

Southern States Energy Board

**The Southern Mutual
Radiation Assistance Plan**

November 2000



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Radiation Assistance Plan**

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**Administered by:
Southern Emergency Response Council**

**Secretariat:
Southern States Energy Board
6325 Amherst Court
Norcross, Georgia 30092**

770.242.7712
770.242.0421 fax
770.242.9956 fax

www.sseb.org
sssb@sseb.org



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Preface

The Southern Mutual Radiation Assistance Plan (SMRAP) provides a mechanism for coordinating radiological emergency assistance capabilities among participating states. SMRAP is authorized under the provisions of the Southern Agreement for Mutual State Radiological Assistance, which was signed by the governors of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee in 1973. The governors of Arkansas, Louisiana, Oklahoma and Texas signed in 1974, Missouri's governor signed in 1975, and Governor Wilder of Virginia signed the agreement in 1990. The authority for entering into supplemental agreements by any of the southern states is provided by Public Law 87-563, which grants U.S. Congressional approval of the Southern Interstate Nuclear Compact.

The Southern Mutual Radiation Assistance Plan is reviewed, revised and administered on a permanent basis by the Southern Emergency Response Council (SERC), which was established for that purpose under the terms of the agreement. The council consists of radiological health program directors from each signatory state and the executive director of the Southern States Energy Board (SSEB), formerly known as the Southern Interstate Nuclear Board (SINB). SSEB also serves as the SERC secretariat.

The plan contains general provisions and detailed resource information and is designed to serve the needs of state administrators as well as state radiological health personnel in their everyday activities. This document is updated regularly to ensure accuracy of federal and state agency information.

We hope that this approach to resolving radiation assistance problems in the southern states, as outlined in SMRAP, will provide useful direction and guidance to others with similar objectives.

Kenneth J. Nemeth
Executive Director
- The Southern States Energy Board -
November 2000

Introduction

With the discovery of radium and x-rays, and more recently the development and testing of nuclear weapons, it has become necessary to have plans to control potentially harmful radiation exposure to people should radiological mishaps occur. In 1961, the Interagency Radiological Assistance Plan (IRAP) was created. Thirteen federal agencies voluntarily entered into the plan. IRAP's primary purpose was to establish an organization and operating arrangements to be used in the event of a major accidental release or loss of control of radioactive material which could seriously endanger public health or safety. The Nuclear Regulatory Commission (NRC) is responsible for the administration of IRAP, with the Department of Energy (DOE) serving as the lead agency. Three of the signatory agencies -- NRC, DOE and the Environmental Protection Agency (EPA) -- maintain emergency teams on a continuing basis that are capable of responding to radiological emergencies.

In addition to the IRAP, the states began establishing radiological health programs. These programs were created during a period of intensive nuclear weapons testing by the United States and the former Soviet Union. Consequently, some states, such as North Carolina and Kentucky, prepared emergency plans to minimize population radiation exposures from excessively high fallout levels. However, the plans assumed less significance as levels of radiation began to decrease in the mid-1960s.

Throughout this period, nuclear power plants, research reactors, nuclear fabrication plants and nuclear fuels reprocessing plants were constructed and began operation. Interest grew in establishing plans to control the effects of possible radiation accidents, involving both fixed nuclear facilities and radioactive materials shipments. Some states requested assistance with the writing of emergency procedures from appropriate federal agencies. In December 1979, President Carter created the Federal Emergency Management Agency (FEMA) and designated it as the lead agency in radiological emergency planning and response. Subsequently, FEMA and NRC prepared a document entitled ***Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants (NUREG-0654/FEMA-REP-1)***, which assisted the states in developing revised and detailed plans.

Need for Regional Assistance Planning

Radioactive materials are in significant use both in the United States and internationally. Though the probability of a radiation incident is low, the potential consequences of such an incident in the absence of a competent state and regional response capability are extreme. Producers and users of radioactive materials are scattered across the states, with each state having a different radiation protection program and different resource capabilities. Therefore, a radiation incident in one state may require resource capabilities that the affected state does not have.

For this reason, both state and regional needs must be examined when developing a fully coordinated emergency assistance program. This approach provides for the economical use of public funds, as well as the maintenance of adequate protection levels for the health and welfare of the region's citizens. Federal agencies, state agencies and private industry have developed independent radiation emergency response capabilities, and there have been efforts to coordinate existing capabilities and bridge the gaps among the various emergency response modules in the southern region. FEMA uses NUREG-0654 as a mechanism to merge these capabilities. The Southern Mutual Radiation Assistance Plan (SMRAP) factors ideally into the NUREG-0654 concept and also serves as a logical extension of IRAP.

Development of Regional Assistance Planning

In January 1972, as a first step in the development of radiological assistance planning on a regional basis, the Region IV office (Atlanta) of the EPA and the Southern States Energy Board (SSEB), formerly known as the Southern Interstate Nuclear Board (SINB), organized a conference on radiological emergency planning. This regional approach to mutual emergency response planning was unprecedented. Prior to this, there existed only the conviction that future nuclear and radiation activities required regional planning to meet possible radiological emergency situations.

The conference resulted in the formation of a Radiation Emergency Response Committee, consisting of radiological health representatives from SSEB member states, federal agencies and industries with radiological response capabilities. The committee's objective was to develop a regional radiological emergency assistance plan for the southern states. The committee met during 1972 and 1973 and concluded that:

1. The principle of mutual assistance is unusually applicable to radiation emergency planning;
2. Regional planning is required to protect the public welfare from emergencies with interstate implications;
3. The interstate compact is the only legal means for cooperation among the states in matters of this nature;
4. Interstate cooperation is enhanced by responsible recognition of similarities among states' problems and needs;
5. Problems arising from dissimilar state organization structure or laws can be overcome without damage to basic requirements of a common problem; and
6. Effective state cooperation will be applauded and recognized by federal agencies and result in a better partnership between the states and the federal government.

The committee drafted a Southeastern Mutual Radiation Assistance Plan (SMRAP), and the supplemental agreement, to be executed by the states under the provisions of the Southern Interstate Nuclear Compact legislation, Public Law 87-563. The organization and basic functions of the Southeastern Emergency Response Council (SERC), the council created to administer the SMRAP on a permanent basis, were determined, and the committee dissolved itself, having fulfilled its objective.

The governors of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee signed "The Southeastern Agreement for Mutual Radiological Assistance" during the September 1973 Southern Governors' Conference. "Southeastern" was changed to "Southern" in the plan and agreement title, with the additional signatures of the governors of Arkansas, Louisiana, Missouri, Oklahoma and Texas in 1974 and 1975. Virginia joined the agreement in 1990.

The visibility of emergency assistance programs, through the dissemination of pertinent information on emergency requirements in every state, is necessary with regard to the allocation of funds for emergency assistance planning and implementation. It is important to make state government decision makers aware that emergency assistance capability is a necessary and proper item for public expenditures. These funds are necessary for the development of state emergency assistance capability, specifically the training and maintenance of state emergency assistance teams. The nature of emergency assistance capability requirements does not easily lend itself to a specific organization because it is not a constant need. Therefore, the most cost-efficient radiation control program is one in which the various assistance teams are performing other duties as well.

Providing emergency assistance for radiological incidents involves areas of responsibility within the scope of a number of state agencies. An incident involving radiation also involves

state and local law enforcement agencies, as there may be problems of a non-radiological nature. A mechanism whereby various agencies of state and local government cooperate to solve the problem, regardless of its complexity, is necessary. To this end, a lead agency should be given authority by the state to coordinate all necessary interagency activities. The council recommends that, because the major threat may be radiation exposure or contamination, the state radiological health program director should lead that cooperative venture. It should be noted that SMRAP is only an assistance plan, with the actual emergency response executed entirely by the states, or jointly with federal teams at the state's request.

Legal Basis for Regional Action

The Southern Interstate Nuclear Compact was enacted by the legislatures of each member state and ratified by Congress on July 31, 1962. This legislation, P.L. 87-563, states that it is the national policy to encourage and to recognize the performance of functions by the states with respect to the peaceful use of nuclear energy in its several forms. The law further states that the federal government recognizes that many programs in nuclear fields can benefit from cooperation among the states, as well as between the federal government and the states.

The provisions of P.L. 87-563 which grant authority for SSEB member states to enter into the SMRAP supplementary agreement under the legislation are Article V(1) and Article VI(a). These sections are quoted below:

Article V(1)

Ascertain from time to time such methods, practices, circumstances, and conditions as may bring about the prevention and control of nuclear incidents in the area comprising the party states, to coordinate the nuclear incident prevention and control plans and work relating thereto of the appropriate agencies of the party states and to facilitate the rendering of aid by the party states to each other in coping with nuclear incidents. The Board may formulate and, in accordance with need from time to time, revise a regional plan or regional plans for coping with nuclear incidents within the territory of the party states as a whole or within any subregion or subregions of the geographic area covered by this compact.

Article VI(a)

To the extent that the Board has not undertaken an activity or project which would be within its power under the provisions of Article V of this compact, any two or more of the party states (acting by their duly constituted administrative officials) may enter into supplementary agreements for the undertaking and continuance of such an activity or project. Any such agreement shall specify its purpose or purposes; its duration and the procedure for termination thereof or withdrawal therefrom; the method of financing and allocating the costs of the activity or project; and such other matters as may be necessary or appropriate. No such supplementary agreement entered into pursuant to this article shall become effective prior to its submission to and approval by the Board. The Board shall give such approval unless it finds that the supplementary agreement or the activity or project contemplated thereby is inconsistent with the provisions of this compact or a program or activity conducted by or participated in by the Board.

The Southern Agreement for Mutual State Radiological Assistance

Supplemental Agreement Under the Southern Interstate Nuclear Compact

We, the undersigned states, recognize the benefits which have accrued to our jurisdictions from science and technology. Of equal importance are the costs we have borne while improving our lifestyle through innovations of both tangible and intangible means. When the costs of progress are such as to possibly affect the health and welfare of our states' citizens, the States must act to mitigate any potential losses and to minimize costs. Our concurrence in this agreement demonstrates the acceptance of a regional as well as a state responsibility for protecting the interests of our citizens in the event of a radiation incident or other emergency.

Our states are aware that thousands of shipments of radioactive materials cross our boundaries annually. Those shipments will grow in numbers, volume and type in future years. Nuclear power plants, fuel processing plants, fuel fabricating plants and other nuclear facilities are being constructed and operated in every one of our states. The growth of nuclear science in medicine, industry and agriculture will cause even greater numbers of shipments of radioisotopes to originate and terminate within our borders.

All of our states are proud that we have anticipated the problems of emergency response to radiation incidents by maintenance of adequate state response capability. During numerous emergencies involving actual or possible spills of radioactive materials, we have suffered no personal injuries or property damage. We are confident that such will continue to be the case only with continued vigilance.

The increased volume and numbers of radioactive materials shipments will place greater burdens on state response capability. While confident that our capabilities will be adequate to meet the need, we recognize the possibility of an accident occurring of either an interstate nature, possible interstate nature or of a magnitude greater than our individual capability to meet.

