANSIENT NONCOMMUNITY WATER SYSTEMS**<br><br>**WQ.77 MONITORING/ SAMPLING** | (NOTE: WQ.77.1.AL. through WQ.77.15 and WQ.77.17.AL. through WQ.77.20.AL are repeated in the Community Water System Monitoring/Sampling requirements WQ.40.1.AL. through WQ.40.15 and WQ.40.17.AL. through WQ.40.20.AL..) |
| **WQ.77.1.AL.** NTNC water systems must meet asbestos monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.03(3)) [Moved from WQ.15. 5.AL. August 1998]. | Verify that water systems analyze for asbestos during the first 3-yr. compliance period of each 9-yr. compliance cycle.<br><br>(NOTE: A water system that is not vulnerable to asbestos contamination may receive a waiver for asbestos monitoring from the state for each 3-yr. monitoring period.)<br><br>Verify that water systems vulnerable to asbestos contamination due to corrosion of asbestos-cement pipe collect at least one sample from a tap served by asbestos-cement pipe under conditions where asbestos contamination is most likely to occur.<br><br>Verify that water systems vulnerable to asbestos contamination in source water monitor at least one sample representative of each suspected source after treatment.<br><br>Verify that water systems which exceed the MCL analyze for asbestos quarterly beginning in the next quarter after violation occurred and that:<br><br>- groundwater systems analyze a minimum of two quarterly samples<br>- surface systems analyze a minimum of four quarterly samples.<br><br>(NOTE: Sampling may be reduced to initial monitoring requirements if the average of all analytical results is less than 3.5 million fibers per L.)<br><br>Verify that, when the MCL for asbestos is exceeded, systems initiate a second analysis within 2 weeks and use the average of the two analyses as the compliance level.<br><br>Verify that the Department is notified within 48 h when this level also exceeds the MCL. |
| **WQ.77.2.AL.** NTNC water systems utilizing surface | Verify that, for each surface source, the system analyzes samples collected from the entry point to the distribution system for nitrates. |

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| sources must meet nitrate monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.03(4)(a) and (b) [Moved from WQ.15. 6.AL. August 1998] . | the entry point to the distribution system for nitrates.<br><br>Verify that this nitrate analysis is done for four consecutive quarters starting January 1993.<br><br>Verify that, when all analytical results from four consecutive quarters are less than 4.5 mg/L, the analysis is thereafter done annually.<br><br>Verify that the system returns to quarterly monitoring when any one sample is greater than 4.4 mg/L.<br><br>Verify that the water system initiates a second analysis within 2 weeks when the MCL for nitrate is exceeded and use the average of the two analyses as the compliance level. |
| **WQ.77.3.AL.** NTNC water systems utilizing groundwater sources must meet nitrate monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.03(4)(c), (d), and (g)) [Moved from WQ.15.7 .AL. August 1998]. | Verify that the system analyzes for nitrates annually.<br><br>Verify that the samples are collected:<br><br>- during periods of normal operating conditions<br>- from the entry points to the distribution system<br>- are representative of each source or treatment plant.<br><br>Verify that, following any single sample whose analytical result is greater than 4.4 mg/L, the system analyzes for nitrates quarterly for at least 1 yr.<br><br>(NOTE: Sampling may be reduced to annually if the average of four consecutive quarterly results is less than 4.5 mg/L.)<br><br>Verify that water systems initiate a second analysis within 24 h when the MCL for nitrate is exceeded and use the average of the two analyses as the compliance level. Should the system be unable to collect a confirmation sample within 24 hours, the system must immediately notify their customers and collect a confirmation sample within 14 days.<br><br>Verify that the Department is notified within 48 h when this level also exceeds the MCL. |
| **WQ.77.4.AL.** NTNC water systems utilizing surface sources must meet monitoring and sampling requirements for other inorganic chemicals (ADEM Admin. Code R. 335- | (NOTE: Waivers are not granted for inorganic chemicals other than asbestos.)<br><br>Verify that the water system utilizing surface water analyzes for inorganic chemicals annually.<br><br>Verify that samples are taken from a representative point in the distributions |

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| 7-2-.03(6)(a) and (d)) [Moved from WQ.15.8.AL. August 1998]. | system for each surface source. |
| **WQ.77.5.AL.** NTNC water systems utilizing groundwater sources must meet monitoring and sampling requirements for other inorganic chemicals (ADEM Admin. Code R. 335-7-2-.03(6)(b)) [Moved from WQ.15.9.AL. August 1998]. | Verify that the water system utilizing groundwater analyses samples taken from the distributions system representing each source or treatment plant utilized.<br><br>Verify that analysis is performed on no less than a 3-yr. cycle. |
| **WQ.77.6.AL.** NTNC water systems must meet monitoring and sampling requirements for other inorganic chemicals (ADEM Admin. Code R. 335-7-2-.03(6)(e) and (h)) [Moved from WQ.15.10.AL. August 1998]. | Verify that, beginning the quarter after the discovery of a violation of the MCL for an inorganic contaminant (other than asbestos, nitrate and nitrite), the water system analyzes quarterly for that contaminant.<br><br>Verify that groundwater systems analyze a minimum of two quarterly samples, and surface water systems analyze a minimum of four quarterly samples.<br><br>(NOTE: Sampling may be reduced to initial monitoring requirements if the average of all analytical results is less than one-half of the MCL.)<br><br>Verify that, when an inorganic contaminant other than asbestos, nitrates, and nitrites exceeds the established MCL, systems analyze an additional sample from the same sampling point within 14 days and use the average of the two samples to determine the compliance level.<br><br>(NOTE: If more than the minimum number of samples are collected during a compliance period, the average of the values will be used as the compliance level.) |
| **WQ.77.7.AL.** NTNC water systems utilizing surface sources must meet monitoring and sampling requirements for synthetic organic chemicals (SOC) (ADEM Admin. Code R. 335-7-2-.04(2)(a), (d), (e) and (f)) [Moved from WQ.15.11.AL. August 1998; Revised June 1999]. | (NOTE: For NTNC water systems, regardless of their source, SOC confirmation samples may be required by the Department to confirm a negative or positive result. Confirmation samples are collected from a point representing the source and, unless investigation proves initial samples were contaminated because of conditions at the sampling site or because of sampling procedure, the confirmation results will be averaged with the initial result to determine compliance.)<br><br>(NOTE: The system may receive a waiver from monitoring of any SOC which may reduce initial monitoring during the compliance period.)<br><br>Verify that NTNC water systems sample all new sources for SOC for four |

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| | consecutive quarters.<br><br>(NOTE: The system may apply for a waiver for the new source after two quarters of monitoring for any SOC which has not been detected above the monitoring trigger.)<br><br>Verify that any NTNC water system which utilizes surface water analyzes for SOC (see Appendix 13-1) four consecutive quarters beginning January 1993.<br><br>Verify that samples are collected from the entry point to the distribution system for each surface source.<br><br>Verify that samples are collected during the period most susceptible to pesticide contamination. |
| **WQ.77.8.AL.** NTNC water systems utilizing groundwater sources must meet monitoring and sampling requirements for SOC (ADEM Admin. Code R. 335-7-2-.04(2)(b)) [Moved from WQ.15.12.AL. August 1998] | Verify that any NTNC water system which utilizes groundwater analyzes for SOC (see Appendix 13-1) four consecutive quarters beginning in the compliance period starting January 1993.<br><br>Verify that samples are collected from the entry point to the distribution system representing each source of water used after any application of treatment.<br><br>(NOTE: Raw water analysis may be used to determine compliance if no treatment processes are used for the reduction of SOC. The system may have a waiver from monitoring of any SOC. The waiver may reduce initial monitoring during the compliance period. The waiver if granted will be in effect for one compliance period and the system must reapply for the waiver for each compliance period.) |
| **WQ.77.9.AL.** NTNC water systems utilizing more than one source must meet monitoring and sampling requirements for SOC (ADEM Admin. Code R. 335-7-2-.04(2)(c)) [Moved from WQ.15.13.AL. August 1998]. | Verify that any NTNC water system which utilizes multiple sources which are blended prior to the entry point to the distribution system samples at the entry point to the distribution system during periods of normal operating conditions.<br><br>Verify that the system samples each source before blending unless raw water sampling indicates compliance with the MCLs. |
| **WQ.77.10.AL.** NTNC water system must meet monitoring and sampling requirements for SOC (ADEM Admin. Code R. 335-7-2-.04(2)(i), (j), and (k)) [Moved from WQ.15.14.AL. | Verify that, after initial sampling has been completed, repeat samples are analyzed according to the following schedule:<br><br>- if no SOC are detected in the initial compliance period:<br>- systems serving 3,300 or fewer persons must collect one sample during each repeat compliance period |

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| August 1998; Revised June 1999]. | - systems serving more than 3,300 persons must collect two samples during each repeat compliance period<br>- if an SOC is detected, the system must monitor quarterly for the particular SOC which is detected<br>- if related contaminants (aldicarb, aldicarb sulfone, aldicarb sulfoxide and heptachlor, heptachlor epoxide) are detected, the system must monitor for all related compounds<br>- systems which exceed the MCL for a SOC must analyze quarterly for that contaminant beginning in the next quarter after the violation occurred.<br><br>(NOTE: Monitoring may be reduced to annually if the average of all analytical results within the past 2 yr. is less than one-half the MCL and no analytical result within the past 2 yr. exceeds 75 percent of the MCL. NTNC systems must analyze a minimum of four quarterly samples, groundwater systems must analyze a minimum of two quarterly samples, and surface water systems must analyze a minimum of four quarterly samples.)<br><br>- systems which have three consecutive annual sample results with no detection after a previous detection of a SOC may receive a waiver from the states<br>- systems serving 3,300 or fewer persons which have been granted such a waiver must collect a minimum of one sample during each repeat compliance period<br>- systems serving more than 3,300 persons which have been granted such a waiver must collect a minimum of two quarterly samples in 1 yr. during each repeat compliance period.<br><br>(NOTE: Noncompliance with any SOC MCL occurs when:<br>- the average of four consecutive quarterly analyses exceeds the MCL<br>- one quarterly sample analysis exceeds four times the MCL, or if subsequent sample results would cancel the annual average to be exceeded<br>- any sample analysis exceeds the MCL, if monitoring is being conducted annually or less frequently.)<br><br>Verify that the system, upon exceeding an MCL, establishes a treatment process using the best available technology to achieve compliance with the MCL or ceases using the source of supply in conjunction with a Department-issued compliance schedule. |
| **WQ.77.11.AL.** NTNC water systems must meet monitoring and sampling requirements for total trihalomethanes (TTHM) (ADEM Admin. Code R. 335-7-2-.04(3)) [Moved from WQ.15.15.AL. August 1998; Revised June 1999]. | Verify that systems using surface sources monitor for TTHM on a quarterly basis.<br><br>Verify that, if the Department reduces the monitoring frequency from four samples per quarter to one sample per quarter for each treatment plant, the single sample collected is taken from a point in the distribution system reflecting the maximum residence time of the water in the system.<br><br>Verify that, if the results of a single quarterly sample equal or exceed 0.10 m/L of |

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| Revised June 1999]. | TTHM and this is confirmed by at least one confirmation sample, or if the system makes significant changes in the source of water or treatment process, the system reverts to obtaining four samples per quarter per source for TTHM.<br><br>Verify that systems which purchase water, add disinfectant, and serve a population greater than 10,000 monitor for TTHM no less than once per year.<br><br>Verify that systems using groundwater sources and serving a population greater than 10,000 monitor for TTHM no less than once each year.<br><br>Verify that systems which use only groundwater sources and serve a population greater than 10,000 monitor for TTHM on a quarterly basis for four consecutive quarter and that one sample representing the maximum TTHM potential per aquifer used by the system is analyzed.<br><br>(NOTE: After four quarters of monitoring, the frequency may be reduced to one maximum TTHM potential sample each year per aquifer should the previous results consistently be less than the MCL.)<br><br>Verify that, if the maximum TTHM potential sample exceeds 0.10 mg/L during the reduced monitoring frequency and a confirmation sample collected from the distribution maximum retention area confirms the results, the monitoring frequency reverts to quarterly sampling.<br><br>Verify that NTNC systems using a surface source monitor TTHMs according to the following:<br><br>- monitoring is carried out on a quarterly basis<br>- one sample is analyzed representing the maximum residence time in the distribution system for each plant<br>- all samples collected are used in computation of the annual average.<br><br>Verify that when the system makes a significant modification to the existing treatment process for the purpose of achieving compliance with TTHM standards, the system submits an engineering report demonstrating that:<br><br>- the treatment changes will allow the system to continue to meet bacteriological standards<br>- the quality of the water will not be adversely impacted by the treatment change. |
| **WQ.77.12.AL.** NTNC systems utilizing surface sources must meet monitoring and sampling requirements for volatile synthetic organic | Verify that any NTNC water system which utilizes surface water analyzes for VOC (see Appendix 13-2) four consecutive quarters beginning January 1993.<br><br>Verify that samples are collected from the entry point to the distribution system representing each source of water used after any application of treatment. |

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| chemicals (VOC) (ADEM Admin. Code R. 335-7-2-.04(4)(a)) [Moved from WQ.15.16.AL. August 1998]. | representing each source of water used after any application of treatment.<br><br>(NOTE: Raw water analysis may be used to determine compliance if no treatment processes are used for the reduction of VOC.) |
| **WQ.77.13.AL.** NTNC water systems utilizing groundwater sources must meet monitoring and sampling requirements for VOCs (ADEM Admin. Code R. 335-7-2-.04(4)(b)) [Moved from WQ.15.17.AL. August 1998]. | Verify that the system analyzed for VOC (see Appendix 13-2) for four consecutive quarters beginning January 1993.<br><br>Verify that samples are collected from the entry point to the distribution system representing each source of water used after any application of treatment.<br><br>(NOTE: Raw water analysis may be used to determine compliance if no treatment processes are used for the reduction of VOC.) |
| **WQ.77.14.AL.** NTNC systems utilizing more than one source must meet monitoring and sampling requirements for VOC (ADEM Admin. Code R. 335-7-2-.04(4)(d) and (e)) [Moved from WQ.15.18.AL. August 1998; Revised June 1999]. | Verify that community water systems sample all new sources for VOCs for four consecutive quarters.<br><br>(NOTE: The system may apply for a waiver for the new source after two quarters of monitoring for any VOC which has not been detected above the monitoring trigger.)<br><br>Verify that community water systems using water from more than one source and blending prior to the entry point to the distribution system during periods of normal operating conditions.<br><br>(NOTE: Sampling of raw water from each source may be required if a contaminant is detected.) |
| **WQ.77.15.AL.** NTNC water systems must meet monitoring and sampling requirements for VOC (ADEM Admin. Code R. 335-7-2-.04(4)(c), (f), (g), (j), (k), and (l)) [Moved from WQ.15.19.AL. August 1998; Revised June 1999]. | (NOTE: VOC analysis results after 1 January 1988 may be used to determine compliance and to satisfy initial monitoring requirements if sample collection procedures and laboratory methods are consistent with the requirements of this protocol.)<br><br>(NOTE: Confirmation samples may be required by the Department to confirm a negative or positive result. Confirmations samples are collected from a point representing the source and, unless investigation proves initial samples were contaminated because of conditions at the sampling site or because of sampling procedure, the confirmation results will be averaged with the initial result to determine compliance.)<br><br>(NOTE: The system may receive a waiver from monitoring of any VOC.)<br><br>Verify that the system, upon exceeding the MCL, establishes a treatment process |