For these reasons, we agree to cooperate in providing assistance each to the others in coping with any radiation incident within our states, when such incident is deemed by the governor, or other duly authorized state administrator, to require such assistance. To achieve this end, under the authority granted us by state and federal law, we hereby enter into the following supplemental agreement:

Article I. Purpose

The purpose of this supplemental agreement is to provide a cooperative mechanism within the southern region for mutual assistance in responding to radiation incidents upon request by any party to this agreement.

Article II. Responsibility

We, the undersigned, do hereby agree to provide any and all reasonable and available resources to any other party to this agreement for coping with any radiation emergency

deemed to be outside the capability of the initiating state, or if any actual or possible violation of mutual borders by such incident has occurred. An emergency shall be deemed outside the capability of the initiating state when so attested by the governor of that state in a communiqué to another party to this agreement. The governor of the responding state(s) shall determine the degree to which his state(s) may respond and promptly cause to be dispatched all available and necessary resources to assist with the emergency. The emergency shall be deemed to have passed whenever the lead agency of the initiating state informs other responding teams of its passage.

Article III. Reimbursement

Any state requesting assistance under the provisions of this agreement shall provide reimbursement for all reasonable costs incurred by any and all responding states, except that a responding state may waive such costs in favor of a credit for future reciprocal action under the terms of this agreement.

Article IV. The Plan

All action taken under this agreement will be in accord with the Southeastern Mutual Radiation Assistance Plan administered by the Southeastern Emergency Response Council (SERC).

Article V. Administration

As stated in Article IV, a Southeastern Emergency Response Council (SERC) will serve to review, revise and administer the Southeastern Mutual Radiation Assistance Plan. SERC will be composed of the Radiation Control officer from each party state and the Executive Director of the Southern Interstate Nuclear Board. Ex-officio members, as necessary, may be designated by SERC to assist in the performance of its duties. The council shall operate under a constitution and by-laws and shall conduct investigations and provide other necessary assistance to party states in furtherance of its purpose as stated in Article I.


Article VI. Duration, Amendment and Withdrawal

This agreement shall be in force until terminated by all signatory parties. Amendments to include additional states as participants will become effective upon signature of copy of this agreement by the governor of the joining state(s). Other amendments require approval by two-thirds of the signatory states. A party to this agreement may withdraw by notifying other parties in writing of such action, but such notification shall be signed by the governor of the withdrawing state.

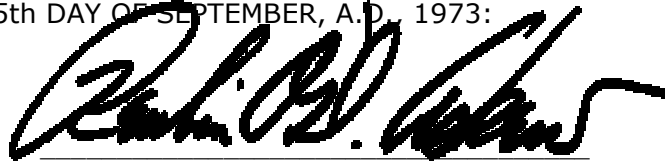
Article VII. Eligibility

Parties to this agreement shall initially be the states of Alabama, Florida, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee. However, the signatory states express their willingness and desire to extend this agreement to all members of the Southern Interstate Nuclear Compact. In such case, the signatory states hereby consent in advance to any eligible state(s) becoming a party hereto.

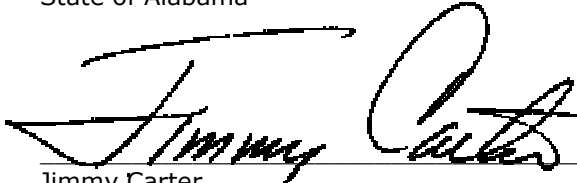
APPROVED OF AND AGREED TO THIS 25th DAY OF SEPTEMBER, A.D. 1973:



George C. Wallace
Governor
State of Alabama



Reubin O'D. Askew
Governor
State of Florida



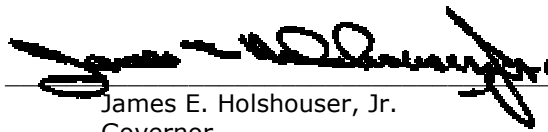
Jimmy Carter
Governor
State of Georgia



Wendall H. Ford
Governor
Commonwealth of Kentucky



William L. Waller
Governor
State of Mississippi



James E. Holshouser, Jr.
Governor
State of North Carolina



John C. West
Governor
State of South Carolina



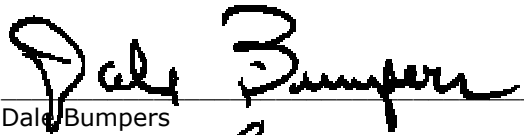
Winfield Dunn
Governor
State of Tennessee

ATTEST:



Chairman
Southern Interstate Nuclear Board

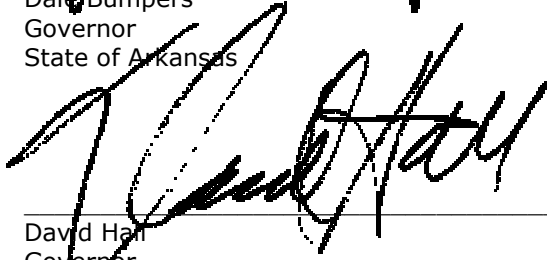
APPROVED OF AND AGREED TO THIS 25th DAY OF SEPTEMBER, A.D., 1973:



Dale Bumpers
Governor
State of Arkansas



Edwin W. Edwards
Governor
State of Louisiana

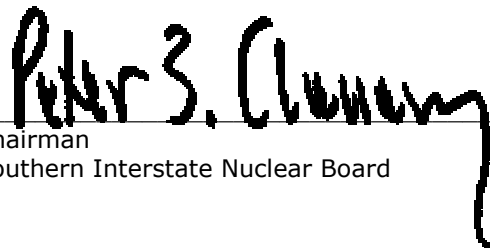


David Hall
Governor
State of Oklahoma



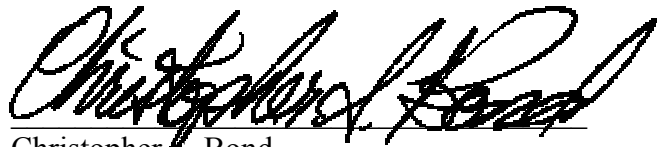
Dolph Briscoe
Governor
State of Texas

ATTEST:



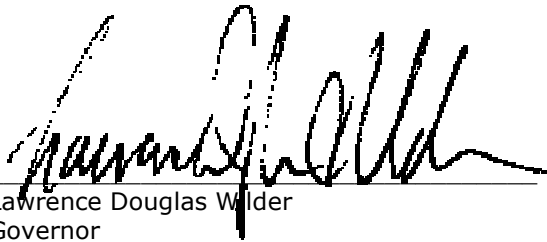
Chairman
Southern Interstate Nuclear Board

APPROVED OF AND AGREED TO THIS 17th DAY OF SEPTEMBER, A.D., 1975:

A handwritten signature in black ink, reading "Christopher S. Bond". The signature is written in a cursive style with a horizontal line underneath it.

Christopher S. Bond
Governor
State of Missouri

APPROVED OF AND AGREED TO THE 9th DAY OF August 1990.



Lawrence Douglas Wilder
Governor
State of Virginia

By-Laws of the Southern Emergency Response Council

Article I. Name

The name of this organization shall be the Southern Emergency Response Council.

Article II. Authority

The council is formed by authority of the Southern Agreement for Mutual State Radiological Assistance, a supplemental agreement under P.L. 87-563, the Southern Interstate Nuclear Compact.

Article III. Object

The object of this organization shall be to review, revise and provide for expeditious implementation of the Southern Mutual Radiological Assistance Plan; to assist individual members and their states in developing and maintaining an adequate capability for responding to a radiation incident; and to perform such other related duties as will further radiation protection for the public through prevention of and/or response to a radiation incident, including but not limited to public information activities, training and seminars, professional information dissemination, evaluation or standardization of equipment and its calibration, and liaison with other organizations conducting activities of interest to the Council.

Article IV. Membership

Section 1. Membership in this council shall consist of the executive director of the Southern States Energy Board and one representative from each signatory state to the Southern Agreement for Mutual State Radiological Assistance who shall be the radiological health program director for that state, or such person as designated by the governor.

Section 2. Each member may designate an alternate who shall have full power to act on any matter before this Council in assembly when the member is absent.

Article V. Officers

Section 1. The elected officers of this council shall be the chairman and vice chairman. The secretary shall be the executive director of the Southern States Energy Board. These officers shall perform the duties prescribed by the by-laws and by the parliamentary authority adopted by the council. Since this council does not have a president, the chairman shall perform those duties when such is required and which may differ from those normally assigned to a chairman.

Section 2. At least 60 days prior to the annual meeting, a nominating committee of three members shall be appointed by the chairman. It shall be the duty of this committee to nominate candidates for the offices to be filled at the annual meeting; nominations from the floor shall be permitted in addition.

Section 3. The officers shall be elected by secret ballot except where such election is made moot by unanimous consent to a motion by the nominating committee for election of its proposed slate of officers. Their term of office shall begin at the close of the annual meeting at which they are elected. The nominal term of office of the officers shall be for one year.

Article VI. Meetings

Section 1. An annual meeting of the council shall be held once a year at a time and place designated by the executive board, and shall be for the purpose of electing officers, receiving reports of officers and committees, and for any other business that may arise.

Section 2. Special meetings can be called by the chairman with concurrence of the executive board, and shall be called upon the written request of a majority of members. The purpose of the meeting shall be stated in the call. Except in cases of emergency, at least two (2) weeks notice shall be given by telephone or wire and four (4) weeks notice if by mail.

Section 3. A majority of the members shall constitute a quorum of the council.

Section 4. Minutes shall be taken at all meetings of the council and distributed to the members within four (4) weeks following the meeting.

Article VII. The Executive Board

Section 1. The officers of the council shall constitute the executive board.

Section 2. The executive board shall have general supervision of the affairs of the council between meetings.

Section 3. Meetings of the executive board shall be held upon call of the chairman and shall be open to all members. The board, in conducting such meetings, shall be subject to the orders of the council and none of its acts shall conflict with action taken by the council. A conference telephone call shall be considered a bona fide meeting of the executive board.

Section 4. Minutes are to be taken at all executive board meetings and shall be disseminated to all council members within two (2) weeks after each such meeting.

Section 5. Three members shall constitute a quorum of the executive board.

Article VIII. Committees and Advisors

Section 1. Such committees as are considered by the chairman or the council to carry on the work of council shall, from time to time, be appointed by the chairman. The chairman shall be an ex-officio member of all committees except the nominating committee.

Section 2. A standing advisory committee shall assist the council in all its deliberations. Committee members are authorized to cooperate with the council under a committee charter adopted by the council. Federal members of the standing advisory committee have an additional authority under P.L. 87-563, the Southern Interstate Nuclear Compact.

Section 3. Membership of the standing advisory committee shall consist of federal agency and industrial representatives as designated by the executive board.

Section 4. Advisors can be named by the chairman, the committees and by the membership of the council to serve at their pleasure for special purposes.

Article IX. Parliamentary Authority

The rules contained in the current edition of Robert's Rules of Order - Newly Revised shall govern the council in all cases to which they are applicable and in which they are not inconsistent with these by-laws and any special rules of order the council may adopt.

Article X. Amendment of By-Laws

These by-laws can be amended at any meeting of the council by a two-thirds vote of the membership of the council, provided that the amendment has been submitted in writing to the chairman 30 days prior to the call of the meeting and is included in such call as special item for consideration.

Article XI. Secretariat

The Southern States Energy Board (SSEB) shall function as secretariat for the Southern Emergency Response Council.

SMRAP - A Summary Plan

Section A: Purpose

The purpose of this plan is to protect the health and safety of the public in the event of accidents, if the magnitude or type of accident is outside the response resources available to any single signatory of the plan. These accidents include those occurring at nuclear facilities; during the transportation of radioisotopes, nuclear fuel or radioactive waste; and during the use of radioactive sources.

The mechanism for cooperation of radiological emergency assistance capabilities developed herein will serve also to improve the efficiency of providing assistance during an accident that involves a boundary watercourse of two or more signatory states. Additionally, coordination among signatory states will meet the purpose of providing assistance to individual signatory states in the development of their radiation emergency response capabilities and plans.

Section B: Objectives

The objectives of this Plan are as follows:

1. To identify authority and assignment of responsibility under federal and state statutes which provide a basis for developing and implementing this plan;
2. To promulgate a mechanism for administering this plan;
3. To identify the scope of the radiological emergency assistance developed under this plan, both geographically and functionally;
4. To identify each agency and available resources located within signatory states available for implementing action under this plan, including the role to be played by each resource;
5. To develop standardized Protective Action Guides for use in the region;
6. To provide a mechanism limiting state employee (including university or college) personal liability for his or her actions when called upon to provide assistance during any emergency within the scope of this plan; and
7. To provide for federal and regional assistance to the states in maintaining and revising state capabilities for providing assistance under this plan, including:
 - a. providing a mechanism for obtaining expert consultants or specialists upon request;
 - b. holding seminars on special courses; and
 - c. disseminating information to public sources designed to educate them concerning the capabilities of this plan.

Section C: Authority

The authority for entering into this plan exists within the scope of the Southern Interstate Nuclear Compact, Public Law 87-563, and its provisions for supplemental agreements by any of the southern states.

Section D: Administration

Emergency response plans will periodically be reviewed so they can respond to changes in their underlying conditions. Periodic, regional meetings will be held for coordination of activities that impact plan capabilities. This phase of administration will be directed by the Southern Emergency Response Council (SERC), comprised of one representative from each signatory state and from SSEB, and such ex officio representatives from federal agencies and other organizations as the council deems necessary.

The SERC will adopt by-laws for its operation and will meet as required to fulfill its objectives.

Administration, for the purpose of responding to an accident, will be fulfilled under the emergency response framework for plan implementation as outlined in Section F, "Resources." Any accident occurring within a signatory state is under the jurisdiction of that state. Parties to this agreement concur that if it is necessary for resources to move from one state to another, the receiving state's administrative authority will prevail. Decisions for responding to a request for assistance with the provisions of resources will fall to the assisting state. Outside assistance is supplemental to state resources. Response to an accident would be coordinated through the alert communications network as specified in Section F(2), "Communications."

Section E: Scope

The area scope of this mutual assistance plan includes the territories of fourteen southern states (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia) with provisions for including additional SSEB states. The organizations cooperating under this plan may include federal agencies, state agencies, industrial groups, private action agencies and individuals of special expertise.

Industry will be included as a valuable resource for regional consideration and use. Since the plan is being implemented by public organizations, industrial participation has been limited to an advisory role in the developmental aspects of planning. While industry can provide expertise and services for planning or implementation, no industry funds will be solicited for mutual assistance. For the most effective and efficient leadership in mutual assistance planning, the industry's resources will be coordinated through its state radiological emergency plan. These provisions for delineating the role of industry are also applicable in the case of private educational institutions.

The role of federal agencies will be limited to one of advice and coordination, unless otherwise requested by the states.

Section F: Resources

1.Emergency Teams - Each signatory state maintains an emergency team ready to respond to a radiation accident at any time. The teams consist of qualified and experienced health physics personnel with appropriate radiation detection instrumentation and equipment that would be required to handle anticipated emergency situations. If assistance is required, the Southern Mutual Radiation Assistance Plan (SMRAP) provides communications with the U.S. Department of Energy teams at either Savannah River Plant, Aiken, South Carolina, or Oak Ridge National Laboratory, Oak Ridge, Tennessee; the Environmental Radiation Facility, Montgomery, Alabama; a Tennessee Valley Authority team at Muscle Shoals, Alabama and Chattanooga, Tennessee; and the Federal Emergency Management Agency, Thomasville. These facilities maintain an emergency response capability that is available round-the-clock and will assist a state upon request.

2.Communications - A communication system among the signatory states and between the states and federal agencies having emergency response capability in the form of a round-the-clock telephone system has been prepared. Arrangement for intrastate radio communications networks is considered a necessary complement to the telephone system and should become a part of each state plan (e.g., the DOD National Warning System - NAWAS).

3.Equipment - Each signatory state maintains radiation detection instrumentation, decontamination material and other equipment required to handle radiation accidents. However, the SMRAP provides the states access to unusual survey and monitoring

instruments and/or very complex laboratory radiation measurement and analytical equipment that they would not normally possess.

4. Medical Facilities - Radiation accident casualties demand specialized care and treatment, thus requiring hospitals or clinics having the necessary facilities, equipment and trained personnel. At least one facility in each signatory state is identified, and state plans will provide for joint cooperative agreements among the state radiation protection agency and the facilities.

5. Transportation - Statistical analyses indicate a probability that a certain number of radiation accidents per number of radioactive material shipments will occur. The SMRAP, therefore, delineates factors that a state should consider in establishing measures to control the effects of this type of accident. If the accident involves more than one state, then appropriate federal agencies must be involved.

6. Public Relations - The sensitive area of public relations and press coverage in the wake of a radioactive accident must be handled in a calculated and pragmatic manner. If the accident involves more than one state, the SMRAP will provide for the appropriate federal agency, in conjunction with the states, to issue press releases and to interface with the public. If the accident is intrastate only, the state plan will provide for authority.

7. Laboratories - Each signatory state has a radiological laboratory capable of analyzing various media for radioactivity. If a radiation accident is of such scope or character that quantitative and/or qualitative assistance is required, the laboratories of the U.S. Department of Energy at Savannah River Plant, Aiken, South Carolina; the Oak Ridge National Laboratory, Oak Ridge, Tennessee; and the Environmental Protection Agency, Montgomery, Alabama may be utilized.

8. Civil Defense - State and federal civil defense organizations have expertise in handling of radiation accidents, particularly in the areas of communication and evacuation. This capability may be factored into state emergency plans as applicable.

9. Protective Action Guides - Protective Action Guides are developed by the EPA and are available for use by individual states. They are unofficial but should be useful in establishing standardization.

Assistance to Signatory States

Assistance to signatory states may include the following:

1. provision of training-development of emergency response capability;
2. consultation and advice on emergency response planning and plans; and
3. stimulation of interstate coordination and cooperation.

Assistance will be delivered through the following methods:

1. seminars on subjects requested by the state;
2. designations of specific radiation experts to provide states with information required to solve environmental programs; and
3. provision of the latest information on all phases of the environmental radiation field on a continuing basis.

SERC Officers

| | | |
|------------------|--|--|
| 2000-2001 | Chair: Vice-Chair: Members-at-Large: Secretary: | Tom Hill - GA Alice Rogers - TX Kirksey Whatley - AL; Edward Lohr - KY Christopher Wells - SSEB |
| 1999-2000 | Chair: Vice-Chair: Members-at-Large: Secretary: | Michael Broderick - OK Jared Thompson - AR Vicki Jeffs - KY, Debra Shults, TN Christopher Wells - SSEB |
| 1998-99 | Chair: Vice-Chair: Members-at-Large: Secretary: | Richard Ratliff - TX Tom Hill - GA Michael Broderick - OK; Pearce O'Kelly - SC Christopher Wells - SSEB |
| 1997-98 | Chair: Vice-Chair: Members-at-Large: Secretary: | Bob Goff - MS Ruth McBurney - TX Tom Hill - GA, Kirksey Whatley - AL Beth Fulmer - SSEB |
| 1996-97 | Chair: Vice-Chair: Members-at-Large: Secretary: | Bill Passetti - FL Alice Rogers - TX Max Batavia - SC, Lawrence Nanney - TN Beth Fulmer - SSEB |
| 1995-96 | Chair: Vice-Chair: Members-at-Large: Secretary: | Vicki Jeffs - KY Bill Passetti - FL Eddie Fuente - MS, Alice Rogers - TX Beth Fulmer - SSEB |
| 1994-95 | Chair: Vice-Chair: Members-at-Large: Secretary: | Robin Haden - NC Vicki Jeffs - KY Bill Passetti - FL, Eddie Fuente - MS Beth Fulmer - SSEB |
| 1993-94 | Chair: Vice-Chair: Members-at-Large: Secretary: | Robin Haden - NC Vicki Jeffs - KY Bill Passetti - FL, Bob Goff - MS Beth Fulmer - SSEB |
| 1992-93 | Chair: Vice-Chair: Members-at-Large: Secretary: | Kirk Whatley - AL Greta Dicus - AR Hall Bohlinger - LA, Robin Haden - NC Beth McClelland - SSEB |
| 1991-92 | Chair: Vice-Chair: Members-at-Large: Secretary: | Les Foldesi - VA Dayne Brown - NC Eddie Fuente - MS, Don Hughes - KY Beth McClelland - SSEB |

| | | |
|----------------|-------------------|---------------------------------------|
| 1990-91 | Chair: | Mary Clark - FL |
| | Vice-Chair: | Aubrey V. Godwin - AL |
| | Members-at-Large: | Dayne Brown - NC, Heyward Shealy - SC |
| | Secretary: | Alex Thrower - SSEB |
| 1989-90 | Chair: | Thomas Hill - GA |
| | Vice-Chair: | Donald Hughes - KY |
| | Members-at-Large: | Mary Clark - FL, Dayne Brown - NC |
| | Secretary: | Jill Paukert - SSEB |
| 1988-89 | Chair: | Eddie Fuente - MS |
| | Vice-Chair: | Donald Hughes - KY |
| | Members-at-Large: | Lyle Jerrett - FL , Dayne Brown - NC |
| | Secretary: | Jill Paukert - SSEB |
| 1987-88 | Chair: | Greta Dicus - AR |
| | Vice-Chair: | Donald Hughes - KY |
| | Members-at-Large: | Lyle Jerrett - FL, Dayne Brown - NC |
| | Secretary: | Jill Paukert - SSEB |
| 1986-87 | Chair: | Lyle Jerrett - FL |
| | Vice-Chair: | Donald Hughes - KY |
| | Members-at-Large: | Heyward Shealy - SC, Dayne Brown - NC |
| | Secretary: | Jill Paukert - SSEB |
| 1985-86 | Chair: | Lyle Jerrett - FL |
| | Vice-Chair: | Donald Hughes - KY |
| | Members-at-Large: | Heyward Shealy - SC, Dayne Brown - NC |
| | Secretary: | Jill Paukert - SSEB |
| 1984-85 | Chair: | Bobby Rutledge - GA |
| | Vice-Chair: | Lyle Jerrett - FL |
| | Members-at-Large: | Bill Aaroe - WV, Ken Miller - MO |
| | Secretary: | Scott Fellows - SSEB |
| 1983-84 | Chair: | Mike Mobley - TN |
| | Vice-Chair: | Cecil Brown - NC |
| | Members-at-Large: | Robert Craig - OK, Jim McNeese - AL |
| | Secretary: | Scott Fellows - SSEB |
| 1982-83 | Chair: | Mike Mobley - TN |
| | Vice-Chair: | Cecil Brown - NC |
| | Members-at-Large: | Robert Craig - OK, Jim McNeese - AL |
| | Secretary: | Scott Fellows - SSEB |
| 1981-82 | Chair: | Bill Spell - LA |
| | Vice-Chair: | Al Gooden - GA |
| | Members-at-Large: | Don Hughes - KY, Eddie Fuente - MS |
| | Secretary: | Scott Fellows - SSEB |
| 1980-81 | Chair: | Bill Graham - TN |
| | Vice-Chair: | Aubrey Godwin - AL |
| | Members-at-Large: | Cecil Brown - NC, Bill Spell - LA |
| | Secretary: | Scott Fellows - SSEB |