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| | using the best available technology to achieve compliance with the MCL or phases out using the source of supply in conjunction with a Department-issued compliance schedule.<br><br>(NOTE: Noncompliance with any VOC MCL occurs when:<br>- the average of four consecutive quarterly samples exceeds the MCL<br>- one quarterly sample analysis exceeds four times the MCL, or if subsequent sample results would cancel the annual average to be exceeded<br>- any sample analysis exceeds the MCL, if monitoring is being conducted annually or less frequently.)<br><br>Verify that repeat samples are analyzed after initial sampling has been completed and that sampling follows this schedule:<br><br>- annually if no regulated VOC are detected above the monitoring trigger in the initial compliance monitoring<br>- quarterly if a regulated VOC is detected above the monitoring trigger.<br><br>(NOTE: Monitoring may be reduced to annually if the average of all analytical results within the past 2 yr. is less than one-half the MCL and no analytical result within the past 2 yr. exceeds 75 percent of the MCL.)<br><br>(NOTE: Monitoring may be reduced to one sample per compliance period if no regulated VOC are detected above the monitoring trigger after a minimum of 3 yr. of annual sampling.)<br><br>Verify that groundwater systems analyze a minimum of two quarterly samples and surface water systems a minimum of four quarterly samples.<br><br>Verify that systems which exceed the MCL for a VOC analyze quarterly for that contaminant beginning in the next quarter after the violation occurred.<br><br>(NOTE: Sampling may be reduced to annually if the average of all analytical results within the past 2 yr. is less than one-half the MCL and no analytical result within the past 2 yr. exceeds 75 percent of the MCL.)<br><br>Verify that all systems analyze a minimum of four quarterly samples.<br><br>(NOTE: Consecutive systems which obtain all of their water from a public water system are exempt from monitoring for the regulated VOC.) |
| **WQ.77.16.AL.** NTNC water systems must meet microbiological monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.06 (2) through (5)) | Verify that any NTNC system obtains at least three repeat samples for each total coliform positive sample, which meet the following requirements:<br><br>- one repeat sample is from the sampling tap where the original total coliform positive sample was taken<br>- two repeat samples are from representative taps from opposite sides of the |

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| [Moved from WQ.15.20.AL. August 1998]. | facility served by the system. The system must collect all repeat samples on the same day. |
| **WQ.77.17.AL.** NTNC water systems must meet natural radionuclide monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.07(3)) [Moved from WQ.15.21.AL. August 1998]. | Verify that an initial sampling of all new sources to determine compliance for naturally occurring radionuclides is completed at the intervals specified by the Department.<br><br>(NOTE: Initial compliance is based on the average of the analyses of four samples obtained at quarterly intervals.)<br><br>Verify that a gross alpha particle activity measurement is substituted for the required radium-226 and radium-228 analyses only when the measured gross alpha particle activity does not exceed 5 pCi/L at a confidence level of 95 percent.<br><br>Verify that where radium-228 is present in drinking water, the system analyzes for radium-226 and/or radium-228 when the gross alpha particle activity exceeds 2 pCi/L.<br><br>Verify that when the gross alpha particle activity exceeds 5 pCi/L the system analyzes the same or an equivalent sample for radium-226 and that, if the concentration of radium-226 exceeds 3 pCi/L the system analyses the same or an equivalent sample for radium-228.<br><br>(NOTE: If the source of supply is groundwater using a common aquifer with adjacent systems one sample may be accepted for compliance if the result is less than 50 percent of the MCL (see Appendix 13-4).)<br><br>Verify that the system monitors for naturally occurring radionuclides on a 4-yr. cycle.<br><br>(NOTE: The Department may allow analysis of a single sample to be substituted for the quarterly sampling. When a single sample is substituted the monitoring is to be conducted at the same frequency as that required for inorganic monitoring.)<br><br>Verify that the system monitors for any natural contaminant and at the frequency required by the Department.<br><br>(NOTE: Suppliers of water may be required to conduct annual monitoring of any community water system in which the radium-226 concentration exceeds 3 pCi/L. If the average annual MCL for gross alpha particle activity or total radium is exceeded (see Appendix 13-4), the supplier of a community water systems must notify the Department within 14 days and provide public notification. Monitoring at quarterly intervals must be performed until the annual average concentration no longer exceeds the MCL or until a monitoring schedule as a condition to an exemption or enforcement action becomes effective.) |

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| **WQ.77.18.AL.** NTNC water systems must meet manmade radionuclide monitoring and sampling requirements (ADEM Admin. Code R. 335-7-2-.07(4)(a)) [Moved from WQ.15.22.AL. August 1998]. | Verify that systems using surface water sources and serving more than 100,000 persons monitor for compliance with the MCL for manmade radionuclides (see Appendix 13-5) by analyzing four quarterly samples.<br><br>(NOTE: Compliance may be assumed without further analysis if the average annual concentration of gross beta particle activity is less than 50 pCi/L and if the average annual concentrations of tritium and strontium-90 are less than the MCL (see Appendix 13-5), provided both radionuclides are present, the sum of their annual dose equivalents to bone marrow must not exceed 4 millirem/yr. If the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses must be calculated to determine compliance.)<br><br>Verify that suppliers of water conduct any additional monitoring ordered by the Department.<br><br>Verify that systems using water contaminated by effluents from nuclear facilities monitor quarterly for gross beta particle and iodine-131 radioactivity and annually for strontium-90 and tritium.<br><br>Verify that monitoring for gross beta particle activity is based on the analyses of monthly samples.<br><br>Verify that, if the gross beta particle activity in a sample exceeds 15 pCi/L, the system analyzes the same or an equivalent sample for strontium-89 and cesium-134.<br><br>Verify that, if the gross beta particle activity in a sample exceeds 50 pCi/L, the system analyzes the sample to identify the major radioactive constituents present and the appropriate organ and total body doses are calculated to determine compliance.<br><br>Verify that a composite of five consecutive daily samples, or the frequency specified by the Department, are analyzed once each quarter for iodine-131.<br><br>Verify that annual compliance for strontium-90 and tritium is based on the analyses of four quarterly samples.<br><br>(NOTE: The Department may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of manmade radioactivity by the water system.)<br><br>Verify that when the average annual MCL for manmade radioactivity is exceeded (see Appendix 13-5) the water system monitors at monthly intervals until the concentration no longer exceeds the MCL or until a monitoring schedule as a |

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| | condition of an exemption or enforcement action becomes effective. |
| **WQ.77.19.AL.** NTNC water systems must meet monitoring and sampling requirements for unregulated contaminants (ADEM Admin. Code R. 335-7-2-.08(3)(a) through (d)) [Moved from WQ.15.23.AL. August 1998]. | Verify that the system collects four consecutive quarterly samples at each sampling point for the unregulated synthetic organic chemicals (see Appendix 13-6) at the same time as the initial samples are collected for the analysis of the Synthetic Organic Chemicals (SOC).<br><br>(NOTE: The system may have a waiver from monitoring any unregulated SOC from the Department. Reduced initial monitoring may be allowed during the compliance period for the herbicide, pesticide, or PCB for which the waiver is granted.)<br><br>Verify that the system collects one sample at each sampling point for the unregulated inorganic chemicals at the same time as samples are collected for the analysis of the regulated inorganic chemicals during the first monitoring period.<br><br>Verify that the system monitors and analyzes the unregulated VOCs (see Appendix 13-7) at the same frequency as specified for SOCs.<br><br>(NOTE: Monitoring for EDB and DBCP may not be required if the Department determines that the system is not vulnerable to contamination by either of the contaminants.) |
| **WQ.77.20.AL.** NTNC water systems must meet monitoring and sampling requirements for secondary MCLs and corrosivity characteristics (ADEM Admin. Code R. 335-7-3-.03 and .04(a), (b), .06, and .07) [Moved from WQ.15.24.AL. August 1998]. | Verify that the system monitors secondary contaminants (see Appendix 13-8), other than odor and foaming agents, at the same frequency as specified for inorganic contaminants, or at the frequency specified by the Department.<br><br>(NOTE: The Department may issue a deviation for a secondary contaminant to the system.)<br><br>Verify that the system monitors for the following corrosivity characteristics:<br><br>- pH<br>- total alkalinity<br>- carbon dioxide<br>- sodium<br>- sulfates<br>- calcium<br>- magnesium<br>- hardness<br>- temperature<br>- specific conductance or total dissolved solids.<br><br>Verify that the water system collects two samples, one during midwinter and one during midsummer, from a representative entry point to the water distribution |

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| | system per plant for analysis for each system using surface water sources.<br><br>Verify that the water system collects one sample per plant for analysis for each plant using groundwater sources.<br><br>(NOTE: the minimum number of samples required to be taken by the system will be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with Departmental approval., be considered on treatment plant for determining the minimum number of samples. Additional monitoring may be required by the Department.)<br><br>Verify that the samples are analyzed by a laboratory certified by the Department or a certified operator using USEPA methodology and detection limits. |

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| **NONTRANSIENT NONCOMMUNITY WATER SYSTEMS**<br><br>**WQ.79 NOTIFICATION AND REPORTING REQUIREMENTS** | (NOTE: WQ.79.1.AL. through WQ.79.9.AL. are repeated in the Notification and Reporting Requirements for Community Water Systems WQ.45.1.AL. through WQ.45.9.AL..] |
| **WQ.79.1.AL.** NTNC water systems must maintain specific records (ADEM Admin. Code R. 335-7-10-.05 and 335-7-10-.06) [Moved from WQ.30.6.AL. August 1998]. | Verify that operational records of all required water control tests are maintained for at least 2 yr.<br><br>Verify that log sheets for systems utilizing surface water are completed daily and maintained for at least 5 yr.<br><br>Verify that records of bacteriological analyses are maintained for at least 5 yr.<br><br>Verify that records of chemical analyses are maintained for at least 10 yr.<br><br>Verify that records of complaints are maintained for at least 3 yr.<br><br>Verify that records of action taken by the system to correct violations of primary drinking water regulations are maintained for at least 3 yr.<br><br>Verify that copies of any written reports, summaries or communications relating to sanitary surveys are maintained for at least 10 yr.<br><br>Verify that records concerning an exemption granted to the system are maintained for at least 5 yr. following the expiration of the exemption.<br><br>Verify that, in addition to the required monthly water quality control test reports, records of the daily disinfectant levels are submitted to the Department no later than the tenth day of the following month. |
| **WQ.79.2.AL.** NTNC water systems must meet site justification and reporting requirements for lead and copper (ADEM Admin. Code R. 335-7-11-.07(c)) [Moved fromWQ.30.7.AL. August 1998]. | Verify that any community or NTNC water system using other than tier one sample sites submits to the Department written justification for use of those sites, demonstrating that inadequate tier one sites were available.<br><br>Verify that the justification is submitted to the Department prior to or along with the sample results.<br><br>Verify that any change in sampling sites after the initial 6-mo compliance period is |

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| 1998]. | designated, and written explanation is submitted to the Department, justifying changing sampling sites.<br><br>Verify that, if 50 percent of samples from community and NTNC water systems served by lead service lines are not from lead service sites, written justification demonstrating reasons for lead service line unavailability is submitted to the Department. |
| **WQ.79.3.AL.** NTNC water systems must meet specific reporting requirements for lead and copper control (ADEM Admin. Code R. 335-7-11-.16) [Moved form WQ.30.8.AL. August 1998]. | Verify that the water system submits the following information to the Department by the tenth day of every month:<br><br>- results of all tap sample analysis for lead and copper, including the following:<br>  - information about the tap<br>  - the tier level of the site<br>  - certification that a first draw sample of 1 L in volume was collected from each site and that the water stood motionless in the service line at least 6 h prior to collection<br>  - certification that residents collecting samples were informed of proper sampling procedures<br>  - an explanation for any site not sampled during the previous monitoring period or why sampling sites have changed<br>- for systems with lead service lines not providing 50 percent of the monitoring from lead service sites, a letter explaining the unavailability of sufficient lead service sites<br>- lead/copper results from source water required to be monitored<br>- for corrosion control treatment systems with a Department-approved corrosion control treatment system operating on 9 November 1992, monthly monitoring reports<br>- for systems required to establish optimized corrosion control, daily and weekly analysis<br>- for systems monitoring during a 6-mo compliance cycle, the analysis.<br><br>Verify that lead service line systems replacing lead service lines submit annual reports no later than 31 December, covering the following information:<br><br>- number and location of service lines replaced<br>- the number remaining<br>- the location and lead concentration of any lead service line sample<br>- any proposed modification to the lead service line removal.<br><br>Verify that any system required to provide public education submits to the Department certification of the education it performed prior to 31 December.<br><br>Verify that, for at least 12 yr., any system retains in its office or on its premises original records of all sampling data, analysis, reports, surveys, letters, evaluations, schedules, state determinations, and other information required by the |

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| | Department.<br><br>Verify that, when the system initiates a second analysis within 2 wk of an asbestos MCL being exceeded and averages the original and repeat analyses to calculate the compliance level, the system notifies the Department within 48 h when this compliance level also exceeds the MCL. |
| **WQ.79.4.AL.** NTNC water systems must meet nitrate notification requirements (ADEM Admin. Code R. 335-7-2-.03(4)(g) and (5)(e)) [Moved from WQ.30.10.AL. August 1998]. | Verify that, when the water system initiates a second analysis within 2 wk of a nitrate MCL being exceeded and averages the original and repeat analyses to calculate the compliance level, the system notifies the Department within 48 h when this compliance level also exceeds the MCL. |
| **WQ.79.5.AL.** NTNC water systems must meet other inorganic chemical notification requirements (ADEM Admin. Code R. 335-7-2-.03(6)(g)) [Moved form WQ.30.11.AL. August 1998]. | Verify that the supplier of the water reports to the department within 7 days of receipt of the results when the results of an analysis for an inorganic contaminant other than asbestos, nitrates, and nitrites exceed the established MCL. |
| **WQ.79.6.AL.** NTNC water systems must meet manmade radionuclide notification requirements (ADEM Admin. Code R. 335-7-2-.07(4)(b)5) [Moved from WQ.30.12.AL. August 1998]. | Verify that, if the average annual MCL for manmade radioactivity is exceeded (see Appendix 13-5), the water system notifies the Department within 14 days and notifies the public. |
| **WQ.79.7.AL.** NTNC water systems must meet notification requirements for unregulated contaminants (ADEM Admin. Code R. 335-7-2-.08(3)(e)) [Moved from WQ.30.13.AL. August 1998]. | Verify that persons served by the system are notified of the availability of the sampling results.<br><br>Verify that monitoring results and the public notice are submitted to the Department within 30 days of completing sampling. |

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| **WQ.79.8.AL.** NTNC water systems must meet public notification requirements (ADEM Admin. Code R. 335-7-2-.11(1)(a) through (c), (f), (2), (3), (4)(a), (b), and (5)) [Moved from WQ.30.14.AL. August 1998]. | Verify that persons served by the system are notified if any of the following occurs:<br><br>- fails to comply with an applicable MCL<br>- is granted an exemption from an applicable MCL<br>- fails to comply with an applicable treatment process<br>- fails to comply with the requirements of any schedule prescribed pursuant to an exemption.<br><br>Verify that the system provides initial notice by publication as soon as possible, but in no case later than 14 days after the violation or failure, in/by one of the following:<br><br>- a daily newspaper of general circulation in the area served by the system<br>- a weekly newspaper of general circulation serving the area<br>- by hand delivery, repeated at least every 3 mo for as long as the violation or failure exists<br>- a continuous posting in conspicuous places within the area served by the system continuously for the longer of the following time periods:<br>- for as long as the violation or failure exists<br>- for a minimum of 10 days.<br><br>Verify that the system provides publication no later than 45 days after the violation or failure by:<br><br>- direct mail<br>- inclusion with a water bill or hand delivery.<br><br>(NOTE: The Department may waive the mail or hand delivery requirement. The Department will make the waiver in writing within the 45-day period.)<br><br>Verify that, following the initial notice, the system gives notice at least once every 3 mo by mail or hand delivery for as long as the violation or failure exists.<br><br>Verify that when violations of the MCL of contaminants that may pose an acute risk to human health occur the system, in addition to direct customer notification, provides a copy of the notice to the radio and television stations serving the area served by the system within 72 h of the discovery of the violation.<br><br>(NOTE: The following violations are considered to be acute risk to human health:<br>- violation of the microbiological MCL, when fecal coliform or *E. coli* are present<br>- violation of the MCL for nitrates and/or nitrites<br>- violation of the MCL for organic or inorganic chemicals at a level determined by the Department to be an acute risk to human health.) |

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| | Verify that the system provides a copy of the most recent public notice for any outstanding violation of any MCL, variance, or exemption schedule to all new billing units or new hookups prior to or at the time service begins.<br><br>Verify that the system provides notices which:<br><br>- are written a manner reasonably designed to inform fully the users of the system<br>- are conspicuous<br>- do not use unduly technical language, unduly small print, or other methods which would frustrate the purpose of the notice<br>- disclose all material facts regarding the subject, including:<br>  - the nature of the violation<br>  - any potential adverse health effects<br>  - the population at risk.<br>- reasonably available methods of mitigating known or potential contamination in drinking water<br>- steps being taken by the system to mitigate problems in drinking water<br>- the necessity for seeking alternative water supplies, if any<br>- contain the telephone number of the water system's owner, operator, or designee as an additional source of information regarding any notice<br>- a clear statement that a primary drinking water standard has been violated and any preventative measures that should be taken by the public, when appropriate.<br><br>Verify that public notices for violation of the MCL for microbiological contaminants, fluoride, regulated VOCs, filtration treatment processes, and turbidity contain the specific language required by the Department.<br><br>Verify that the system notify persons served by the system of any:<br><br>- failure to comply with an applicable testing procedure<br>- failure to perform required monitoring<br>- failure to maintain the required disinfectant residual<br>- granting of an exemption.<br><br>Verify that the system provides notice by publication no later than 14 days after the failure, in/by one of the following:<br><br>- a daily newspaper of general circulation in the area served by the system<br>- a weekly newspaper of general circulation serving the area<br>- by hand delivery, repeated at least every 3 mo for as long as the violation or failure exists<br>- by mailing of a notice to the users of the system.<br><br>Verify that the system provides notification by hand delivery or mailing if a daily or weekly newspaper of general circulation does not serve the area served by the |

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| | system.<br><br>Verify that notice by hand delivery is repeated quarterly for as long as the violation exists or an exemption remains in effect.<br><br>(NOTE: Continuous posting in conspicuous places in the area served by the system is acceptable for systems serving less than 100 customers. Posting must continue for as long as the violation continues or an exemption remains in effect.)<br><br>Verify that the system issues notice when required by the Department to persons served by the system that may be affected by lead contamination of their drinking water.<br><br>(NOTE: This notification is required even if there is no violation of the primary drinking water standards for lead.)<br><br>Verify that public notices for violation of the MCL for lead contain the specific language required by the Department. |
| **WQ.79.9.AL.** NTNC water systems must meet reporting requirements for secondary MCLs and corrosivity characteristics (ADEM Admin. Code R. 335-7-3-.03, .04(c), (d), .05, .06, and .08) [Moved form WQ.30.15.AL. August 1998]. | Verify that the community or NTNC system identifies the presence of the following construction materials in the distribution system and reports to the Department as required:<br><br>- lead piping, service lines, goosenecks, solder, caulking, or interior lining of distribution mains<br>- galvanized pipe or service lines<br>- asbestos cement pipe<br>- vinyl lined asbestos cement pipe<br>- coal tar lined pipes and tanks.<br><br>Verify that the supplier reports to the Department the results of any test, measurement, or analysis for secondary MCLs and corrosivity characteristics no later than the 10th of the following month in which the result is received by the supplier.<br><br>(NOTE: The water system is not required to report analytical results to the Department in cases where a State Laboratory performs the analysis and reports the results to the Department.)<br><br>Verify that the samples are analyzed by a laboratory certified by the Department or a certified operator using USEPA methodology and detection limits.<br><br>(NOTE: The Department may require the water system to give notice to persons served by the system in a newspaper of general circulation in the area if the system exceeds the MCL of a secondary standard or if the system fails to comply with prescribed monitoring. The system will provide notices which: |

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| | - are written a manner reasonably designed to inform fully the users of the system<br>- are conspicuous<br>- do not use unduly technical language, unduly small print, or other methods which would frustrate the purpose of the notice<br>- a clear statement that a secondary drinking water standard has been violated<br>- any preventative measures that should be taken by the public.<br><br>(NOTE: The notice may include a balanced explanation of the significance or seriousness of the subject of the notice, a fair explanation of steps taken by the system to correct any problem, and the results of any additional sampling. Proof of completion of the notice will be received by the Department within 10 days of the completion of the notice. This proof will include a copy of the exact notice used with details as to manner and date of notification. Notice to the public may be given by the Department on behalf of the water system.) |
| **WQ.79.10.AL.** NTNC water systems must meet public notification requirements (ADEM Admin. Code R. 335-7-2-.11(1)(d), (f), (3), (4)(a) through (c), and (5)) [Moved from WQ.30.4.AL. August 1998]. | Verify that the NTNC system notifies persons served by the system if it:<br><br>- fails to comply with an applicable MCL<br>- is granted an exemption from an applicable MCL<br>- fails to comply with an applicable treatment process<br>- fails to comply with the requirements of any schedule prescribed pursuant to an exemption.<br><br>Verify that the NTNC system post notice in places of public view or provide hand delivery to those using the system.<br><br>Verify that the notice remains posted for a minimum of 10 days or as long as the failure continues, whichever is greater.<br><br>Verify that when violations of the MCL of contaminants that may pose an acute risk to human health occur the system, in addition to direct customer notification, provides a copy of the notice to the radio and television stations serving the area served by the system within 72 h of the discovery of the violation.<br><br>(NOTE: The following violations are considered to be acute risk to human health:<br><br>- violation of the microbiological MCL, when fecal coliform or *E. coli* are present<br>- violation of the MCL for nitrates and/or nitrites<br>- violation of the MCL for organic or inorganic chemicals at a level determined by the Department to be an acute risk to human health.)<br><br>Verify that the system provides notices which:<br><br>- are written a manner reasonably designed to inform fully the users of the system |

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| | - are conspicuous<br>- do not use unduly technical language, unduly small print, or other methods which would frustrate the purpose of the notice<br>- disclose all material facts regarding the subject, including:<br>- the nature of the violation<br>- any potential adverse health effects<br>- the population at risk<br>- reasonably available methods of mitigating known or potential contamination in drinking water<br>- steps being taken by the system to mitigate problems in drinking water<br>- the necessity for seeking alternative water supplies, if any<br>- contain the telephone number of the water system's owner, operator, or designee as an additional source of information regarding any notice<br>- a clear statement that a primary drinking water standard has been violated and any preventative measures that should be taken by the public, when appropriate.<br><br>Verify that public notices for violation of the MCL for microbiological contaminants, fluoride, regulated VOCs, filtration treatment processes, and turbidity contain the specific language required by the Department.<br><br>Verify that the system notify persons served by the system of any:<br><br>- failure to comply with an applicable testing procedure<br>- failure to perform required monitoring<br>- failure to maintain the required disinfectant residual<br>- granting of an exemption.<br><br>Verify that the system provides notice by publication no later than 14 days after the failure, in/by one of the following:<br><br>- a daily newspaper of general circulation in the area served by the system<br>- a weekly newspaper of general circulation serving the area<br>- by hand delivery, repeated at least every 3 mo for as long as the violation or failure exists<br>- by mailing of a notice to the users of the system.<br><br>Verify that the system provides notification by hand delivery or mailing if a daily or weekly newspaper of general circulation does not serve the area served by the system.<br><br>Verify that notice by hand delivery is repeated quarterly for as long as the violation exists or an exemption remains in effect.<br><br>(NOTE: Continuous posting in conspicuous places in the area served by the system is acceptable for systems serving less than 100 customers. Posting must continue for as long as the violation continues or an exemption remains in effect.) |

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| | Verify that the system posts a notice in places of public view for a minimum of 10 days or for as long as the failure continues, whichever is greater.<br><br>Verify that the system issues notice when required by the Department to persons served by the system that may be affected by lead contamination of their drinking water.<br><br>(NOTE: This notification is required even if there is no violation of the primary drinking water standards for lead.)<br><br>Verify that public notices for violation of the MCL for lead contain the specific language required by the Department. |

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| **STATE SPECIFIC CATEGORIES OF WATER SYSTEMS**<br><br>**WQ.85. PRIVATE/OTHER** | (NOTE: Noncommunity systems are defined in the Alabama regulations as a public water system which does not meet the requirements of a community water system or a nontransient noncommunity water system.) |
| **WQ.85.1.AL.** Noncommunity water systems must meet nitrate monitoring and notification requirements (ADEM Admin. Code R. 335-7-2-.03(5). | Verify that noncommunity water systems analyzed for nitrates starting with the compliance period beginning January 1993.<br><br>Verify that one representative sample was collected from each surface source and from the entry point to the distribution system representing each groundwater source or treatment plant.<br><br>Verify that repeat samples were collected according to the following requirements:<br><br>- the quarter following any analytical result for nitrate which exceeds 4.4 mg/L<br>- quarterly for at least 1 yr. following any one sample whose analytical result if greater than 0.54 mg/L.<br><br>(NOTE: Sampling may be reduced to annually if the average of four consecutive quarterly results is less than 0.54 mg/L. The Department may require analysis of nitrates during a specific quarter of the year and the Department may establish a MCL for nitrates.)<br><br>Verify that when the MCL for nitrates is exceeded, a second analysis is initiated within 24 hr and the average of the two analyses is used as the compliance level.<br><br>Verify that if the compliance level is exceeded (after the second analyses), the Department is notified within 48 hr. |
| **WQ.85.2.AL.** Noncommunity water systems must meet the monitoring requirements for inorganic chemicals (ADEM Admin. Code R. 335-7-2-.03(6)). | Verify that sampling for inorganic chemicals other than asbestos, nitrates, and nitrites is accomplished at the frequency established by the Department.<br><br>Verify that samples are taken from representative points in the distribution system for each surface source. |
| **WQ.85.3.AL.** Noncommunity | Verify that noncommunity systems using groundwater sources provide results from |

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| water systems must meet microbiological reporting requirements (ADEM Admin, Code R.335-7-2-.06(2)(a)). | at least two bacteriological monitoring samples to the Department on a monthly basis.<br><br>(NOTE: Systems serving more than 2500 persons must sample at the frequency of like-sized community water systems, see Appendix 10.) |
| **WQ.85.4.AL.** Noncommunity water systems must meet public notification requirements (ADEM Admin. Code R. 335-7-2-.11(1)(e), (f), (3), (4)(a), (b), and (d)). | Verify that persons served by the system are notified if any of the following occur:<br><br>- fails to comply with an applicable MCL<br>- is granted an exemption from an applicable MCL<br>- fails to comply with an applicable treatment process<br>- fails to comply with the requirements of any schedule prescribed pursuant to an exemption.<br><br>Verify that the system posts notice in places of public view for a minimum of 10 days or as long as the failure continues, whichever is greater.<br><br>Verify that when violations of the MCL of contaminants that may pose an acute risk to human health occur the system, in addition to direct customer notification, provides a copy of the notice to the radio and television stations serving the area served by the system within 72 h of the discovery of the violation.<br><br>Verify that the system provides notices which:<br><br>- are written a manner reasonably designed to inform fully the users of the system<br>- are conspicuous<br>- do not use unduly technical language, unduly small print, or other methods which would frustrate the purpose of the notice<br>- disclose all material facts regarding the subject, including:<br>- the nature of the violation<br>- any potential adverse health effects<br>- the population at risk<br>- reasonably available methods of mitigating known or potential contamination in drinking water<br>- steps being taken by the system to mitigate problems in drinking water<br>- contain the telephone number of the water system's owner, operator, or designee as an additional source of information regarding any notice<br>- the necessity for seeking alternative water supplies, if any<br>- a clear statement that a primary drinking water standard has been violated and any preventative measures that should be taken by the public, when appropriate.<br><br>Verify that persons served by the system are notified if any of the following occur:<br><br>- failure to comply with an applicable testing procedure<br>- failure to perform required monitoring |