| | | |
|----------------|-------------------|---------------------------------------|
| 1979-80 | Chair: | Gary McNutt - MO |
| | Vice-Chair: | Bill Graham - TN |
| | Members-at-Large: | Ed Bailey - TX, Chuck Hardin - KY |
| | Secretary: | Scott Fellows - SSEB |
| 1978-79 | Chair: | Dayne Brown - NC |
| | Vice-Chair: | David Lacker - TX |
| | Members-at-Large: | Chuck Tedford - GA, Chuck Hardin - KY |
| | Secretary: | Scott Fellows - SSEB |
| 1977-78 | Chair: | David Snelling - AR |
| | Vice-Chair: | Chuck Hardin - KY |
| | Secretary: | Scott Fellows - SSEB |
| 1976-77 | Chair: | Jim Porter - LA |
| | Vice-Chair: | David Snelling - AR |
| | Secretary: | Scott Fellows - SSEB |
| 1975-76 | Chair: | Aubrey Godwin - AL |
| | Vice-Chair: | Jim Porter - LA |
| | Secretary: | Scott Fellows - SSEB |

SMRAP Activation Procedure

Requesting State

Radiation Control Program

To initiate a request for SMRAP assistance from a participating state, the radiation control program personnel determine that assistance is needed and submit a request through channels to the requesting governor's office.

Initial contacts are expected to be made by telephone to expedite actions. The request for SMRAP assistance should include the following information:

1. description of problem;
2. type of resources needed;
3. where resources should be delivered; and
4. what state(s) has the resources.

Concurrent with above actions, informal telephone communication with radiation control program personnel in participating states is encouraged for the purpose of alerting them to the problem and for obtaining any technical information that will be of use in resolving the problem.

Governor's Office

Upon concurrence with the need assessment, as requested by the radiation control program personnel, the requesting governor (office) contacts the responding governor (office) and requests the specified SMRAP assistance.

Responding State

Governor's Office

The responding governor (office) agrees to provide SMRAP assistance and authorizes, through channels, the requested resources to be dispatched to the requesting state. Initial contacts are expected to be made by telephone to expedite actions.

Radiation Control Program

Personnel in the radiation control program, upon a telephone alert from the state's radiation control program, should anticipate the responding governor's (office) authorization to dispatch requested resources to the requesting governor's state.

Upon receipt of the responding governor's authorization to provide SMRAP assistance, the radiation control program should be prepared to expedite response to the assistance request.

Additional information required from the Radiation Control Program in the requesting state will include:

1. clear direction on where to meet or deliver the resources;
2. estimated time the resources are needed; and
3. if the resources include people, what arrangements have been made for housing, etc.

SMRAP Key Contacts

This chapter lists key personnel in the states and federal agencies involved in activating and implementing emergency assistance under SMRAP. Included are:

1. the address and phone number of each state governor and the date each term ends;
2. the name, address and phone number of the emergency services director in each state;
3. the name, address and phone number of the health services director in each state;
4. the name, address and phone number of each governor's designee for receiving advance notification of high-level radioactive waste shipments; and
5. emergency assistance teams to be contacted in the event of a radiological incident.

In addition, contact information is provided for the U.S. Department of Energy, the U.S. Environmental Protection Agency, the Federal Emergency Management Agency, the U.S. Nuclear Regulatory Commission and the Tennessee Valley Authority.

This chapter also includes specific state resource information on quantity, types and location of survey as well as analytical and communications equipment. Since not all states have the same equipment and analytical capabilities, this data is useful to states as they look to the other SMRAP states for specific types of emergency response support.

State Agencies

Alabama

Governor

The Honorable Don Siegelman (Term ends January 2003)
State Capitol
Montgomery, Alabama 36130
(334) 242-7100

Emergency Services

The Alabama Emergency Management Agency (AEMA) is responsible for the preparation and implementation of a comprehensive emergency operations plan to cope with emergencies and disasters. Coordination of emergencies are conducted through the State Emergency Operations Center and/or a mobile command post. In the area of radiological emergency response, AEMA works jointly with the Department of Health, Radiation Control Division and other agencies to coordinate federal, state and local response activities and a public information program.

Lee Helms, Executive Operation Officer
Alabama Emergency Management Agency
P.O. Drawer 2160
Clanton, Alabama 35045-5160
(205) 280-2200 (Duty hours)
(334) 242-4378 (Non-duty hours)

Health Services

The Department of Public Health is the administrative agency for the State Board of Health, which manages the agreement state program and is the designated radiation control agency. The board is authorized to issue rules and regulations on radioactive materials transportation and may inspect waste shipments. The State Health Officer is the director of the Department of Public Health. As head of the state radiation control agency, the State Health Officer is responsible for issuing orders, declaring emergencies and directing protective actions.

Operational responsibilities include determination of protective actions and performance of off-site radiation monitoring and control activities. The department handles all technical aspects of radiation in an emergency and will provide medical support to local governments.

Donald E. Williamson, M.D.
State Health Officer
The Alabama Department of Public Health
The RSA Tower, Suite 1552
P.O. Box 303017
Montgomery, Alabama 36130-3017
(334) 206-5200

Designee for Advance Notification of Shipments

Col. J. Alexander, Director
 Alabama Department of Public Safety
 P.O. Box 1511
 Montgomery, Alabama 36192
 (334) 242-4378

Radiological Emergency Assistance Contacts

| | |
|--------------------------------|----------------------------|
| State Police | (334) 242-4378 |
| Alabama State Board of Health | (334) 206-5391 (8AM - 5PM) |
| Office of Radiation Control | (334) 206-5387 (Fax) |
| P.O. Box 303017, Suite 700 | |
| Montgomery, Alabama 36130-3017 | |

Emergency Team Members

| Name | Title | Off-Duty Phone & Pager Numbers |
|---------------------|---|---|
| Whatley, Kirksey E. | Director, Office of Radiation Control | ph: (334) 288-7207 pgr: (334) 317-9332 |
| Cash, Michael G. | Emergency Planning & Environmental Monitoring | ph: (334) 277-0750 pgr: (334) 317-9336 |
| McNees, James L. | Radiation Materials Compliance | ph: (334) 277-1380 pgr: (334) 317-9334 |
| Walter, David | Radioactive Materials Licensing | ph: (334) 361-1943 pgr: (334) 516-7872 |
| Grinstead, Bradley | X-Ray Registration and Compliance | ph: (334) 281-4915 pgr: (334) 516-7857 |

(After hours, and on weekends, team members should be called or paged directly)

Laboratory and Analytical Programs

| Type of Sample | Type of Analysis | Major Equipment |
|-----------------|---|--|
| Air | Gross Beta | Canberra Alpha-Beta 2404 |
| Fish | Gamma Analysis | Canberra Series 90 Int. Germanium |
| Low-Level Gamma | | Canberra Series 90 Int. Germanium |
| Milk | Strontium-89, 90 Gamma Analysis Iodine-131 Barium-140 Cesium-137 Potassium-40 | Canberra Series 90 Int. Germanium Canberra Alpha-Beta |
| Soil | Gamma Analysis | Canberra Series 90 Int. Germanium |
| Vegetation | Gamma Analysis | Canberra Series 90 Int. Germanium |
| Water | Gamma Spectrum Gross Beta | Canberra Series 90 Int. Germanium Canberra Alpha-Beta |

(a portable Canberra Series 10 is also available)

Arkansas

Governor

The Honorable Mike Huckabee (Term ends January 2003)
State Capitol
Little Rock, Arkansas 72201
(501) 371-2345

Emergency Services

The Arkansas Department of Emergency Management is charged with coordinating emergency relief and disaster prevention. The director is appointed by the governor, and the office maintains a state disaster plan.

The State Emergency Operations Center, located south of Conway, Arkansas, operates constantly. In the event of an emergency, the state is divided into four operational areas with an area coordinator for each. The area coordinators serve a liaison function among the office director, area planning councils and county and municipal governments.

W. R. (Bud) Harper
Director
Arkansas Department of Emergency Management
P.O. Box 758
Conway, Arkansas 72032
(501) 329-5601

Health Services

In an emergency, the Department of Health's primary responsibilities are: health and medical assistance; water and sanitation inspection; recovery, identification and disposal of fatalities; vector control; radiological incident response; and maintenance of state-owned radiological equipment. In the specific area of radiological incident response, the Department of Health is in charge of technical evaluation and assessment, and the issuance of guidelines and protective action advisories.

Fay W. Boozman, M.D., Director
Arkansas Department of Health
4815 West Markham, Slot 39
Little Rock, Arkansas 72205-3867
(501) 661-2111

Designee for Advance Notification of Shipments

David D. Snellings, Jr., Director
Division of Radiation Control & Emergency Management
4815 W. Markham, Slot 30
Little Rock, Arkansas 72205-3867
(501) 661-2136 24-Hours
(501) 661-2301 Office
(501) 671-1407 Fax

Radiological Emergency Assistance Contacts

Arkansas Department of
Emergency Management (501) 730-9751 24-Hours
P.O. Box 758
Conway, Arkansas 72032 (800) 322-4012 24-Hours Emergency Reporting Only

Arkansas Department of Health (501) 661-2136 Office/24-Hours Rollover
Division of Radiation Control & (800) 633-1735 National Watts Line/24-Hours
Emergency Management (800) 554-5738 State Watts Line/24-Hours
4815 W. Markham, Slot #30
Little Rock, Arkansas 72205-3867

Emergency Team Members

| Name | Title | Off-Duty Phone |
|------------------|--|-----------------------|
| Snellings, David | Director, Division of Radiation Control & Emergency Management | (501) 661-2136 |
| Baldwin, David | Supervisor, Programs & Emergency Management Section | (501) 661-2136 |
| Kelley, Rick | Supervisor, X-Ray Section | (501) 661-2136 |
| Thompson, Jared | Supervisor, Radioactive Material & Mammography Section | (501) 661-2136 |
| Bevill, Bernard | Supervisor, Quality & Evaluation Section | (501) 661-2136 |
| Boozman, Fay | Director, State Health Officer | (501) 661-2618 |

In addition to the Emergency Team Members listed above, the following positions comprise the remainder of the Emergency Response Team:

| | |
|---------------------------------|----------------|
| Health Physicists | 14 individuals |
| Administrative/Clerical Support | 8 individuals |
| Electronics Technicians | 2 individuals |
| Public Information | 2 individuals |
| Radiochemistry | 3 individuals |
| Communication Specialists | 6 individuals |

Additional logistical and radiation monitoring support is available from other State Health Department divisions.