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| | - failure to maintain the required disinfectant residual<br>- granting of an exemption.<br><br>Verify that the system posts a notice in places of public view for a minimum of 10 days or for as long as the failure continues, whichever is greater.<br><br>(NOTE: Continuous posting in conspicuous places in the area served by the system is acceptable for systems serving less than 100 customers. Posting must continue for as long as the violation continues or an exemption remains in effect.) |

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| **WQ.90.**<br>**DRINKING WATER WELL** | |
| **WQ.90.1.AL.** Water systems with drinking water wells must meet well construction requirements (ADEM Admin. Code R. 335-9-1-.03, .05(d) through (f), .06(a)(1), (e), and (h)) [Revised July 1997]. | Verify that driller's have a water well driller's license.<br><br>Verify that no contamination can enter the well through the capping.<br><br>Verify that every well was disinfected by subjecting the entire well to a 50 ppm chlorine solution, such as HTH, Prechlorine, or Chlorox, for at least 12 h.<br><br>Verify that no materials are used in the construction of a well which will result in the delivery of water that is toxic or has an objectionable odor or taste.<br><br>Verify that the well casing extends 1 ft above ground level.<br><br>Verify that any holes remaining after construction or testing attempts were properly [undefined] backfilled. |
| **WQ.90.2.AL.** Water systems with drinking water wells must meet well location requirements (ADEM Admin. Code R. 335-9-1-.04). | Verify that all wells are located so that they are:<br><br>- easily accessible<br>- free from flooding from any known source of pollution<br>- in compliance with local regulations.<br><br>(NOTE: The following distances are recommended:<br>- projections or roofs of adjacent building - 2ft<br>- secondary electrical services - 10 ft<br>- primary electrical services - 75 ft<br>- cesspool or sewage lagoon - 150 ft<br>- septic tank or field lines - 100 ft<br>- barnyard - 150 ft.) |
| **WQ.90.3.AL.** Water systems with drinking wells must meet well abandonment requirements (ADEM Admin. Code R. 335-9-1-.06(g)). | Verify that the abandoned wells were permanently sealed by being filled with a puddled clay material containing 50 ppm of chlorine to within 20 ft of the top of the well and filled with cement grout or concrete from the top of the clay material to the top of the well. |

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| **WQ.90.4.AL.** Water systems with drinking water wells must meet licensing requirements (ADEM Admin. Code R. 335-9-1-.03(a) and (b)(1)( and (2)) [Revised June 1999]. | Verify that every person who proposes to drill a water well files, on or before September 30 of each year, an application for a water well driller's license.<br><br>Verify that every person desiring to drill a water well files a Notification of Intent to drill a well with the Board, on a form furnished by the Board, prior to the commencement of work.<br><br>Verify that every person who drills a well files a Certification of Completion on the form furnished by the Board within 30 days after completion of work. |
| **WQ.90.5.AL.** Water systems with drinking water wells must meet specific site requirements when drilling drinking water wells (ADEM Admin. Code R. 335-7-5-.03) [Revised June 1999]. | Verify that drinking water wells or springs are constructed in locations where the upper most extent of the outer casing or collection basin is above the 100 yr flood plan and free from contamination or sinkhole subsidence.<br><br>Verify that all public water supply systems have a completed and approved Source Water Assessment Program (SWAP) for groundwater sources used in drinking water no later than 6 February 2003.<br><br>Verify that the completed SWAP includes:<br><br>- a Source Water Assessment Area (SWAA) delineation<br>- contaminant inventory within the SWAA<br>- a susceptibility analysis of each contaminant source in the inventory<br>- completion of the public awareness requirements.<br><br>(NOTE: Written notification that the delineation, contaminant inventory, susceptibility analysis have been updated and the public awareness requirements have been met must be received at the time a water system applies for renewal of its general operating permit.)<br><br>Verify that wells constructed after 5 October 1990 meet all requirements of the program before placing the source into service. |
| **WQ.90.6.AL.** Water systems with drinking water wells must measure water levels in completed drinking wells (ADEM Admin. Code R. 335-7-5-.19) [Cite Revised July 1997; Cite Revised June 1999]. | Verify that the static and pumping water levels in completed drinking wells are measured periodically. |

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| **WQ.90.7.AL.** Water systems with drinking water wells must meet specific requirements for abandoned drinking water wells (ADEM Admin. Code R. 335-7-5-.22) [Cite Revised July 1997; Revised June 1999]. | Verify that abandoned wells and bore holes are filled and sealed to prevent contamination of groundwater formations.<br><br>Verify that, where feasible [not defined] or when required by the Department, wells are completely filled with neat cement.<br><br>Verify that wells not filled with neat cement are sealed according to the American Water Works Association Standards, as long as the sealing material for the top 20 ft of fill neat cement, utilizing no material that could impart taste, odor, or toxic components to water in the sealing process. |
| **WQ.90.8.AL.** Community and NTNC water supply wells must be tested and approved (ADEM Admin. Code R. 335-7-5-.17) [Cite Revised July 1997; Revised June 1999]. | Verify that all community and NTNC water supply wells are capacity tested (i.e., for yield, drawdown, and recovery) and are approved by the Department prior to use.<br><br>Verify that a copy of all available information from capacity tests is forwarded to the Department. |
| **WQ.90.9.AL.** Water systems with drinking water wells must meet specific requirements for shallow wells (ADEM Admin. Code R. 335-7-5-.20) [Revised July 1997; Cite Revised June 1999]. | (NOTE: Shallow wells are wells whose water bearing formation is less than 100 ft from the surface of the ground. These wells are considered a surface source and must comply with surface water monitoring requirements.)<br><br>Verify that the Department has approved the construction of any shallow well.<br><br>Verify that shallow wells meet surface water monitoring and treatment requirements. |
| **WQ.90.10.AL.** Water systems with drinking water wells must meet specific requirements for springs (ADEM Admin. Code R. 335-7-5-.21) [Cite Revised July 1997; Cite Revised June 1999]. | Verify that springs meet surface water source treatment and filtration requirements.<br><br>Verify that the federal facility has received approval to use any spring without filtration. |
| **WQ.90.11.AL.** Water systems with drinking water wells must meet specific groundwater quality standards | Verify that water produced from wells or springs to serve a community or NTNC system is free of rock or sand particles, silt, mud, or other foreign material.<br><br>Verify that the following procedures are carried out if the absence of rock or sand |

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| for water produced from wells and springs (ADEM Admin. Code R. 335-7-5-.23) [Cite Revised June 1999]. | particles, silt, mud, or other foreign material cannot be determined by visual observation:<br><br>- a turbidity test is performed according to current approved methods and the results submitted to the Department<br>- a sample of the water is subjected to centrifuge or filtering tests meeting the following requirements:<br>  - tests are approved by the Department<br>  - full capacity of the well upon startup is tested for 10 min.<br><br>Verify that every new, modified, or reconditioned groundwater source is tested for bacteriological quality in the following manner:<br><br>- a minimum of three chlorine free water samples are collected at various periods during the capacity test<br>- after the final pumping equipment has been installed and properly disinfected, at least two samples of chlorine free water for total and fecal coliform analyses are collected<br>- chlorine samples are analyzed by a certified laboratory for both fecal and total coliform analyses<br>- all sampling results are submitted to the Department.<br><br>Verify that, upon completion of community or NTNC wells, representative samples are analyzed for all primary and secondary contaminants, including inorganic, radiological, and VOC (regulated and unregulated) analyses.<br><br>Verify that chemical analyses are performed by a certified laboratory.<br><br>Verify that the results of chemical analyses are submitted to the Department prior to a request for final inspection.<br><br>Verify that treatment facility plans are submitted if any parameter does not meet established standards. |

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| **WQ.100.**<br>**MONITORING WELLS** | |
| **WQ.100.1.AL.** Water systems with groundwater monitoring wells must meet construction requirements (ADEM Admin. Code R. 335-6-8-.23(a), (b), (d), (e), .24, and .25). | Verify that the monitoring well configuration is designated to detect pollutant movement away from the well or well field.<br><br>Verify that the monitoring well plan is designated to detect pollution in the deepest USDW in the area of review.<br><br>Verify that an adequate number of monitoring wells extend into all USDWs to detect any movement of pollutants injected, process byproducts, or formation fluids into the USDW.<br><br>(NOTE: Monitoring wells may be located in a well field based on an assumption that the well field acts as one well.)<br><br>(NOTE: Class V wells are exempt from these requirements.) |
| **WQ.100.2.AL.** Water systems with groundwater monitoring wells must meet reporting, monitoring, and recording requirements (ADEM Admin. Code R. 335-6-8-.09(1)(h), .13(1)(c) and (j)). | Verify that the Water systems submits the following:<br><br>- location, depth, and method of construction of any monitoring wells to be installed<br>- similar information concerning any existing wells or surface water bodies to be monitored.<br><br>Verify that groundwater monitoring is conducted at least quarterly and that the results are submitted with the next monthly monitoring report.<br><br>Verify that samples and measurements taken for monitoring are representative of the monitored activity.<br><br>Verify that records of monitoring information include:<br><br>- date, exact place, and time of sampling or measurements<br>- individual(s) who performed the sampling or measurements<br>- date(s) analyses were performed<br>- individual(s) who performed the analyses<br>- analytical techniques or methods used<br>- results of analyses. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **WQ.110.**<br>**INJECTION CONTROL WELLS** | |
| **WQ.110.1.AL.** Injection wells must meet injection and fluid movement requirements (ADEM Admin. Code R. 335-6-8-.06, .07(1), (3), (4), (6) through (8), and .09(4)). | Verify that the federal facility has a valid permit prior to the:<br>- injection of any pollutant into any subsurface location<br>- construction of any facility to be used for injection of any pollutant into any subsurface location.<br><br>Verify that the terms and conditions of the permit have been met.<br><br>Verify that the federal facility does not operate an injection well which causes or allows movement of a pollutant into a USDW.<br><br>(NOTE: Class V wells which cause or allow movement of a pollutant into a USDW may be allowed if they do not cause a violation of primary drinking water regulations.)<br><br>Verify that the federal facility does not inject between the outermost casing and the well bore.<br><br>Verify that existing Class I wells are operated only during the transition from underground injection to surface treatment and disposal of waste, or other mode of disposal acceptable to the Department.<br><br>Verify that Class I wells lacking mechanical integrity are not operated.<br><br>Verify that the federal facility does not operate a Class IV well and that any Class IV wells were plugged and abandoned by 10 December 1983.<br><br>(NOTE: The following injection operations are exempt from underground injection control and permitting requirements:<br>- single family domestic waste disposal systems<br>- facilities injecting natural gas for purposes of storage<br>- Class II wells<br>- any dug hole which is not used for the emplacement of fluids underground<br>- dug, drilled, or driven shafts used to extract oil, gas, or groundwater.) |
| **WQ.110.2.AL.** New Class I injection wells must meet authorization, operating and reporting requirements | Verify that new Class I wells constructed or operated after 10 June 1982 are:<br><br>- approved replacements for existing wells<br>- operated only during the transition from underground injection to surface |

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| (ADEM Admin. Code R. 335-6-8-.07(5), .09(6)(e), .13(1)(e) through (g), (l), and (5)(a)). | treatment and disposal of waste, or other mode of disposal acceptable to the Department.<br><br>Verify that the federal facility obtains the approval from the Director prior to construction of a new well.<br><br>Verify that the federal facility obtains written approval from the Director prior to commencing injection.<br><br>Verify that the federal facility ran the following well logs, or substitute logs as agreed upon by the Director:<br><br>- resistivity<br>- spontaneous potential<br>- porosity<br>- gamma ray<br>- caliper.<br><br>Verify that the federal facility submitted interpretation of the well logs before the casing was installed.<br><br>Verify that the federal facility ran the following cased hole logs, or substitute logs as agreed upon by the Director, and submitted their interpretation:<br><br>- combination cement bond<br>- variable density<br>- gamma ray and casing collar locator log<br>- combination pipe analysis log<br>- electromagnetic thickness tool log<br>- high resolution temperature log or a thermal decay log.<br><br>(NOTE: These requirements also apply to a new well in a permitted well field.)<br><br>Verify that the federal facility submitted proof of the following to demonstrate mechanical integrity prior to operation of the well:<br><br>- no detectable leaks in the casing, tubing, or packer are present as determined by either:<br>  - monitoring of annulus pressure<br>  - pressure test with liquid or gas<br>- no detectable vertical movement of pollutants from the injection zone adjacent to the injection well bore as determined by either:<br>  - a temperature log<br>  - a noise log<br>  - an acoustic log.<br><br>(NOTE: Other test methods approved by the Director may be used.) |

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| **WQ.110.3.AL.** Class I injection wells must meet monitoring and reporting requirements (ADEM Admin. Code R. 335-6-8-.13(1)(b), (c), and (j)). | Verify that the federal facility monitors pollutants to be injected, injection operations, and groundwater.<br><br>Verify that the samples and measurements taken for monitoring are representative of the monitored activity.<br><br>Verify that the installation, at least monthly, analyzes the following:<br><br>- characteristics of the pollutants to be injected<br>- monitoring of groundwater<br>- continuous recording of the following:<br>  - injection pressure<br>  - annulus pressure(s)<br>  - flow rate<br>  - volume injected.<br><br>Verify that the federal facility submits monthly monitoring reports in the month following the month being reported, including at least the following:<br><br>- daily maximum, minimum, and average injection pressure<br>- daily annulus pressure(s)<br>- daily flow rate<br>- daily volume injected<br>- monthly analysis of the injected pollutants. |
| **WQ.110.4.AL.** Class I injection wells must meet operating and maintenance requirements (ADEM Admin. Code R. 335-6-8-.13(1)(d), (i), (q), (v), (x), and (3)). | Verify that the federal facility has corrected any improperly sealed, completed, or abandoned well located within the area of review which extends into the injection zone or any other well which may cause pollution of a USDW.<br><br>Verify that the federal facility operates at an injection pressure which will not cause fracturing which could result in migration of pollutants from the injection zone.<br><br>Verify that the federal facility has the Director's approval prior to modifying the well or surface structures.<br><br>Verify that the federal facility reduces or ceases injection if needed to maintain compliance with the conditions of the permit.<br><br>Verify that the federal facility properly operates and maintains all facilities and systems of treatment and injection and related appurtenances which are installed or used by the permittee to achieve compliance with the conditions of the permit.<br><br>Verify that the federal facility injects only those pollutants which were being |

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| | injected on 10 June 1982 or to those approved by the Director. |
| **WQ.110.5.AL.** Class I injection wells must meet reporting requirements (ADEM Admin. Code R. 335-6-8-.13(1)(h) and (bb)). | Verify that the federal facility runs the following cased hole logs, or substitute logs as agreed upon by the Director, and submits their interpretations at least every 2 yr:<br><br>- combination cement bond<br>- variable density<br>- gamma ray and casing collar locator log<br>- combination pipe analysis log<br>- electromagnetic thickness tool log<br>- high resolution temperature log or a thermal decay log.<br><br>Verify that the federal facility submits the results of the following mechanical integrity determinations and a description of the test methods used at least every 2 yr:<br><br>- no detectable leaks in the casing, tubing, or packer are present as determined by either:<br>  - monitoring of annulus pressure<br>  - pressure test with liquid or gas<br><br>- no detectable vertical movement of pollutants from the injection zone adjacent to the injection well bore as determined by either:<br>  - a temperature log<br>  - a noise log<br>  - an acoustic log, or other Director-approved test methods.<br><br>Verify that the federal facility reports the following to the Director:<br><br>- any planned changes in the permitted facility or activity which may result in noncompliance with permit conditions<br>- any planned transfer of ownership of the permitted facility<br>- compliance or noncompliance with interim and final requirements contained in any compliance schedule of the permit within 14 days following each schedule date<br>- any relevant facts which the permittee becomes aware of which should have been submitted in a permit application, or corrections to incorrect data submitted in a permit application. |
| **WQ.110.6.AL.** Class I injection wells must meet record keeping requirements (ADEM Admin. Code R. 335- | Verify that the federal facility maintains for at least 5 yr after closure of a well all records concerning:<br><br>- data used to complete the permit application |

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| 6-8-.13(1)(j)). | - operation of the well<br>- nature and composition of pollutants injected<br>- groundwater monitoring records.<br><br>Verify that records kept for documentation are representative of the activity documented.<br><br>Verify that records of monitoring information include:<br><br>- date, exact place, and time of sampling or measurements<br>- individual(s) who performed the sampling or measurements<br>- date(s) analyses were performed<br>- individual(s) who performed the analyses<br>- analytical techniques or methods used<br>- results of analyses. |
| **WQ.110.7.AL.** Class I injection wells must meet noncompliance reporting requirements (ADEM Admin. Code R. 335-6-8-.13(1)(p) and (w)). | Verify that the federal facility ceases injection immediately upon determination that well operation problems exist.<br><br>Verify that the federal facility corrects the operation problems prior to resuming injection.<br><br>Verify that the federal facility notifies the Director in writing within 5 days of the occurrence of operation problems, and includes:<br><br>- a description of the problem<br>- its cause<br>- corrective action(s) taken.<br><br>Verify that the federal facility notifies the Director of the following within 24 h:<br><br>- operational problem(s) results in pollution of a surface water or a USDW<br>- any noncompliance with a permit condition<br>- malfunction of the injection system may cause fluid migration into or between USDWs<br>- monitoring or other information indicates that any contaminant may cause an endangerment to a USDW.<br><br>Verify that the federal facility has taken all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with the permit. |
| **WQ.110.8.AL.** Class V injection wells must meet | Verify that the federal facility submitted the following to the Director: |

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| reporting requirements (ADEM Admin. Code R. 335-6-8-.14). | - facility name and location<br>- name of the owner and, if different, the name of the operator<br>- name and address of legal contact<br>- depth, general description, and use of the injection well. |
| **WQ.110.9.AL.** Class V injection wells must meet operating requirements (ADEM Admin. Code R. 335-6-8-.16(1)). | Verify that the federal facility operates in a manner which does not cause violation of primary drinking water regulations. |
| **WQ.110.10.AL.** All injection wells must meet siting and construction requirements (ADEM Admin. Code R. 335-6-8-.20(1), .21(6), .24, and .25). | Verify that any annular spaces formed between casings or casing and injection tubing were filled with a noncorrosive fluid under pressure.<br><br>Verify that the injection wells are sited so that they inject into a formation that is beneath the lowermost USDW located within 5 mi of the well.<br><br>(NOTE: Class V wells are exempt from these requirements). |
| **WQ.110.11.AL.** All injection wells must meet surface facility construction requirements (ADEM Admin. Code R. 335-6-8-.22, .24, and .25). | Verify that for Class I injection wells have been provided with a method of continuous metering and recording of:<br><br>- flow rate<br>- volume of pollutants injected<br>- injection pressure<br>- annular pressure(s).<br><br>Verify that the recordings may be stored as a permanent record.<br><br>Verify that a method of obtaining grab and composite samples of pollutants after all pretreatment and prior to injection is provided.<br><br>Verify that a filtering device or other method of removal of suspended solids is provided at all Class I well sites where the pollutants to be injected may interfere with fluid movement through the injection zone.<br><br>Verify that injection well sites have spill prevention and control measures sufficient to protect surface and groundwater from pollution, such as dikes around tanks and curbed areas where leaks may be expected.<br><br>Verify that the well head was constructed so that a blow-out preventer and work over rig can be placed over the well and used if necessary.<br><br>(NOTE: Class V wells are exempt from these requirements). |

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| **WQ.110.12.AL.** All injection wells must meet plugging and abandonment requirements (ADEM Admin. Code R. 355-6-8-.13(n) and .27(a) and (b)). | Verify that federal facilities with Class I wells notified the Director at least 180 days prior to well abandonment.<br><br>Verify that federal facilities with Class I wells submitted an updated plugging and abandonment plan prior to the actual plugging of the wells.<br><br>Verify that the federal facility plugs wells with cement in a manner which:<br><br>- protects each USDW from pollution by surface water<br>- prevents the movement of any pollutant or formation fluid from one USDW to another or from one formation to another<br>- isolates the injection zone.<br><br>Verify that the federal facility received approval for its plugging method from the Director prior to plugging, and places the cement using the Balance Method, Dump Bailer Method, or the Two-Plug Method.<br><br>Verify that, prior to the emplacement of cement plugs, a state of static equilibrium is achieved in the well with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method approved by the Director.<br><br>Verify that aquifer cleanup procedures were undertaken where necessary. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **WQ.115.**<br>**WATER QUALITY STANDARDS**<br><br>**General** | |
| **WQ.115.1.AL.** Any point source which discharges into the waters of the state must meet minimum water quality requirements (ADEM Admin. Code R. 335-6-10-.03 and .06). | Verify that the federal facility does not discharge substances attributable to sewage, industrial wastes, or other wastes that will settle to form bottom deposits which are unsightly, putrescent, or interfere directly or indirectly with any classified water use.<br><br>Verify that the installation's discharges do not cause floating debris, oil, scum, and other floating materials which are attributable to sewage, industrial wastes, or other wastes in amounts sufficient to be unsightly or interfere directly or indirectly with any classified water use.<br><br>Verify that the federal facility does not discharge substances attributable to sewage, industrial wastes, or other wastes in concentrations or combinations which are toxic or harmful to human, animal, or aquatic life to the extent commensurate with the designated usage of the waters.<br><br>(NOTE: Water use classifications are as follows:<br>- public water supply<br>- swimming and other whole body water-contact sports<br>- shellfish harvesting<br>- fish and wildlife<br>- agricultural and industrial water supply<br>- industrial operations<br>- navigation<br>- outstanding Alabama water.) |
| **WQ.115.2.AL.** Any point source which discharges into waters of the state must meet water quality testing requirements (ADEM Admin. Code R. 335-6-10-.05(3)). | Verify that samples are collected in a manner and at locations approved by the Department and which are representative of the receiving waters after reasonable opportunity for dilution and mixture with the wastes discharged.<br><br>Verify that mixing zones do not preclude passage of free-swimming and drifting aquatic organisms to the extent that their populations are significantly affected. |
| **WQ.115.3.AL.** Any point | Verify that federal facilities with industrial waste discharges, sewage treatment |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| source which discharges into waters of the state must meet waste treatment requirements (ADEM Admin. Code R. 335-6-10-.08(a)). | plants, and combined waste treatment plants meet the following waste treatment requirements:<br><br>- secondary treatment, or treatment equivalent to secondary treatment, is applied to all waste discharges<br>- disinfection, where necessary.<br><br>(NOTE: Secondary treatment is applied to biologically degradable waste and is interpreted to mean a facility which at design flow is capable of removing substantially all floating and settleable solids and to achieve a minimum removal of 85 percent of both the 5-day biochemical oxygen demand (BOD) and suspended solids which, in the case of municipal wastes, in generally considered to produce an effluent quality containing a $BOD_5$ concentration of 30 mg/L and a suspended solids concentration of 30 mg/L.)<br><br>(NOTE: In the application of this requirement, consideration will be given to efficiencies achieved through in-process improvements.) |
| **Public Water Use Classification** | (NOTE: Specific water use classifications are listed in ADEM Admin. Code R. 335-6-11.02) |
| **WQ.115.4.AL.** Any point source which discharger into waters of the state must meet pH water quality criteria for the public water supply use classification (ADEM Admin. Code R. 335-6-10-.09(1)(e)(2)). | Verify that the discharge of sewage, industrial wastes, or other wastes does not cause the pH to deviate more than one unit from the normal or natural pH, nor fall outside the range of 6.0-8.5. |
| **WQ.115.5.AL.** Any point source which discharges into waters of the state must meet temperature water quality criteria for the public water supply use classification (ADEM Admin. Code R. 335-6-10-.09(1)(e)(3)). | Verify that discharges do not cause streams, lakes, and reservoirs to exceed 90 °F.<br><br>Verify that discharges do not cause streams, lakes, and reservoirs in the following areas to exceed 86 °F:<br><br>- Tennessee River Basin<br>- Cahaba River Basin<br>- that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| | Verify that the in-stream temperature rise above ambient water temperature due to the addition of artificial heat by the federal facility does not exceed:<br><br>- 5 °F in streams, lakes, and reservoirs in noncoastal and nonestuarine areas<br>- 4 °F in coastal or estuarine waters during October through May<br>- 1.5 °F in coastal or estuarine waters during June through September.<br><br>Verify that there is no withdrawal from, nor discharge of heated waters to, the hypolimnion in lakes and reservoirs unless the federal facility can show that the discharge or withdrawal will be beneficial to water quality.<br><br>Verify that the normal daily and seasonal temperature variations that were present before the addition of artificial heat are maintained and that there is no thermal block to the migration of aquatic organisms.<br><br>(NOTE: Thermal limitations in NPDES permits may be less stringent than those above when the discharger has shown that the permit limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, in and on the body of water to which the discharge is made.) |
| **WQ.115.6.AL.** Any point source which discharges into waters of the state must meet dissolved oxygen water quality criteria for the public water supply use classification (ADEM Admin. Code R. 336-6-10-.09(1)(e)(4)). | Verify that daily dissolved oxygen concentrations are, at all times, not less than 5 mg/L for a diversified warm water biota, including game fish.<br><br>(NOTE: Under extreme conditions due to natural causes, dissolved oxygen concentration may range between 5 mg/L and 4 mg/L, provided the water quality is favorable in all other parameters.)<br><br>Verify that the normal seasonal and daily fluctuations are maintained above these levels.<br><br>Verify that discharges from existing hydroelectric generation impoundments do not cause the dissolved oxygen level to be less than 4 mg/L.<br><br>Verify that discharges from new hydroelectric generation impoundments, including new hydroelectric generation units to existing impoundments, contain at least 5 mg/L dissolved oxygen, where practicable and technologically possible.<br><br>Verify that surface dissolved oxygen concentrations in coastal waters are not less than 5 mg/L, except where natural phenomena cause the value to be depressed.<br><br>Verify that dissolved oxygen concentrations in estuaries and tidal tributaries are not less than 5 mg/L, except in dystrophic waters or where natural conditions cause the value to be depressed.<br><br>Verify that federal facilities measure dissolved oxygen at a depth of 5 ft in waters 10 ft or greater in depth and at mid-depth in waters less than 10 ft deep. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:<br>July 2000** |
| **WQ.115.7.AL.** Any point source which discharges into waters of the state must meet toxic substance water quality criteria for the public water supply use classification (ADEM Admin. Code R. 335-6-10-.09(1)(e)(5)). | Verify that color producing, or heated liquids, or other toxic substances attributable to sewage, industrial wastes, or other wastes are discharged only in amounts, whether alone or in combination with other substances, and at temperatures which do not:<br><br>- render the waters unsafe or unsuitable as a source of water supply for drinking or food-processing purposes<br>- exhibit acute or chronic toxicity to fish, wildlife, and aquatic life<br>- adversely affect the aesthetic value of waters for any use under this classification.<br>(NOTE: Acute and chronic toxicity is demonstrated by effluent toxicity testing or by application of specific numeric criteria in the permit.) |
| **WQ.115.8.AL.** Any point source which discharges into waters of the state must meet aesthetic water quality criteria for the public water supply use classification (ADEM Admin. Code R. 335-6-10-.09(1)(e)(6)). | Verify that taste and odor producing substances attributable to sewage, industrial wastes, or other wastes are discharged only in amounts, whether alone or in combinations with other substances or wastes, which do not cause taste and odor difficulties in water supplies which cannot be corrected by treatment or which impair the palatability of fish. |
| **WQ.115.9.AL.** Any point source which discharges into waters of the state must meet bacterial water quality criteria for the public water supply use classification (ADEM Admin. Code R. 335-6-10-.09(1)(e)(7)). | Verify that bacteria of the fecal coliform group does not exceed:<br><br>- a geometric mean of 2000/100 mL<br>- a maximum of 4000/100 mL in any sample.<br><br>Verify that the geometric mean is calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 h.<br><br>(NOTE: The membrane filter counting procedure is preferred, but the multiple tube technique (5-tube) is acceptable.)<br>Verify that, for incidental water contact and recreation during June through September, sanitary surveys by the controlling health authorities reveal:<br><br>- no source of dangerous pollution<br>- geometric mean fecal coliform organism density not in excess of:<br>  - 100/100 mL in coastal waters<br>  - 200/100 mL in other waters.<br><br>(NOTE: If geometric mean fecal coliform organism density exceeds these levels, the bacterial water quality is considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use |