Laboratory and Analytical Programs

Major Equipment

1. Packard Tri-Carb 2250CA liquid scintillation analyzer and Packard Tri-Carb 2750TR/LL liquid scintillation analyzer with printouts.
2. Tennelec LB5100 Gas Flow Proportional Alpha-Beta Counter.
3. Gamma Spectroscopy System consisting of an MCA, with two Canberra HPGe Detectors and associated software, hardware and shielding.

| Type of Sample | Type of Analysis | Equipment Used |
|-----------------|-----------------------------------|----------------|
| Air | Gross Alpha, Gross Beta | 2,3 |
| Charcoal Filter | Gamma Analysis | 4 |
| Fish | Gamma Analysis | 4 |
| Milk | Gamma Analysis Radioiodine | 4 2,3 |
| Soil and Silt | Gamma Analysis | 4 |
| Vegetation | Gamma Analysis | 4 |
| Water | Gross Alpha/Beta | 2,3 |
| Water | Ra-226/228 Sr-89/90 Uranium | 2,3,4 |
| Wipes | Gross Alpha/Beta | 2,3 |

Field Equipment (Average Inventory)

- 25 Ludlum Model 3 Survey Meters
- 13 Ludlum Model 44-2 Gamma Scintillators
- 14 Ludlum Model 44-9 Pancake Probes
- 13 Ludlum Model 43-5 Alpha Scintillators
- 17 Ludlum Model 44-6 Thin Wall Gamma Probes
- 8 Ludlum Model 17 Ion Chambers
- 2 Ludlum Model 12S Micro R Meters
- 12 Ludlum Model 19 Micro R Meters
- 1 Keithley Instruments Model 3615 Ion Chamber
- 1 Bicron Model 4500 TLD System
- 5 RadCo Model H-809 Air Samplers
- 6 Vehicles equipped with other miscellaneous emergency response equipment and 2 communications systems: Arkansas Department of Health radios and State Department of Emergency Services radios.

Florida

Governor

The Honorable Jeb Bush (Term ends January 2003)
State Capitol
Tallahassee, Florida 32301
(850) 488-4441

Emergency Services

The Division of Emergency Management in the Department of Community Affairs is responsible for preparing and implementing a comprehensive program to meet disasters and emergencies. In the area of radiological emergency response, the division maintains a plan for nuclear power plant emergencies; provides assistance in the preparation of local plans; coordinates federal, state and local response activities; activates a state emergency operations center; and manages a public information program.

Joseph E. Myers, Director
Division of Emergency Management
Department of Community Affairs
255 Shumard Oak Boulevard
Tallahassee, Florida 32399
(850) 413-9969 (Direct) or
(850) 413-9900

Health Services

The Florida Radiation Protection Act designates the Department of Health as the lead agency for radiation safety. The department also administers the agreement state program. The act was amended in 1984 to require the department to protect the environment, as well as the public, from harmful radiation effects. Therefore, the department also undertakes environmental surveillance activities.

Richard G. Hunter, Ph.D.
Deputy State Health Officer
Department of Health
4052 Bald Cypress Way
Tallahassee, Florida 32399-1741
(850) 487-2945

Designee for Advance Notification of Shipments

Harlan Keaton
 Environmental Administrator
 Bureau of Radiation Control
 Florida Department of Health
 P.O. Box 680069
 Orlando, Florida 32868-0069
 (407) 297-2095

Radiological Emergency Assistance Contacts

Bureau of Radiation Control (850) 245-4266
 Department of Health, Bin C21
 4052 Bald Cypress Way
 Tallahassee, Florida 32399-1741

Orlando Office (407) 297-2095

Emergency Team Members

| Name | Title | Off-Duty Phone |
|--------------------|--|--|
| Passetti, William | Chief, Bureau of Radiation Control | (850) 245-4266 (O) (850) 893-9039 (H) |
| Keaton, Harlan | Administrator of Environmental Radiation Control Program | (407) 297-2095 (O) (941) 439-2686 (H) |
| Becker, Cynthia | Administrator of Inspection Program | (850) 245-4266 (O) (850) 893-8305 (H) |
| Thoma, Philip | Administrator of X-Ray Machine Inspection Program | (904) 359-6363 (O) (904) 215-1094 (H) |
| Eakins, Jearold C. | Coordinator of Emergency Response Program | (407) 297-2095 (O) (407) 880-2697 (H) |

Laboratory and Analytical Programs

| Type of Sample | Type of Analysis | Major Equipment |
|----------------|-------------------------------------|--|
| Air | Gross Beta* Gamma Analysis | 4 - Low background, gas flow, proportional counter with automatic sample changer |
| Biota | Gamma Analysis | 1 - Eight-Detector, low background, gas flow, proportional counter |
| Milk | Strontium -89, 90 Gamma Analysis | 1 - Gamma spectroscopy system consisting of: |
| Soil | Gamma Analysis | 2 - Multichannel analyzer |
| Vegetation | Gamma Analysis | 2 - 4x4 inch sodium iodide detectors 2 - 3x3 inch sodium iodide detectors |
| Water | Gamma Analysis Tritium | 1 - 58x53 mm intrinsic germanium detector 1 - 61.5x59.5 mm intrinsic germanium detector |
| | | 1 - Liquid scintillation spectrometer |
| | | 1 - TLD reader system |

* Gamma analysis when gross is greater than 1pCi/m³

Mobile Laboratory complete with:

- a. A.C. Generator (6.5kw)
- b. Gamma spectroscopy system
- c. Low-Vol Air Samplers 12VDC
- d. Ratemeters with alpha scintillators, 0-50,000 cpm
- e. Self-Reading Pocket Dosimeters with Chargers: 0-200 mR, 0-20 R, 0-5 R
- f. Ratemeter with GM Pancake Probe, 0-350,000 cpm
- g. CDV-718 Radiac Sets, 0-10,000 R/hr
- h. Frisking Station with GM Pancake Probe, 0-500,000 cpm.
- i. Ratemeter with GM Pancake Probe, 0-3,600,000 cpm
- j. Electronic personnel dosimeters, 0-100 R/hr and 0-999 R/hr total dose

Georgia

Governor

The Honorable Roy Barnes (Term ends January 2003)
State Capitol
Atlanta, Georgia 30334
(404) 656-1776

Emergency Services

The Emergency Management Agency prepares and implements the state's Emergency Management Program. During a radiological emergency, the agency can provide communications with state or local agencies from the state emergency operations center and/or a near-site operations center. It will also assist with the response effort by coordinating with various agencies to: activate evacuation procedures; provide information to the public; and obtain additional personnel and equipment.

Gary W. McConnell
Director,
Georgia Emergency Management
Agency
P.O. Box 18055
Atlanta, Georgia 30316
(404) 635-7000
(404) 635-7205 fax

H. Patrick Cochran
Program Manager for Radiological
and Hazardous Materials
Georgia Emergency Management Agency
P.O. Box 18055
Atlanta, Georgia 30316
(404) 635-7000
(404) 635-7205 fax

The Georgia Department of Natural Resources (DNR), the Georgia Department of Transportation (DOT) and the Georgia Emergency Management Agency (GEMA) have a joint communications center. This center is manned 24 hours a day. Upon receipt of a call reporting a radiological emergency, joint communications center staff directly notify the Environmental Radiation Program Manager by telephone, two-way radio or statewide pager.

Harold F. Reheis, Director
Georgia Department of Natural Resources
Environmental Protection Division
Floyd Towers East, Suite 1152
205 Butler Street, SE
Atlanta, Georgia 30334
(404) 656-4713

Thomas E. Hill
Radioactive Materials Program Mgr.
Georgia Dept. of Natural Resources
Environmental Protection Division
4244 International Parkway Suite 114
Atlanta, Georgia 30354
(404) 362-2675
Thill@mail.dnr.state.ga.us

James C. Hardeman, Jr.
Environmental Radiation Program
Georgia Dept. of Natural Resources
Environmental Protection Division
4244 International Parkway Suite 114
Atlanta, Georgia 30354
(404) 362-2675
Jim_Hardeman@mail.dnr.state.ga.us

Designee for Advance Notification of Shipments

Al Hatcher
Director, Transportation Division
Georgia Public Service Commission
1007 Virginia Avenue, Suite 310
Hapeville, Georgia 30354
(404) 559-6602
(404) 559-4906 Fax

Radiological Emergency Assistance Contacts

DNR/GEMA/DOT Communications Center

(800) 241-4113 (24 Hours) In-state calling only
(404) 635-7200
(404) 656-4863 (24 Hours)

Georgia Department of Natural Resources
Environmental Protection Division
Environmental Radiation Program
(404) 362-2675 (8 a.m. - 4:30 p.m.)

Emergency Team Members

| Name | Title | Off-Duty Phone |
|--------------------|--|-----------------------|
| Hardeman, James C. | Manager, Environmental Radiation Program | (404) 386-6607 Cell* |
| Hill, Thomas E. | Manager, Radioactive Materials Program | (770) 479-8677* |

* The preferred method of contacting the Emergency Team Members during non-duty hours is to call the 24-hour warning point.

Laboratory and Analytical Programs (DNR)

| Type of Sample | Type of Analysis | Major Equipment |
|-----------------------------|--|-----------------|
| Air (filters/ cartidges) | Gamma Spectrum, I-131/Cs-137 Gross alpha/beta, Plutonium, Strontium, Tritium | See List Below |
| Fish (aquatic species) | Gamma Spectrum, Radiostrontium, Tritium, Plutonium | |
| Milk | Gamma Spectrum, Tritium, Radiostrontium, Radioiodine | |
| Soil | Gamma Spectrum, Radiostrontium | |
| Sediment | Gamma Spectrum, Radiostrontium, Plutonium | |
| Vegetation | Gamma Spectrum, Radiostrontium, Radioiodine, Tritium, Plutonium | |
| Water | Gross alpha/beta Radiostrontium, Radioiodine, Tritium | |

Routine laboratory analysis of environmental samples is conducted in the Environmental Radiation Laboratory (ERL), a low-level laboratory located on the campus of the Georgia Institute of Technology (Georgia Tech), and operated as a joint venture between DNR and Georgia Tech. The Mobile Radiation Laboratory (MRL), a 40-foot motor trailer pulled by a "dually" pick-up truck, is used for emergency response activities and on-site inspections. Major equipment items in these laboratories are listed below. Items marked with an asterisk (*) are aboard the Mobile Radiation Laboratory.