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| | of the waters.) |
| **WQ.115.10.AL.** Any point source which discharges into waters of the state must meet turbidity water quality criteria for the public water supply use classification (ADEM Admin. Code R. 355-6-10-.09(1)(e)(9)). | Verify that there is no turbidity of other than natural origin which causes substantial visible contrast with the natural appearance of waters or which interferes with any beneficial uses they serve.<br><br>Verify that turbidity does not, in any case, exceed 50 nephelometric units above background.<br><br>(NOTE: Background is interpreted as the natural condition of the receiving waters, without the influence of manmade or man-induced causes. Turbidity levels caused by natural runoff are included in establishing background levels.) |
| **Swimming and Other Whole Body Water-contact Sports Use Classification** | |
| **WQ.115.11.AL.** Any point source which discharges into waters of the state must meet pH water quality criteria for the swimming and other whole body water-contact sports use classification (ADEM Admin. Code R. 335-6-10-.09(2)(c)(2)). | Verify that sewage, industrial wastes, or other wastes do not cause the pH to:<br><br>- deviate more than one unit from the normal or natural pH<br>- fall outside the range of 6.0-8.5<br>- fall outside the range of 6.5-8.5 for estuarine and salt waters. |
| **WQ.115.12.AL.** Any point source which discharges into waters of the state must meet temperature water quality criteria for the swimming and other whole body water-contact sports use classification (ADEM Admin. Code R. 335-6-10-.09(2)(c)(3)). | Verify that discharges do not cause streams, lakes, and reservoirs to exceed 90 °F.<br><br>Verify that discharges do not cause streams, lakes, and reservoirs in the following areas to exceed 86 °F:<br><br>- Tennessee River Basin<br>- Cahaba River Basin<br>- that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye.<br><br>Verify that the in-stream temperature addition of artificial heat by the federal facility does not exceed: |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| | - 5 °F in streams, lakes, and reservoirs in noncoastal and nonestuarine areas<br>- 4 °F in coastal or estuarine waters during October through May<br>- 1.5 °F in coastal or estuarine waters during June through September.<br><br>Verify that there is no withdrawal from, nor discharge of heated waters to, the hypolimnion in lakes and reservoirs unless the federal facility can show that the discharge or withdrawal will be beneficial to water quality.<br><br>Verify that the normal daily and seasonal temperature variations that were present before the addition of artificial heat are maintained and that there is no thermal block to the migration of aquatic organisms.<br><br>(NOTE: Thermal limitations in NPDES permits may be less stringent than those above when the discharger has shown that the permit limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, in and on the body of water to which the discharge is made.) |
| **WQ.115.13.AL.** Any point source which discharges into waters of the state must meet dissolved oxygen water quality criteria for the swimming and other whole body water-contact sports use classification (ADEM Admin. Code R. 335-6-10-.09(2)(c)(4)). | Verify that daily dissolved oxygen concentrations are, at all times, not less than 5 mg/L for a diversified warm water biota, including game fish.<br><br>(NOTE: Under extreme conditions due to natural causes, dissolved oxygen concentration may range between 5 mg/L and 4 mg/L, provided the water quality is favorable in all other parameters.)<br><br>Verify that the normal seasonal and daily fluctuations are maintained above these levels.<br><br>Verify that discharges from existing hydroelectric generation impoundments do not cause the dissolved oxygen level to be less than 4 mg/L.<br><br>Verify that discharges from new hydroelectric generation impoundments, including new hydroelectric generation units to existing impoundments, contain at least 5 mg/L dissolved oxygen, where practicable and technologically possible.<br><br>Verify that surface dissolved oxygen concentrations in coastal waters are not less than 5 mg/L, except where natural phenomena cause the value to be depressed.<br><br>Verify that dissolved oxygen concentrations in estuaries and tidal tributaries are not less than 5 mg/L, except in dystrophic waters or where natural conditions cause the value to be depressed.<br><br>Verify that federal facilities measure dissolved oxygen at a depth of 5 ft in waters 10 ft or greater in depth and at mid-depth in waters less than 10 ft deep. |
| **WQ.115.14.AL.** Any point | Verify that color producing, or heated liquids, or other toxic substances |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| source which discharges into waters of the state must meet toxic substance and aesthetic water quality criteria for the swimming and other whole body water-contact sports use classification (ADEM Admin. Code R. 335-6-10-.09(2)(c)(5)). | attributable to sewage, industrial wastes, or other wastes are discharged only in amounts, whether alone or in combination with other substances, and at temperatures which do not:<br><br>- render the waters unsafe or unsuitable for swimming and water-contact sports<br>- exhibit acute or chronic toxicity to fish, wildlife, and aquatic life or, where applicable, shrimp and crabs<br>- impair the palatability of fish or, where applicable, shrimp and crabs<br>- impair the waters for any other usage established for this classification<br>- unreasonably affect the aesthetic value of waters for any use under this classification.<br><br>(NOTE: Acute and chronic toxicity is demonstrated by effluent toxicity testing or by application of specific numeric criteria in the permit.) |
| **WQ.115.15.AL.** Any point source which discharges into waters of the state must meet bacterial water quality criteria for the swimming and other whole body water-contact sports use classification (ADEM Admin. Code R. 335-6-10-.09(2)(c)(6)(ii)). | Verify that sanitary surveys by the controlling health authorities reveal:<br><br>- no source of dangerous pollution<br>- geometric mean fecal coliform organism density not in excess of:<br>  - 100/100 mL in coastal waters<br>  - 200/100 mL in other waters.<br><br>(NOTE: If geometric mean fecal coliform organism density exceeds these levels, the bacterial water quality is considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters.) |
| **WQ.115.16.AL.** Any point source discharges into waters of the state must meet turbidity water quality criteria for the swimming and other whole body water-contact sports use classification (ADEM Admin. Code R. 335-6-10-.09(2)(c)(8)). | Verify that there is no turbidity of other than natural origin which causes substantial visible contrast with the natural appearance of waters or which interferes with any beneficial uses they serve.<br><br>Verify that turbidity does not, in any case, exceed 50 nephelometric units above background.<br><br>(NOTE: Background is interpreted as the natural condition of the receiving waters, without the influence of manmade or man-induced causes. Turbidity levels caused by natural runoff are included in establishing background levels.) |
| **Shellfish Harvesting Use Classification** | |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **WQ.115.17.AL.** Any point source which discharges into waters of the state must meet pH water quality criteria for the shellfish harvesting use classification (ADEM Admin. Code R. 335-6-10-.09(3)(e)(2)). | Verify that sewage, industrial wastes, or other wastes do not cause the pH to:<br><br>- deviate more than one unit from the normal or natural pH<br>- fall outside the range of 6.5-8.5. |
| **WQ.115.18.AL.** Any point source which discharges into waters of the state must meet temperature water quality criteria for the shellfish harvesting use classification (ADEM Admin. Code R. 335-6-10-.09(3)(e)(3)). | Verify that discharges do not cause streams, lakes, and reservoirs to exceed 90 °F.<br><br>Verify that discharges do not cause streams, lakes, and reservoirs in the following areas to exceed 86 °F:<br><br>- Tennessee River Basin<br>- Cahaba River Basin<br>- that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye.<br><br>Verify that the in-stream temperature rise above ambient water temperature due to the addition of artificial heat by the federal facility does not exceed:<br><br>- 5 °F in streams, lakes, and reservoirs in noncoastal and nonestuarine areas<br>- 4 °F in coastal or estuarine waters during October through May<br>- 1.5 °F in coastal or estuarine waters during June through September.<br><br>Verify that there is no withdrawal from, nor discharge of heated waters to, the hypolimnion in lakes and reservoirs unless the federal facility can show that the discharge or withdrawal will be beneficial to water quality.<br><br>Verify that the normal daily and seasonal temperature variations that were present before the addition of artificial heat are maintained and that there is no thermal block to the migration of aquatic organisms.<br><br>(NOTE: Thermal limitations in NPDES permits may be less stringent than those above when the discharger has shown that the permit limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, in and on the body of water to which the discharge is made.) |
| **WQ.115.19.AL.** Any point source which discharges into waters of the state must meet dissolved oxygen water | Verify that daily dissolved oxygen concentrations are, at all times, not less than 5 mg/L for a diversified warm water biota, including game fish.<br><br>(NOTE: Under extreme conditions due to natural causes, dissolved oxygen |

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| quality criteria for the shellfish harvesting use classification (ADEM Admin. Code R. 335-6-10-.09(3)(e)(4)). | concentration may range between 5 mg/L and 4 mg/L, provided the water quality is favorable in all other parameters.)<br><br>Verify that the normal seasonal and daily fluctuations are maintained above these levels.<br><br>Verify that discharges from existing hydroelectric generation impoundments do not cause the dissolved oxygen level to be less than 4 mg/L.<br><br>Verify that discharges from new hydroelectric generation impoundments, including new hydroelectric generation units to existing impoundments, contain at least 5 mg/L dissolved oxygen, where practicable and technologically possible.<br><br>Verify that surface dissolved oxygen concentrations in coastal waters are not less than 5 mg/L, except where natural phenomena cause the value to be depressed.<br><br>Verify that dissolved oxygen concentrations in estuaries and tidal tributaries are not less than 5 mg/L, except in dystrophic waters or where natural conditions cause the value to be depressed.<br><br>Verify that federal facilities measure dissolved oxygen at a depth of 5 ft in waters 10 ft or greater in depth and at mid-depth in waters less than 10 ft deep. |
| **WQ.115.20.AL.** Any point source which discharges into waters of the state must meet toxic substance water quality criteria for the shellfish harvesting use classification (ADEM Admin. Code R. 335-6-10-.09(3)(e)(5)). | Verify that toxic substances attributable to sewage, industrial wastes, or other wastes are discharged only in amounts, whether alone or in combination with other substances, which do not exhibit acute or chronic toxicity to fish and aquatic life, including shrimp and crabs.<br><br>(NOTE: Acute and chronic toxicity is demonstrated by effluent toxicity testing or by application of specific numeric criteria in the permit.) |
| **WQ.115.21.AL.** Any point source which discharges into waters of the state must meet aesthetic water quality criteria for the shellfish harvesting use classification (ADEM Admin. Code R. 335-6-10-.09(3)(e)(6)). | Verify that color, taste, and odor-producing substances, and other deleterious substances attributable to sewage, industrial wastes, or other wastes are discharged only in amounts, whether alone or in combination with other substances which do not:<br><br>- exhibit acute or chronic toxicity to fish and shellfish, including shrimp and crabs<br>- adversely affect marketability or palatability of fish and shellfish, including shrimp and crabs<br>- unreasonably affect the aesthetic value of waters for any use under this classification. |

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| | (NOTE: Acute and chronic toxicity is demonstrated by effluent toxicity testing or by application of specific numeric criteria in the permit.) |
| **WQ.115.22.AL.** Any point source which discharges into waters of the state must meet bacterial water quality criteria for the shellfish harvesting use classification (ADEM Admin. Code R. 335-6-10-.09(3)(e)(7)(ii)). | Verify that, during June through September, sanitary surveys by the controlling health authorities reveal:<br><br>- no source of dangerous pollution<br>- geometric mean fecal coliform organism density not in excess of:<br>  - 100/100 mL in coastal waters<br>  - 200/100 mL in other waters.<br><br>(NOTE: If geometric mean fecal coliform organism density exceeds these levels, the bacterial water quality is considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters.) |
| **WQ.115.23.AL.** Any point source which discharges into waters of the state must meet turbidity water quality criteria for the shellfish harvesting use classification (ADEM Admin. Code R. 335-6-10-.09(3)(e)(9)). | Verify that there is no turbidity of other than natural origin which causes substantial visible contrast with the natural appearance of waters or which interferes with any beneficial uses they serve.<br><br>Verify that turbidity does not, in any case, exceed 50 nephelometric units above background.<br><br>(NOTE: Background is interpreted as the natural condition of the receiving waters, without the influence of manmade or man-induced causes. Turbidity levels caused by natural runoff are included in establishing background levels.) |
| **Fish and Wildlife Use Classification** | |
| **WQ.115.24.AL.** Federal facilities discharging to waters of the state must meet pH water quality criteria for the fish and wildlife use classification (ADEM Admin. Code R. 335-6-10-.09(4)(e)(2)). | Verify that sewage, industrial wastes, or other wastes do not cause the pH to:<br><br>- deviate more than one unit from the normal or natural pH<br>- fall outside the range of 6.0-8.5<br>- fall outside the range of 6.5-8.5 for estuarine and salt waters. |
| **WQ.115.25.AL.** Federal facilities discharging to waters | Verify that discharges do not cause streams, lakes, and reservoirs to exceed 90 °F. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| of the state must meet temperature water quality criteria for the fish and wildlife use classification (ADEM Admin. Code R. 335-6-10-.09(4)(e)(3)). | Verify that discharges do not cause streams, lakes, and reservoirs in the following areas to exceed 86 °F:<br><br>- Tennessee River Basin<br>- Cahaba River Basin<br>- that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye.<br><br>Verify that the in-stream temperature rise above ambient water temperature due to the addition of artificial heat by the federal facility does not exceed:<br><br>- 5 °F in streams, lakes, and reservoirs in noncoastal and nonestuarine areas<br>- 4 °F in coastal or estuarine waters during October through May<br>- 1.5 °F in coastal or estuarine waters during June through September.<br><br>Verify that there is no withdrawal from, nor discharge of heated waters to, the hypolimnion in lakes and reservoirs unless the federal facility can show that the discharge or withdrawal will be beneficial to water quality.<br><br>Verify that the normal daily and seasonal temperature variations that were present before the addition of artificial heat are maintained and that there is no thermal block to the migration of aquatic organisms.<br><br>(NOTE: Thermal limitations in NPDES permits may be less stringent than those above when the discharger has shown that the permit limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, in and on the body of water to which the discharge is made.) |
| **WQ.115.26.AL.** Any point source which discharges into waters of the state must meet dissolved oxygen water quality criteria for the fish and wildlife use classification (ADEM Admin. Code R. 335-6-10-.09(4)(e)(4)). | Verify that daily dissolved oxygen concentrations are, at all times, not less than 5 mg/L for a diversified warm water biota, including game fish.<br><br>(NOTE: Under extreme conditions due to natural causes, dissolved oxygen concentration may range between 5 mg/L and 4 mg/L, provided the water quality is favorable in all other parameters.)<br><br>Verify that the normal seasonal and daily fluctuations are maintained above these levels.<br><br>Verify that discharges from existing hydroelectric generation impoundments do not cause the dissolved oxygen level to be less than 4 mg/L.<br><br>Verify that discharges from new hydroelectric generation impoundments, including new hydroelectric generation units to existing impoundments, contain at least 5 mg/L dissolved oxygen, where practicable and technologically possible. |