- I. Alpha/Beta Counters:
 - A) Tennelec LB5100 Low-Level Automatic Alpha/Beta Counter
 - B) Beckman Wide-Beta Low-Level Automatic Alpha/Beta Counter
 - C) Gamma Products Automatic Alpha/Beta Counter*

- II. Liquid Scintillation Counters:
 - A) Beckman LS-233 Automatic Liquid Scintillation Counter
 - B) Packard Tri-Carb 2250 Low-Level Automatic Liquid Scintillation Counter
 - C) Packard Tri-Carb 2500TR Low-Level Automatic Liquid Scintillation Counter
 - D) Packard Tri-Carb 2500TR/AB Liquid Scintillation Counter*

- III. High-Resolution Gamma Spectrometer Systems:
 - A) Gamma Detectors
 - 1) Canberra 12% GeLi with Low-Background Shield
 - 2) Canberra 25% GeLi with Low-Background Shield
 - 3) Tennelec 40% Extended-Range HpGe with Low-Background Shield
 - 4) Canberra 20% MAC HpGe with Low-Background Shield

- 5) Canberra 20% MAC HpGe (for in-situ Studies)
- 6) Canberra 15% MAC HpGe in Low-Background Shield*
- B) Gamma Multi-Channel Analyzers:
 - 1) Canberra S-85 MCA with 4 ADVs to service 4 detectors above at 4096 channels and 0.5 keV/ch
 - 2) Canberra S-10 MCA to service in-situ detector above (4096 ch)
 - 3) Nucleus PCA 4096 channel MCA card as a backup system to maintain at least 1 operable detector, in the event of an outage in item III.B.1 above
 - 4) Canberra GENIE AXP Gamma Spectral Analysis System*
- C) Gamma Analysis Processor Hardware and Software:
 - 1) DEC PDP-11/RSX-11M Computer System utilizing Canberra RSX-Spectran Gamma Spectrometry Analysis Software
 - 2) IBM PC/AT Computer System utilizing Quantum GDR 4.2 Gamma Spectrometry Analysis Software
- IV. Thermoluminescent Dosimetry:
 - A) Harshaw 2000 A/B TLD Reader
 - C) Panasonic TLD Reader
- V. Low-Level I-131 (Beta-Gamma Coincidence Counter):
 - A) Canberra/User Customized System with MDL down to 0.1 Pci/L
- VI. Alpha Scintillation Counters (For Radon Gas Counting of Water Supplies):
 - A) Randa SC-5 System (Quantity = 6 units)
- VII. Alpha Spectrometry:
 - A) Tennelec TC-257 System with 2000 mm² detector used with Nucleus PCA MCA card in PC and Quantum GDR 4.5 analysis software
 - B) Ortec 130 System with 2 Ortec 400 mm² detectors used with above referenced PC/MCA analysis system
- VIII. Computer Resources & Data Management:
 - A) Data computational and data entry workstation facilities include 5 networked PCs (1 per user area) tied to shared database and word processing resources. This system is also linked to the G.T. Network campus resources and to the DNR/EPD Prime Computer System. Our database currently utilizes dBase III+ software.
 - B) The Mobile Lab computational and data entry workstation is a single stand-alone version of the network used in (A) above. However, this unit also functions as a remote link to the network described to facilitate exchanges as needed.
- IX. General Radiochemistry Lab Facilities:
 - A) Mettler Analytical Balances (3 at ERL, 1 at MRL)
 - B) Fisher Scientific Ph Meter
 - C) Fisher Scientific Specific Ion Meter
 - D) Yellow Springs Instruments Conductivity Meter
 - E) Drying Ovens (3)
 - F) Fisher Infrared Heat Lamps (3 at ERL, 1 at MRL)
 - G) Hot Plates (10 at ERL, 1 at MRL)
 - H) Muffle Furnace (1)
 - I) Centrifuges (3)
 - J) Exhaust Hoods with Work Area (3)

- X. Primary Radiological Emergency Response Vehicles
 - A) 1 - 1994 Chevrolet Suburban 4WD (radio equipped)
 - B) 1 - 1993 Ford F-250 Extended Cab 4WD Pickup (radio equipped)
 - C) 1 - 1993 Ford F-350 Extended Cab Dual Rear Wheel Pickup Truck (used to pull Mobile Radiation Laboratory) (radio equipped)
 - D) 1 - 1996 Ford Bronco 4WD (radio equipped)
 - E) 1 - 1998 Ford F250 Extended Cab Pickup (radio equipped)
 - F) Backup Emergency Response Vehicles
 - 1) 1 - 1991 Ford F-150 4WD Pickup (radio equipped)
 - 2) 1 - 1991 Ford Aerostar Minivan
 - 3) 2 - 1991 Ford Taurus Station Wagons
 - 4) 3 - 1991 Chevrolet Cavalier Station Wagons
 - G) 1993 Sea-Ray Laguna Center Console Boat with 175 hp Outboard Motor (for aquatic sampling purposes) (radio equipped)
 - H) 1994 Roughneck 18' aluminum boat with 70hp outboard motor
- Note: *Each of these vehicles (except the F) is equipped with two-way radio equipment necessary for communication with state and local emergency management and law enforcement agencies. Air and water transportation are available through the Law Enforcement section of the DNR-Game and Fish Division.*

- XI. Portable Equipment
 - A) Air Sampling Equipment (battery, AC and gasoline operated)
 - B) Survey Meters (ion chamber, GM, alpha, beta, micro-R and neutron)
 - C) Dosimetry (direct reading pocket, digital alarming)
 - D) Protective Clothing (coveralls, boots, gloves, etc.)
 - E) 2 Portable Generators (gasoline)
 - F) Tritium "Sniffer"
 - G) 3 Lap Top Computers
 - H) 4 Southern Link Portable 800MHz Radios, 1 Southern Link Base Radio with access to 8 additional units within the division. GEMA, the Georgia Public Service Commission, and the Georgia State Patrol also use this radio system.8
 - I) Rados continuous radiation monitoring stations which may be deployed at any location with AC power and telephone.

Kentucky

Governor

The Honorable Paul E. Patton (Term ends December 2003)
State Capitol
Frankfort, Kentucky 40601
(502) 564-2611

Emergency Management

The Division of Disaster and Emergency Management, in the Department of Military Affairs, is headed by the Adjutant General of the Commonwealth of Kentucky. The division is the lead state agency for response planning and coordination. The division's responsibilities include activation of the Emergency Operations Center and Emergency Communications Center, coordination of planning and response with adjacent states, public information dissemination and radiological protection coordination.

Ronn Padgett, Director
Division of Disaster and Emergency Management
Boone National Guard Center
Frankfort, Kentucky 40601
(502) 6071682

Health Services

The Cabinet for Health Services administers the agreement state program and monitors sites where radioactive materials exist. Within the cabinet, the Radiation Control Branch has primary responsibility for response to peacetime radiological incidents.

Jimmy D. Helton
Cabinet for Health Services
275 East Main Street
Frankfort, Kentucky 40621
(502) 564-7130

Designee for Advance Notification of Shipments (10 CFR Parts 71 and 73)

John Volpe, Ph.D.
Division of Public Health Protection and Safety
Department for Public Health
Cabinet for Health Services
275 East Main Street
Frankfort, Kentucky 40621-0001
(502) 564-7818 extension 3692

Radiological Emergency Assistance Contacts

State Police (502) 695-6300 or
1-800-222-5555

Division of Disaster and Emergency Management (502) 564-7815
Radiation Health and Toxic Agents Branch (502) 564-3700 (8a.m.-4:30p.m)
Department of Public Health Nights & Weekends
Cabinet for Health Services (502) 564-7815 (Pager Service)
275 East Main Street (800) 255-2587
Mail Stop HS2E-D
Frankfort, Kentucky 40621

Emergency Team Members

| Name | Title | Off-Duty Phone | Email Address |
|--------------------|------------------------------------|----------------|--------------------------------|
| Volpe, John, Ph.D. | Manager, Radiation Control | (502) 875-4610 | john.volpe@mail.state.ky.us |
| Jeffer, Vicki D. | Supervisor, Radioactive Materials | (502) 633-5064 | vicki.jeffer@mail.state.ky.us |
| Lohr, Ed | Radioactive Material Specialist IV | | edward.lohr@mail.state.ky.us |
| Jasper, Jan | Radioactive Material Specialist IV | | jan.jasper@mail.state.ky.us |
| Mills, Phillip | Chemist III | | phillip.mills@mail.state.ky.us |
| Scott, Eric | Chemist IV | | eric.scott@mail.state.ky.us |

Laboratory and Analytical Programs

| Type of Sample | Type of Analysis | Major Equipment |
|----------------|---|---|
| Air | Gross Alpha, beta or gamma analysis/soil, water, air, biota, milk, etc., and specific analysis for strontium, radium, tritium, gamma emitters, technetium, carbon-14, uranium and plutonium | Three 100 Sample capacity, automated low background alpha and beta counting instruments |
| Biota | | Chemistry laboratory (wet chemistry ion exchange system, muffle furnaces, drying ovens, radiochemistry hoods, etc.) |
| Milk or Water | | Three 200 Sample capacity, automated liquid scintillation counting systems. |
| Soil | | |
| Water | | |

| Type of Sample | Type of Analysis | Major Equipment |
|-----------------------|--|--|
| Water (Continued) | technetium, carbon-14, uranium and plutonium | <p>Genie Canberra multichannel analyzer for gamma and alpha spectroscopy (three terminals). Two (2) germanium and one extended range germanium detectors calibrated for the following geometrics:</p> <p>Dry soil/silt sample; Water samples from 20 ml to 3.0 liters capacity; 1.0 liter milk sample; 20 milliliter glass liquid scintillation vial, etc.</p> <p>Canberra portable multichannel analyzer with a portable germanium detector with ISOCS software.</p> <p>Eight passivated implanted planar silicon alpha detectors.</p> <p>Portable survey instruments</p> |

Survey Meter Inventory

| Quantity | Manufacturer | Model | Probe |
|-----------------|---------------------|-----------------------|---------------------------------------|
| 1 | Bicron | Analyst | Pipe Monitor |
| 1 | Bicron | Analyst | Assorted |
| 7 | Eberline | E-120 | Thin End Window (1 with HP-260) |
| 3 | Eberline | ESP-1 | LEG-1, HP-210 |
| 3 | Ludlum | 3 | 44-38 |
| 1 | Ludlum | 4 | 43-90 |
| 1 | Ludlum | 9 | |
| 5 | Ludlum | 14-C | 44-9(1) 44-7(4) |
| 5 | Ludlum | 19 (micro-R) | *2cal. To Ra-226; 3 cal. To Cs-137 |
| 1 | Ludlum | 77-3 | |
| 1 | Ludlum | 2350 (Data Logger) | LM144-10; LM144-2 |
| 1 | Victoreen | 400 | |
| 1 | Victoreen | 410 | |
| 2 | Victoreen | 1490 | |
| 1 | Victoreen | 450-P | |
| 1 | Exploranium | GR-130 MiniSPEC | |

Louisiana

Governor

The Honorable Mike Foster (Term ends January 2004)
State Capitol
Baton Rouge, Louisiana 70804
(225) 342-7015

Emergency Services

The Military Department, Office of Civil Defense and Emergency Preparedness, coordinates and controls emergency operations, as directed by the governor. If warranted by the emergency, the office activates the state's emergency operations and communications centers. The office coordinates the non-technical response to a radiological incident and assists parish governments with their protective measures, planning, and implementation.

Col. Mike Brown
Assistant Director, Office of Emergency Preparedness
P.O. Box 44217
Baton Rouge, Louisiana 70804
(225) 342-5470

Radiation Health and Safety Services

The Louisiana Department of Environmental Quality (LDEQ) administers the state's radiation control law and the Nuclear Regulatory Commission (NRC) Agreement State Program. The Department is headed by the secretary, who is appointed by the governor.