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| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| | Verify that surface dissolved oxygen concentrations in coastal waters are not less than 5 mg/L, except where natural phenomena cause the value to be depressed.<br><br>Verify that dissolved oxygen concentrations in estuaries and tidal tributaries are not less than 5 mg/L, except in dystrophic waters or where natural conditions cause the value to be depressed.<br><br>Verify that federal facilities measure dissolved oxygen at a depth of 5 ft in waters 10 ft or greater in depth and at mid-depth in waters less than 10 ft deep. |
| **WQ.115.27.AL.** Any point source which discharges into waters of the state must meet toxic substance water quality criteria for the fish and wildlife use classification (ADEM Admin. Code R. 335-6-10-.09(4)(e)(5)). | Verify that toxic substances attributable to sewage, industrial wastes, or other wastes are discharged only in amounts, whether alone or in combination with other substances, which do not exhibit acute or chronic toxicity to fish and aquatic life, including shrimp and crabs in estuarine or salt waters, or to their propagation.<br><br>(NOTE: Acute and chronic toxicity is demonstrated by effluent toxicity testing or by application of specific numeric criteria in the permit.) |
| **WQ.115.28.AL.** Any point source which discharges into waters of the state must meet aesthetic water quality criteria for the fish and wildlife use classification (ADEM Admin. Code R. 335-6-10-.09(4)(e)(6)). | Verify that color, taste, and odor-producing substances, and other deleterious substances attributable to sewage, industrial wastes, or other wastes are discharged only in amounts, whether alone or in combination with other substances which do not:<br><br>- exhibit acute or chronic toxicity to fish and aquatic life, including shrimp and crabs in estuarine and salt waters<br>- adversely affect the propagation of fish and aquatic life, including shrimp and crabs in estuarine and salt waters<br>- adversely affect marketability or palatability of fish and wildlife or shrimp and crabs in estuarine and salt waters<br>- unreasonably affect the aesthetic value of waters for any use under this classification.<br><br>(NOTE: Acute and chronic toxicity is demonstrated by effluent toxicity testing or by application of specific numeric criteria in the permit.) |
| **WQ.115.29.AL.** Any point source which discharges into waters of the state must meet bacterial water quality criteria for the fish and wildlife use classification (ADEM Admin. Code R. 335-6-10- | Verify that bacteria of the fecal coliform group does not exceed:<br><br>- a geometric mean of 1000/100 mL on a monthly average value<br>- a maximum of 2000/100 mL in any sample.<br><br>Verify that the geometric mean is calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 h. |

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|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| .09(4)(e)(7)). | collected at a given station over a 30-day period at intervals not less than 24 h.<br><br>(NOTE: The membrane filter counting procedure is preferred, but the multiple tube technique (5-tube) is acceptable.)<br><br>Verify that, for incidental water contact and recreation during June through September, sanitary surveys by the controlling health authorities reveal:<br><br>- no source of dangerous pollution<br>- geometric mean fecal coliform organism density not in excess of:<br>  - 100/100 mL in coastal waters<br>  - 200/100 mL in other waters.<br><br>(NOTE: If geometric mean fecal coliform organism density exceeds these levels, the bacterial water quality is considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters.) |
| **WQ.115.30.AL.** Any point source which discharges into waters of the state must meet turbidity water quality criteria for the fish and wildlife use classification (ADEM Admin. Code R. 335-6-10-.09(4)(e)(9)). | Verify that there is no turbidity of other than natural origin which causes substantial visible contrast with the natural appearance of waters or which interferes with any beneficial uses they serve.<br><br>Verify that turbidity does not, in any case, exceed 50 NTU above background.<br><br>(NOTE: Background is interpreted as the natural condition of the receiving waters, without the influence of manmade or man-induced causes. Turbidity levels caused by natural runoff are included in establishing background levels.) |
| **Agricultural and Industrial Water Supply Use Classification** | |
| **WQ.115.31.AL.** Any point source which discharges into waters of the state must meet pH water quality criteria for the agricultural and industrial water supply use classification (ADEM Admin. Code R. 335-6-10-.09(5)(c)(2)). | Verify that sewage, industrial wastes, or other wastes do not cause the pH to:<br><br>- deviate more than one unit from the normal or natural pH<br>- fall outside the range of 6.0-8.5<br>- fall outside the range of 6.5-8.5 for estuarine and salt waters. |

| COMPLIANCE CATEGORY:<br>WATER QUALITY MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **WQ.115.32.AL.** Any point source which discharges into waters of the state must meet temperature water quality criteria for the agricultural and industrial water supply use classification (ADEM Admin. Code R. 335-6-10-.09(5)(c)(3)). | Verify that stream, lake, and reservoir water temperatures do not exceed 5 °F above the natural temperature prior to addition of artificial heat.<br><br>Verify that discharges do not cause streams, lakes, and reservoirs to exceed 90 °F. |
| **WQ.115.33.AL.** Any point source which discharges into waters of the state must meet dissolved oxygen water quality criteria for the agricultural and industrial water supply use classification (ADEM Admin. Code R. 335-6-10-.09(5)(c)(4)). | Verify that discharges of sewage, industrial wastes, or other wastes do not cause dissolved oxygen concentration to be less than 3.0 ppm.<br><br>Verify that federal facilities measure dissolved oxygen at a depth of 5 ft in waters 10 ft or greater in depth and at mid-depth in waters less than 10 ft deep. |
| **WQ.115.34.AL.** Any point source which discharges into waters of the state must meet toxic substance and aesthetic water quality criteria for the agricultural and industrial water supply use classification (ADEM Admin. Code R. 335-6-10-.09(5)(c)(5)). | Verify that color, odor, and taste-producing substances, toxic substances, and other deleterious substances, including chemical compounds attributable to sewage, industrial wastes, and other wastes are discharged only in amounts which do not:<br><br>- render the waters unsuitable for:<br>- agricultural irrigation<br>- livestock watering<br>- industrial cooling<br>- industrial process water supply purposes<br>- fish survival<br>- interfere with downstream water uses.<br>- |
| **WQ.115.35.AL.** Any point source which discharges into waters of the state must meet turbidity water quality criteria for the agricultural and industrial water supply use classification (ADEM Admin. Code R. 335-6-10-.09(5)(c)(7)). | Verify that there is no turbidity of other than natural origin which causes substantial visible contrast with the natural appearance of waters or which interferes with any beneficial uses they serve.<br><br>Verify that turbidity does not, in any case, exceed 50 nephelometric units above background.<br><br>(NOTE: Background is interpreted as the natural condition of the receiving waters, without the influence of manmade or man-induced causes. Turbidity levels caused by natural runoff are included in establishing background levels.) |

| COMPLIANCE CATEGORY:<br>WATER QUALITY MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **Industrial Operations Use** | |
| **WQ.115.36.AL.** Any point source which discharges into waters of the state must meet pH water quality criteria for the industrial operations use classification (ADEM Admin. Code R. 335-6-10-.09(6)(c)(2)). | Verify that sewage, industrial wastes, or other wastes do not cause the pH to:<br><br>- deviate more than one unit from the normal or natural pH<br>- fall outside the range of 6.0-8.5<br>- fall outside the range of 6.5-8.5 for estuarine and salt waters. |
| **WQ.115.37.AL.** Any point source which discharges into waters of the state must meet temperature water quality criteria for the industrial operations use classification (ADEM Admin. Code R. 335-6-10-.09(6)(c)(3)). | Verify that stream, lake, and reservoir water temperatures do not exceed 5 °F above the natural temperature prior to addition of artificial heat.<br><br>Verify that discharges do not cause streams, lakes, and reservoirs to exceed 90 °F. |
| **WQ.115.38.AL.** Any point source which discharges into waters of the state must meet dissolved oxygen water quality criteria for the industrial operations use classification (ADEM Admin. Code R. 335-6-10-.09(6)(c)(4)). | Verify that discharges of sewage, industrial wastes, or other wastes do not cause dissolved oxygen concentration to be less than 3.0 ppm.<br><br>Verify that federal facilities measure dissolved oxygen at a depth of 5 ft in waters 10 ft or greater in depth and at mid-depth in waters less than 10 ft deep. |
| **WQ.115.39.AL.** Any point source which discharges into waters of the state must meet toxic substance and aesthetic water quality criteria for the industrial operations use classification (ADEM Admin. | Verify that color, odor, and taste-producing substances, toxic substances, and other deleterious substances, including chemical compounds attributable to sewage, industrial wastes, and other wastes are discharged only in amounts which do not:<br><br>- render the waters unsuitable for:<br>  - industrial cooling<br>  - industrial process water supply purposes |

| COMPLIANCE CATEGORY:<br>WATER QUALITY MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| Code R. 335-6-10-.09(6)(c)(5)). | - interfere with downstream water uses. |
| **WQ.115.40.AL.** Any point source which discharges into waters of the state must meet turbidity water quality criteria for the industrial operations use classification (ADEM Admin. Code R. 335-6-10-.09(6)(c)(7)). | Verify that there is no turbidity of other than natural origin which causes substantial visible contrast with the natural appearance of waters or which interferes with any beneficial uses they serve.<br><br>Verify that turbidity does not, in any case, exceed 50 nephelometric units above background.<br><br>(NOTE: Background is interpreted as the natural condition of the receiving waters, without the influence of manmade or man-induced causes. Turbidity levels caused by natural runoff are included in establishing background levels.) |
| **WQ.115.41.AL.** Any point source which discharges into waters of the state must meet pH water quality criteria for the navigation use classification (ADEM Admin. Code R. 335-6-10-.09(7)(c)(2)). | Verify that sewage, industrial wastes, or other wastes do not cause the pH to:<br><br>- deviate more than one unit from the normal or natural pH<br>- fall outside the range of 6.0-8.5<br>- fall outside the range of 6.5-8.5 for estuarine and salt waters. |
| **WQ.115.42.AL.** Any point source which discharges into waters of the state must meet dissolved oxygen water quality criteria for the navigation use classification (ADEM Admin. Code R. 335-6-10-.09(7)(c)(3)). | Verify that discharges of sewage, industrial wastes, or other wastes do not cause dissolved oxygen concentration to be less than 2.0 ppm.<br><br>Verify that federal facilities measure dissolved oxygen at a depth of 5 ft in waters 10 ft or greater in depth and at mid-depth in waters less than 10 ft deep. |
| **WQ.115.43.AL.** Any point source which discharges into waters of the state must meet temperature water quality criteria for the navigation use classification (ADEM Admin. Code R. 335-6-10-.09(7)(c)(4)). | Verify that stream, lake, and reservoir water temperatures do not exceed 5 °F above the natural temperature prior to addition of artificial heat.<br><br>Verify that discharges do not cause streams, lakes, and reservoirs to exceed 90 °F. |

| COMPLIANCE CATEGORY:<br>WATER QUALITY MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| **WQ.115.44.AL.** Any point source which discharges into waters of the state must meet toxic substance and aesthetic water quality criteria for the navigation use classification (ADEM Admin. Code R. 335-6-10-.09(7)(c)(5)). | Verify that color, odor, and taste-producing substances, toxic substances, and other deleterious substances, including chemical compounds attributable to sewage, industrial wastes, and other wastes are discharged only in amounts which do not:<br><br>- render the waters unsuitable for:<br>- agricultural irrigation<br>- livestock watering<br>- industrial cooling/<br>- industrial process water supply purposes<br>- interfere with downstream water uses. |
| **WQ.115.45.AL.** Any point source which discharges into waters of the state must meet turbidity water quality criteria for the navigation use classification (ADEM Admin. Code R. 335-6-10-.09(7)(c)(6)). | Verify that there is no turbidity of other than natural origin which causes substantial visible contrast with the natural appearance of waters or which interferes with any beneficial uses they serve.<br><br>Verify that turbidity does not, in any case, exceed 50 Nephelometric units above background.<br><br>(NOTE: Background is interpreted as the natural condition of the receiving waters, without the influence of manmade or man-induced causes. Turbidity levels caused by natural runoff are included in establishing background levels.) |
| **Outstanding Alabama Water Use Classification** | |
| **WQ.115.46.AL.** Any point source which discharges into waters of the state must meet effluent limitations for the outstanding Alabama water use classification (ADEM Admin. Code R. 335-6-10-.09(8)(c)(1)(ii)). | Verify that new or expansions of existing point source dischargers of domestic wastewater meet the following minimum monthly average effluent limitations:<br><br>- 15 mg/L biochemical oxygen demand (5-day)<br>- 3 mg/L ammonia nitrogen<br>- 6 mg/L dissolved oxygen.<br>Verify that the federal facility provides disinfection of the effluent.<br><br>Verify that nondomestic wastewater dischargers meet the effluent limitations as determined by the Department. |
| **WQ.115.47.AL.** Any point source which discharges into waters of the state must meet | Verify that sewage, industrial wastes, or other wastes do not cause the pH to:<br><br>- deviate more than one unit from the normal or natural pH |