The Louisiana Department of Environmental Quality provides technical guidance and assistance to state and parish governments in the areas of licensing, inspections, accident assessment, protective action recommendations, monitoring, sampling and decontamination. The Radiological Emergency Planning and Response Unit within the Surveillance Division of LDEQ also conducts training programs for state and local emergency response personnel and informs the media and the general public about radiation from fixed nuclear power plants, and other sources

J. Dale Givens
Secretary
Louisiana Department of Environmental Quality
Box 82263
Baton Rouge, Louisiana 70884-2263
(225) 765-0741

Designee for Advance Notification of Shipments

Major Joseph T. Booth
Louisiana State Police
7091 Independence Boulevard
P.O. Box 66614 (#21)
Baton Rouge, Louisiana 70896-6614
(225) 925-6113

Radiological Emergency Assistance Contacts

| | |
|---|--|
| State Police | (225) 925-6595 (24 Hours) |
| Louisiana Department of Environmental Quality Surveillance Division Radiological Emergency Planning & Response Box 82215 Baton Rouge, Louisiana 70884-2215 | (225) 765-0160 (24 Hours) Duty Officer may be paged through (225) 765-0160 or directly at (225) 297-1681, if necessary (mention "This is a radiological emergency"). |
| Military Department Office of Civil Defense & Emergency Preparedness P.O. Box 44217 Baton Rouge, Louisiana 70804 | (225) 342-5470 (24 Hours) |

Emergency Team Members

(If unsuccessful in contacting the Staff Duty Officer, contact those below in the order listed.)

| Name | Title | Off-Duty Phone |
|------------------------|---|---|
| Chowdhury, Prosanta | Program Manager, Radiological Emergency Planning & Response | (225) 767-4809 (225) 297-1683 Pager prosantac@deq.state.la.us |
| Henry, Michael E. | Assistant Administrator, Surveillance Division | (225) 293-3598 (225) 352-8178 Pager mhenry@deq.state.la.us |
| Penrod, Richard | Regional Manager, Northwest Regional Office, Surveillance Division | (318) 472-8510 (318) 352-8000 Pager richard_p@deq.state.la.us |
| Roberie, Chris N. | Administrator, Surveillance Division | (225) 753-5512 (225) 932-1963 Pager c_roberie@deq.state.la.us |
| Wascom, Ronald L. | Administrator, Environmental Assistance | (225) 293-7683 (225) 297-1707 Pager ronw@deq.state.la.us |

Laboratory and Analytical Programs

| Type of Sample | Type of Analysis | Major Equipment |
|--|-------------------------------|---|
| Water, Milk, Sediment, Vegetation, Air Filters, Fish, Swipes | Gamma Spectroscopy | Canberra Genie 2000 with four (4) solid state detectors |
| Water, Air Filters, Swipes | Gross Beta | Canberra Tennelec Series 5 |
| Water | Liquid Scintillation | Packard TRI-Carb 2900-TR Model Liquid Scintillation System |
| Air Sampling | Beta/Gamma | Ludlum Model 2000 Scaler, Charcoal & Silver Zeolite Filters |
| Industrial Radiography | Gamma density and soil gauges | Pic-6 A's and Ludlum Model 5's |
| Contamination Incidents | All | Scintillation Detectors, G-M Survey Ratemeters |
| Medical X-ray | X- and Gamma | MDH Model 1015 |
| Nuclear Medicine Radioisotopes | Gamma | Ludlum Model 3, Ludlum Model 14c |
| Lost Sources | All | Ludlum Model 14c or 3 with Scintillation Probe, GM, or Ionization Chamber to establish exposure rates |
| NORM | Ambient Gamma | Ludlum Model 19 Micro-R meters |

Mississippi

Governor

The Honorable Ronnie Musgrove (Term ends January 2004)
State Capitol
Jackson, Mississippi 39205
(601) 359-3150

Emergency Services

The Emergency Management Agency prepares and coordinates a state program for emergency management. The agency also issues permits for radioactive waste transportation. The state's "Guidance for Radiological Transportation Emergencies" gives the agency a support role, unless the emergency warrants the use of additional personnel, evacuations or activation of the Mississippi Emergency Management Plan.

Robert Latham, Director
Emergency Management Agency
P.O. Box 4501, Fondren Station
Jackson, Mississippi 39296-4501
(601) 352-9100

Health Services

The State Department of Health is the administrative agency for the Board of Health, which implements the state's agreement state program. The Mississippi Radioactive Waste Transportation Act of 1982 requires the Board of Health to develop regulations for transportation permits, fees, pre-notification and emergency response. Emergency response involves technical supervision, site isolation, monitoring and records management.

F. E. Thompson, Jr., M.D.
State Health Officer
State Department of Health
P.O. Box 1700
Jackson, Mississippi 39215-1700
(601) 576-7634

Designee for Advance Notification of Shipments

Robert Latham, Director
Emergency Management Agency
P.O. Box 4501, Fondren Station
Jackson, Mississippi 39296-4501
(601) 352-9100

Radiological Emergency Assistance Contacts

| | |
|---|--|
| Highway Patrol | (601) 987-1530 (24 Hours) |
| Emergency Management Agency | (601) 352-9100 (24 Hours) (800) 222-6362 (in Mississippi) |
| Division of Radiological Health State Department of Health 3150 Lawson Street P.O. Box 1700 Jackson, Mississippi 39215-1700 | (601) 987-6893 (8am - 5pm) (601) 987-6887 (Fax) |

Emergency Team Members

| Name | Title | Off-Duty Phone | Pager and Email Address |
|-----------------|---|----------------|--|
| Goff, Robert W. | Director, Division of Radiological Health | (601) 856-2127 | (601) 471-7951 rgoff@msdh.state.ms.us |
| Anderson, Silas | Health Physicist, Administrative Environmental Monitoring and Emergency Response Branch | (601) 982-8115 | (601) 471-7950 sanderson@msdh.state.ms.us |
| Gaines, Herman | Health Physicist, Administrative X-Ray Registration and Compliance Branch | (601) 924-3635 | (601) 471-7952 hegaines@msdh.state.ms.us |
| Smith, B. J. | Health Physicist, Administrative Radioactive Materials Branch | (601) 849-3486 | (601) 471-7953 bjsmith@msdh.state.ms.us |

Laboratory and Analytical Programs

| Type of Sample | Type of Analysis | Major Equipment |
|--|-----------------------------------|--|
| Air | Gross Alpha, Beta | Gamma Products Automatic Alpha/Beta Gas Flow Proportional Count |
| Direct Radiation Ambient | Beta, Gamma | Environmental Dosimeter Harshaw 6600 (TLD) |
| Direct Radiation Milk, Water, Soil, Vegetation | Gross Gamma | EG&G, Ortec PC-Based MCA, Gamma Vision Data Reduction Spectroscopy System Ortec HPGe Detector (2) PGT GeLi Detector (1) Ortec Low Energy Detector (1) |
| Meat/Fish | Specific Gamma, Gross Alpha, Beta | Ortec Low Energy Detector (1) |
| 4Milk | Strontium-89, -90 Specific Gamma | Canberra 2404 Automatic Alpha/Beta Gas Flow Proportional Counter |
| Soil | Specific Gamma Gross Alpha, Beta | Gamma Products G5000 Automatic Alpha/Beta Gas Flow Proportional Counter |

| Type of Sample | Type of Analysis | Major Equipment |
|----------------|---|---|
| Soil | Tritium | Packard 2200CA Liquid Scintillation System ORTEC Alpha Spectrometer Beckman LS1800 - Liquid Scintillation Counter |
| Vegetation | Specific Gamma, Gross Alpha, Beta | EG&G/ORTEC Nomad (MCA) Gamma Vision Data Reduction with one Intrinsic Germanium Detector |
| Water | Specific Gamma, Gross Alpha, Beta, Strontium-89, -90, Uranium | EG&G/ORTEC Nomad (MCA) Gamma Vision Data Reduction with one Intrinsic Germanium Detector |

Emergency Vehicles:

1. 1991 Chevrolet Suburban 4-Wheel Drive with Satellite Radio and Trailering Capability.
2. 1989 Chevrolet Suburban 3/4 Ton with Satellite Radio and Trailering Capability.
3. 1989 Chevrolet Suburban 1/2 Ton with Satellite Radio and Trailering Capability.
4. Mobile Laboratory (trailer) equipped with the following:
 - a. Intrinsic Germanium Detector with EG&G/ORTEC Nomad (MCA) and modem
 - b. Liquid Scintillation System (Nuclear Enterprises)
 - c. Alpha/Beta Counting System (Canberra)
 - d. Air Samplers (external battery)
 - e. Survey Meters (ion, alpha, beta, gamma & scintillometer)
 - f. Dosimetry Equipment (pocket with readers)
 - g. Protective Equipment (Anti-Cs, gloves, etc.)
 - h. Field Chemistry Supplies
 - i. Sampling Supplies
 - j. Reuter-Stokes RSS-111 and RSS-112 PIC
5. Various state-owned vehicles that can be equipped with plug-in satellite radios.

Missouri

Acting Governor

The Honorable Roger Wilson (Term ends January 2001)
State Capitol
Jefferson City, Missouri 65101
(573) 751-3222

Emergency Services

The State Emergency Management Agency, in the Office of the Adjutant General, is the initial contact point for emergency organizations throughout the state. The agency coordinates both the Missouri Nuclear Emergency Assistance Plan and the Missouri Nuclear Emergency Team. The team comprises members from the agency; the Bureau of Radiological Health; the University of Missouri; and local organizations, academic institutions and private industry.

Jerry Uhlmann, Director
State Emergency Management Agency
P.O. Box 116
Jefferson City, Missouri 65102
(573) 526-9101 or (573) 751-2748 (24 hour)

Health Services

The Department of Health is the lead agency for radiation control. A 1985 law directed the department to develop a radiation data management program and radiological laboratory capabilities. In addition, the law directed the department, in coordination with other agencies, to respond to radiological emergencies.

Dr. Maureen Dempsey, M.D.
Director, Department of Health
P.O. Box 570
Jefferson City, Missouri 65102
(573) 751-6001

Designee for Advance Notification of Shipments

Jerry Uhlmann
Director, State Emergency Management Agency
2302 Militia Drive
P.O. Box 116
Jefferson City, Missouri 65102
(573) 751-9109

Radiological Emergency Assistance Contacts

Missouri Department of Health
Division of Environmental Health
and Epidemiology
Section for Environmental Public Health (SEPH)
P.O. Box 570
Jefferson City, Missouri 65102

(573) 751-6102

Emergency Team Members

| Name | Title | Off-Duty Phone |
|----------------|-----------------------------|-----------------------|
| McNutt, Gary | Deputy Director, SEPH | (573) 635-9769 |
| Roberts, Daryl | Director, SEPH | (573) 635-4965 |
| Carson, Gale | Environmental Section Chief | (573) 392-5710 |

Laboratory and Analytical Programs

| Type of Sample | Type of Analysis | Major Equipment |
|--|---------------------------|------------------------|
| Environmental Media (air, water, soil, etc.) | Gamma (MCA) | Canberra Series 90 |
| | Alpha, Beta | Tennelec Model 5100 |
| | Beta liquid scintillation | Packard Model 2250 CA |
| | Alpha spectrometer | Canberra Model 7404 |

North Carolina

Governor

The Honorable James B. Hunt, Jr. (Term ends January 2001)
Office of the Governor
116 W. Jones Street
Raleigh, North Carolina 27603-8001
(919) 733-4240

Emergency Services

The Department of Crime Control and Public Safety has primary responsibility for emergency operations preparation and conduct. When an event involves the participation of more than one state agency, the secretary of the department can designate a lead agency and allocate the necessary state resources.