| COMPLIANCE CATEGORY:<br>WATER QUALITY MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| pH water quality criteria for the outstanding Alabama water use classification (ADEM Admin. Code R. 335-6-10-.09(8)(c)(2)). | - fall outside the range of 6.0-8.5<br>- fall outside the range of 6.5-8.5 for estuarine and salt waters. |
| **WQ.115.48.AL.** Any point source which discharges into waters of the state must meet temperature water quality criteria for the outstanding Alabama water use classification (ADEM Admin. Code R. 335-6-10-.09(8)(c)(3)). | Verify that discharges do not cause streams, lakes, and reservoirs to exceed 90 °F.<br><br>Verify that discharges do not cause streams, lakes, and reservoirs in the following areas to exceed 86 °F:<br><br>- Tennessee River Basin<br>- Cahaba River Basin<br>- that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye.<br><br>Verify that the in-stream temperature rise above ambient water temperature due to the addition of artificial heat by the federal facility does not exceed:<br><br>- 5 °F in streams, lakes, and reservoirs in noncoastal and nonestuarine areas<br>- 4 °F in coastal or estuarine waters during October through May<br>- 1.5 °F in coastal or estuarine waters during June through September.<br><br>Verify that there is no withdrawal from, nor discharge of heated waters to, the hypolimnion in lakes and reservoirs unless the federal facility can show that the discharge or withdrawal will be beneficial to water quality.<br><br>Verify that the normal daily and seasonal temperature variations that were present before the addition of artificial heat are maintained and that there is no thermal block to the migration of aquatic organisms.<br><br>(NOTE: Thermal limitations in NPDES permits may be less stringent than those above when the discharger has shown that the permit limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, in and on the body of water to which the discharge is made.) |
| **WQ.115.49.AL.** Any point source which discharges into waters of the state must meet dissolved oxygen water quality criteria for the outstanding Alabama water use classification (ADEM | Verify that daily dissolved oxygen concentrations are, at all times, not less than 5.5 mg/L for a diversified warm water biota, including game fish.<br><br>(NOTE: Under extreme conditions due to natural causes, dissolved oxygen concentration may range between 5.5 mg/L and 4 mg/L, provided the water quality is favorable in all other parameters.) |

| COMPLIANCE CATEGORY:<br>WATER QUALITY MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| Admin. Code R. 335-6-10-.09(8)(c)(4)). | Verify that the normal seasonal and daily fluctuations are maintained above these levels.<br><br>Verify that discharges from existing hydroelectric generation impoundments do not cause the dissolved oxygen level to be less than 4 mg/L.<br><br>Verify that discharges from new hydroelectric generation impoundments, including new hydroelectric generation units to existing impoundments, contain at least 5.5 mg/L dissolved oxygen, where practicable and technologically possible.<br><br>Verify that surface dissolved oxygen concentrations in coastal waters are not less than 5.5 mg/L, except where natural phenomena cause the value to be depressed.<br><br>Verify that dissolved oxygen concentrations in estuaries and tidal tributaries are not less than 5.5 mg/L, except in dystrophic waters or where natural conditions cause the value to be depressed.<br><br>Verify that federal facilities measure dissolved oxygen at a depth of 5 ft in waters 10 ft or greater in depth and at mid-depth in waters less than 10 ft deep. |
| **WQ.115.50.AL.** Any point source which discharges into waters of the state must meet toxic substance water quality criteria for the outstanding Alabama water use classification (ADEM Admin. Code R. 335-6-10-.09(8)(c)(5)). | Verify that toxic substances attributable to sewage, industrial wastes, or other wastes are discharged only in amounts, whether alone or in combination with other substances, which do not exhibit acute or chronic toxicity to fish and aquatic life, including shrimp and crabs in estuarine or salt waters, or to their propagation.<br><br>(NOTE: Acute and chronic toxicity is demonstrated by effluent toxicity testing or by application of specific numeric criteria in the permit.) |
| **WQ.115.51.AL.** Any point source which discharges into waters of the state must meet aesthetic water quality criteria for the outstanding Alabama water use classification (ADEM Admin. Code R. 335-6-10-.09(8)(c)(6)). | Verify that color, taste, and odor-producing substances, and other deleterious substances attributable to sewage, industrial wastes, or other wastes are discharged only in amounts, whether alone or in combination with other substances which do not:<br><br>- exhibit acute or chronic toxicity to fish and aquatic life, including shrimp and crabs in estuarine and salt waters<br>- adversely affect the propagation of fish and aquatic life, including shrimp and crabs in estuarine and salt waters<br>- impair marketability or palatability of fish and wildlife or shrimp and crabs in estuarine and salt waters<br>- unreasonably affect the aesthetic value of waters for any use under this classification. |

| COMPLIANCE CATEGORY:<br>WATER QUALITY MANAGEMENT<br>Alabama Supplement | |
|---|---|
| **REGULATORY REQUIREMENTS:** | **REVIEWER CHECKS:**<br>**July 2000** |
| | (NOTE: Acute and chronic toxicity is demonstrated by effluent toxicity testing or by application of specific numeric criteria in the permit.) |
| **WQ.115.52.AL.** Any point source which discharges into waters of the state must meet bacterial water quality criteria for the outstanding Alabama water use classification (ADEM Admin. Code R. 335-6-10-.09(8)(c)(7)). | Verify that bacteria of the fecal coliform group does not exceed:<br>- a geometric mean of 100/100 mL in coastal waters<br>- a geometric mean of 200/100 mL in other waters.<br>Verify that the geometric mean is calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 h. |
| **WQ.115.53.AL.** Any point source which discharges into waters of the state must meet turbidity water quality criteria for the outstanding Alabama water use classification (ADEM Admin. Code R. 335-6-10-.09(8)(c)(9)). | Verify that there is no turbidity of other than natural origin which causes substantial visible contrast with the natural appearance of waters or which interferes with any beneficial uses they serve.<br>Verify that turbidity does not, in any case, exceed 50 nephelometric units above background.<br>(NOTE: Background is interpreted as the natural condition of the receiving waters, without the influence of manmade or man-induced causes. Turbidity levels caused by natural runoff are included in establishing background levels.) |

**Appendix 13-1**

**Maximum Contaminant Levels (MCL) for Nonvolatile Synthetic Organic Chemicals**
(Source: ADEM Admin. Code R. 335-7-2-.04(1)(a) and (b))

| Contaminant | MCL (mg/L) |
|---|---|
| Alachlor | 0.002 |
| Aldicarb | 0.003 |
| Aldicarb Sulfone | 0.002 |
| Aldicarb Sulfoxide | 0.004 |
| Atrazine | 0.003 |
| Carbofuran | 0.04 |
| Chlordane | 0.002 |
| Dibromocholoropropane | 0.0002 |
| 2,4-D | 0.07 |
| Enduring | 0.002 |
| Ethylene Dibromide | 0.00005 |
| Heptachlor | 0.0004 |
| Heptachlor Epoxide | 0.0002 |
| Lindane | 0.0002 |
| Methoxychlor | 0.04 |
| Polychlorinated Biphenyls | 0.0005 |
| Pentachlorophenol | 0.001 |
| Toxaphene | 0.003 |
| 2,4,5-TP | 0.05 |
| Benzo(a)pyrene | 0.0002 |
| Dalapon | 0.2 |
| Di(2-ethylhexyl) adipate | 0.4 |
| Di(2-ethylhexyl) phthalate | 0.006 |
| Dinoseb | 0.007 |
| Diquat | 0.02 |
| Endothall | 0.1 |
| Glyphosate | 0.7 |
| Hexachlorobenzene | 0.001 |
| Hexachlorocyclopentadiene | 0.05 |
| Oxamyl (Vydate) | 0.2 |
| Picloram | 0.5 |
| Simazine | 0.004 |
| 2,3,7,8-TCDD (Dioxin) | $3 \times 10^{-8}$ |

**Appendix 13-2**

**Maximum Contaminant Levels (MCL) for Volatile Synthetic Organic Chemicals**
(Source: ADEM Admin. Code R. 335-7-2-.04(1)(c))

| Contaminant | MCL (mg/L) |
|---|---|
| Benzene | 0.005 |
| Carbon Tetrachloride | 0.005 |
| 1,2-dichloroethane | 0.005 |
| Trichloroethylene | 0.005 |
| para-dichlorobenzene | 0.075 |
| 1,1-dichloroethylene | 0.007 |
| 1,1,1-trichloroethane | 0.2 |
| Vinyl chloride | 0.002 |
| cis-1,2-Dichlorethylene | 0.07 |
| 1,2-Dichloropropane | 0.005 |
| Ethylbenzene | 0.7 |
| Monochlorobenzene | 0.1 |
| O-Dichlorobenzene | 0.6 |
| Styrene | 0.1 |
| Tetrachloroethylene | 0.005 |
| Toluene | 1 |
| Trans-1,2-Dichloroethylene | 0.1 |
| Xylene (Total) | 10 |
| Dichloromethane | 0.005 |
| 1,2,4-Trichlorobenzene | 0.07 |
| 1,1,2-Trichloroethane | 0.005 |

**Appendix 13-3**

**Microbiological Sampling Requirements**
(Source: ADEM Admin. Code R. 335-7-2-.06(2)(b))

| Population Served | Samples Required |
|---|---|
| 25 - 2500 | 2 |
| 2501 - 3300 | 3 |
| 3301 - 4100 | 4 |
| 4101 - 4900 | 5 |
| 4901 - 5800 | 6 |
| 5801 - 6700 | 7 |
| 6701 - 7600 | 8 |
| 7601 - 8500 | 9 |
| 8501 - 12,900 | 10 |
| 12,901 - 17,200 | 15 |
| 17,201 - 21,500 | 20 |
| 21,501 - 25,000 | 25 |
| 25,001 - 33,000 | 30 |
| 33,001 - 41,000 | 40 |
| 41,001 - 50,000 | 50 |
| 50,001 - 59,000 | 60 |
| 59,001 - 70,000 | 70 |
| 70,001 - 83,000 | 80 |
| 83,001 - 96,000 | 90 |
| 96,001 - 130,000 | 100 |
| 130,001 - 220,000 | 120 |
| 220,001 - 320,000 | 150 |
| 320,001 - 450,000 | 180 |
| 450,001 - 600,000 | 210 |
| 600,001 - 780,000 | 240 |
| 780,001 - 970,000 | 270 |
| 970,001 - 1,230,000 | 300 |

**Appendix 13-4**

**Maximum Contaminant Levels (MCLs) for Natural Radionuclides**
(Source: ADEM Admin. Code R. 335-7-2-.07(1))

| Natural Contaminant | MCL |
|---|---|
| Gross alpha particle* | 15 pCi/L |
| Combined radium-226 and radium-228 | 5 pCi/L |

*Including radium-226 but excluding radon and uranium.

**Appendix 13-5**

**Maximum Contaminant Levels (MCLs) for Manmade Radionuclides**
(Source: ADEM Admin. Code R. 335-7-2-.07(2))

| Manmade Contaminant | MCL |
|---|---|
| Tritium | 20,000 pCi/L |
| Strontium-90 | 8 pCi/L |
| Beta particle and photon radioactivity | 4 mrem/yr |

**Appendix 13-6**

**Unregulated Synthetic Organic Chemicals**
(Source: ADEM Admin. Code R. 335-7-2-.08(1))

Aldrin
Butachlor
Carbaryl
Dicamba
Dieldrin
3-Hydroxycarbofuran
Methomyl
Metolachlor
Metribuzin
Propachlor

**Appendix 13-7**

**Unregulated Volatile Organic Chemicals**
(Source: ADEM Admin. Code R. 335-7-2-.08(2))

Chloroform
Bromodichloromethane
Chlorodibromomethane
Bromoform
1,1-Dichloropropene
1,1-Dichloroethane
1,1,2,2-Tetrachloroethane
1,3-Dichloropropane
Chloromethane
Bromomethane
1,2,3-Trichlorobenzene
n-Propylbenzene
Isopropylbenzene
Tert-butylbenzene
Sec-butylbenzene
Fluorotrichloromethane
Dichlorodifluoromethane
Bromochloromethane
n-Butylbenzene
Naphthalene
Hexachlorobutadiene
1,3,5-Trimethylbenzene
p-Isopropyltoluene
2,2-Dichloropropane
1,2,4-Trimethylbenzene
1,2,3-Trichloropropane
1,1,1,2-Tetrachloroethane
Chloroethane
m-Dichlorobenzene
o-Chlorotholuene
p-Chlorotoluene
Bromobenzene
1,3-Dichloropropene
Dibromomethane

**Appendix 13-8**

**Secondary Maximum Contaminant Levels (MCLs)**
(Source: ADEM Admin. Code R. 335-7-3-.02)

| Contaminant | MCL |
|---|---|
| Aluminum | 0.2 mg/L |
| Chloride | 250 mg/L |
| Color | 15 units |
| Copper | 1 mg/L |
| Foaming agents | 0.5 mg/L |
| Iron | 0.3 mg/L |
| Manganese | 0.05 mg/L |
| Odor | 3 threshold odor number |
| Silver | 0.1 mg/L |
| Sulfate | 250 mg/L |
| Total Dissolved Solids | 500 mg/L |
| Zinc | 5 mg/L |

**Appendix 13-9**

**Number of Lead/Copper Sample Sites for Initial and Reduced Monitoring**
(Source: ADEM Admin. Code R. 335-7-11-.06, Table 11-1)

| System Size (Population) | Initial Monitoring Sites | Reduced Monitoring Sites |
|---|---|---|
| greater than 100,000 | 100 | 50 |
| 10,001 to 100,000 | 60 | 30 |
| 3301 to 10,000 | 40 | 20 |
| 501 to 3300 | 20 | 10 |
| 101 to 500 | 10 | 5 |
| less than 100 | 5 | 5 |

**Appendix 13-10**

**Water Quality Monitoring**
(Source: ADEM Admin. Code R. 335-7-11-.12, Table 11-2)

| System Size (Population) | Number of Sites |
|---|---|
| greater than 100,000 | 25 |
| 10,001 to 100,000 | 10 |
| 3301 to 10,000 | 3 |
| 501 to 3300 | 2 |
| 25 to 500 | 1 |

**Appendix 13-11**

**Maximum Contaminant Levels (MCL) for Inorganic Chemicals**
(Source: ADEM Admin. Code R. 335-7-2-.03(1))

| Contaminant | MCL mg/L |
|---|---|
| Antimony | 0.006 |
| Arsenic | 0.05 |
| Asbestos | 7 million fibers*/L |
| Barium | 2.0 |
| Beryllium | 0.004 |
| Cadmium | 0.005 |
| Chromium | 0.1 |
| Cyanide | 0.2 |
| Fluoride | 4.0 |
| Lead | 0.015 |
| Mercury | 0.002 |
| Nickel | 0.1 |
| Nitrate (as N) | 10 |
| Nitrite (as N) | 1 |
| Total Nitrate/ Nitrite (as N) | 10 |
| Selenium | 0.05 |
| Sulfate | 500 |
| Thallium | 0.002 |

* Longer than 10 mm.