The Division of Emergency Management activates the Emergency Operations Center and the State Emergency Response Team, as directed by the department. Its area emergency management coordinators provide liaison with federal, state and local officials regarding communication, damage assessment and response coordination.

Eric L. Tolbert, Director
Division of Emergency Management
Department of Crime Control and Public Safety
116 West Jones Street
Raleigh, North Carolina 27603-1335
(919) 733-3825

Health Services

The Department of Environment and Natural Resources administers the agreement state program under the rules and regulations of a governor-appointed Radiation Protection Commission. The department is designated as the lead agency for radiological materials emergency response and radiation protection. Technical response is provided through the department's Division of Radiation Protection.

Richard M. Fry, Director
Division of Radiation Protection
3825 Barrett Drive
Raleigh, North Carolina 27609-7221
(919) 571-4141

Designee for Advance Notification of Shipments

Sergeant Mark Dalton
North Carolina State Highway Patrol
4701 Mail Service Center
Raleigh, North Carolina 27699-4702
(919) 733-5282

Radiological Emergency Assistance Contacts

| | |
|--|--|
| Highway Patrol | (919) 733-3861 800) 662-7956 (only in NC) |
| Division of Emergency Management | (800) 858-0368 |
| Emergency Medical Services | (919) 733-2285 |
| Division of Radiation Protection Department of Environment and Natural Resources 3825 Barrett Drive Raleigh, North Carolina 27609-7221 | (919) 571-4141 (919) 571-4148 (DRP Fax) |

Emergency Team Members

| Name | Title | Off-Duty Phone |
|--------------------|---|-----------------------|
| Fry, Richard M. | Director | (919) 779-7756 |
| Haden, J. Robin | Radioactive Materials Section, Chief | |
| Fong, S.W. (Felix) | Nuclear Facilities and Environment Surveillance Section, Chief | (919) 870-6868 |
| James, Johnny | Radiation Emergency Coordinator | (919) 481-1334 |

In addition to the above-named individuals, there are approximately 30 professional staff positions available as emergency team members.

NCDRP Sample Analytical Program

| Type of Sample | Type of Analysis | Major Equipment |
|---------------------------|---|-----------------|
| Air Filter | -Gross Alpha and Gross Beta -Gamma -Alpha Spectroscopy for GE* filters | See List Below |
| Air Cartridge | -I-131 | See List Below |
| Finished or Groundwater | -Gross Alpha and Gross Beta -Gamma -Ra-226 and Ra-228 -Total U -Alpha Spectroscopy for GE samples -Sr-89 and Sr-90 -H-3 | See List Below |
| Raw Surface Water | -Gross Alpha and Gross Beta -Gamma -Alpha Spectroscopy for GE samples -H-3 | See List Below |
| Sewage Treatment Effluent | -Gross Alpha and Gross Beta -I-131 -Gamma | See List Below |
| Precipitation | -Gross Beta | See List Below |
| Milk | -Gamma -Sr-89, Sr-90 and I-131 | See List Below |
| Bottom Sediment | -Gross Alpha and Gross Beta -Gamma | See List Below |
| Fish | -Gross Alpha and Gross Beta -Gamma | See List Below |
| Soil | -Gross Alpha and Gross Beta -Gamma -Uranium (GE) -H-3; C-14 (burial sites) | See List Below |
| Vegetation | -Gross Alpha and Gross Beta -Gamma -Uranium (GE) -H-3; C-14 (burial sites) | See List Below |
| TLD | -Ambient Gamma | See List Below |

* GE - General Electric Fuel Fabrication Plant

NCDRP Laboratory and Analytical Equipment

- A. Alpha/Beta Counters
 1. One (1) Tennelec LB-5100 Series Automatic Low Background Alpha/Beta Counting Systems. Each has an automatic sample changer for 50 samples. (State Lab).
 2. One (1) Tennelec LB-4100 Alpha/Beta Counting System with 4 sampler drawer. (State Lab)
 3. One (1) Protean Low Background Alpha/Beta Counting System. (Mobile Lab)
 4. One (1) Protean WPC-9550 Low Background Alpha/Beta Counting System.

- B. Alpha Spectroscopy
 1. One (1) Oxford Electronics (IPC 450-100-19EM) Silicon Surface Barrier Detector with electronics and Vacuum Chamber and Vacuum Pump for Alpha Spectroscopy. (Office Lab)
 2. Canberra 7401 Alpha Spectroscopy module for environmental samples. (State Lab)

- C. Gamma Detectors
 1. One (1) EG&G Ortec Liquid Nitrogen Free Intrinsic Germanium Detector (P-type; 21% efficiency, 2.0 KeV Resolution at 1.33 MeV). (Mobile Lab)
 2. One (1) Intrinsic Germanium Detector (N-type; 35% efficiency, 2.0 KeV resolution at 1.33 MeV). (State Lab)
 3. One (1) PGT Portable Intrinsic Germanium Detector with a Liquid Nitrogen Autofill System for air filter measurement (13% efficiency, 1.85 KeV resolution at 1.33 MeV). (State Lab)
 4. One (1) Quantum Technology 3" x 3" NaI (T1) crystal with PCA Nucleus Card for gamma spectroscopy and radon canister counting. (Office Lab)
 5. One (1) Eurisys Mesures Intrinsic Germanium P-Type Detector. (State Lab)
 6. One (1) PGI 27% Intrinsic Germanium N-Type Detector. (State Lab)
 7. One (1) Canberra Intrinsic Germanium P-Type Detector, Portable. (State Lab)

- D. Gamma Analysis MCA and Software
 1. One (1) computer based MCA system (ND-9900) for data analysis, data management and file storage (including Micro VAX II CPU with 5MB memory; 660 MB hard disk; dual floppy drives; TK50 streaming tape; 8 user capacity). (State Lab).
 2. Video terminal is connected through modem to the ND-9900 in the State Lab, 5 miles away. (Office Lab)
 3. One (1) Quantum Technology MCA software card and nuclear identification software used in an IBM PC XT for gamma spectroscopy used with radon detection system. (Office Lab)
 4. One (1) Aptec Engineering MCARD multi-channel analyzer board with Aptec OSQ, OSQ Plus and SUPERVISOR software for sample counting. (Mobile Lab)
 5. One (1) PC Computer Base MCA System (EG&G) - Dell Computer, 4GB Hard Drive, 64 MB RAM Memory

- E. Liquid Scintillation Counters
 1. One (1) Packard Model 2250CA, Liquid Scintillation System with automatic sample changer for 200 samples. (State Lab)

- F. Ambient Air Monitoring (TLD and Gross Gamma)
 1. One (1) Panasonic UD-702E Manual TLD Reader with 200 environmental dosimeters and 75 personal dosimeters. (Office Lab) (Backup System)

2. One (1) Panasonic UD-706-A Semi-automatic TLD Reader with 500 environmental dosimeters. (Office Lab)
 3. One (1) Reuter-Stokes RSS-111 High Pressure Ionization Chamber for gross gamma measurement. (Mobile Lab)
- G. H-3 and C-14 in Soil and Vegetation Analysis
1. One (1) Harvey OX-500 Sample Oxidizer for soil and vegetation samples for tritium and C-14. (State Lab)
- H. One (1) Baker GeoResearch GPS with 8 Channel Motorola Oncore Receiver for Mapping Emergency Sample Location and Navigation

Communication Equipment:

1. Four (4) Motorola 32 Channel Radios (Syntor X-9000).
2. Four (4) Satellite Radio/Telephone Systems (installed in Mobile Laboratory and three vehicles).
3. Eight (8) Hand-held Portable High Band (VHF) Transceivers (Radios).
4. Six (6) Portable Cellular Telephones.
5. One (1) Portable Cellular Facsimile Machine (DC, AC, Battery).
6. One (1) Portable Facsimile Machines (AC Power).

Air Samplers and Accessories:

1. Three (3) Battery Powered Portable Air Samplers.
2. One (1) Sierra-Misco Weather Station (Model 1045).

Field Counting Instruments:

1. Eleven (11) Ludlum Model 19 Micro R Meters for gross gamma radiation measurement.
2. Three (3) Eberline Model ESP-2 Emergency Kits.

Survey Instruments:

1. Eleven (11) Ludlum Survey Meters (Model 14C).
2. Two (2) Ludlum Survey Meters (Model 2).
3. Eleven (11) Ludlum Survey Meters (Model 6).
4. Four (4) CDV-718 Survey Meters

Vehicles:

1. One (1) Mobile Laboratory (32 foot custom built bus equipped with satellite radio communications and analysis equipment).
2. One (1) Satellite Radio Equipped 4-Wheel Drive Tahoe.
3. Two (2) Satellite Radios Equipped Vans.

Oklahoma

Governor

The Honorable Frank Keating (Term ends January 2003)
State Capitol
Oklahoma City, Oklahoma 73105
(405) 521-2342

Health Services

The Department of Environmental Quality implements policies developed by the State Environmental Quality Board. The Board receives guidance from the Radiation Management Advisory Council in matters concerning radiation protection. Radiological emergency response is under the control of the Radiation Management Section, Department of Environmental Quality.

Mark S. Coleman
Executive Director
Department of Environmental Quality
707 N. Robinson, P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677
(405) 702-7156

Designee for Advance Notification of Shipments

Kenneth Vanhoy
Commissioner of Public Safety
3600 N. Martin Luther King Avenue
P.O. Box 11415
Oklahoma City, Oklahoma 73136
(405) 425-2424

Radiological Emergency Assistance Contacts

Radiation Management Section (405) 702-5157 (during business hours)
Department of Environmental Quality (800) 522-0206 (after business hours)
707 N. Robinson, P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Emergency Team Members

| Name | Title | Off-Duty Phone |
|--------------------|-------------------------------------|---|
| Broderick, Michael | Environmental Program Administrator | Ph: (405) 702-5155 Pgr: (405) 961-8443 |
| Smith, L.E. (Gene) | Senior Environmental Specialist | Ph: (405) 741-7135 |
| DeWoody, Pam | Senior Environmental Specialist | (405) 720-3162 |

Laboratory and Analytical Programs

| Type of Sample | Type of Analysis | Major Equipment |
|---------------------------|--|---|
| Air | Gross Beta | One 3x3 NAI crystal with 8196 channel analyzer and low background steel shield. |
| Ambient Gamma Water | TLO Gamma Spectrum Gross Beta Gross Alpha Uranium | One GM counter for Hi-Vol filters One GeLi detector with 8196 channel analyzer with low background steel shield and computerized analysis capability. Two thin window proportional counters with 100 sample capacity sample charger. One Victoreen 2800 TLD reader using LIF chips. Six (6) Hi-Vol air samplers |

South Carolina

Governor

The Honorable Jim Hovis Hodges (Term ends January 2003)
State House
P.O. Box 11369
Columbia, South Carolina 29211
(803) 734-9400
governor@govoepp.state.sc.us

Radiological Emergency Response / Health Services

The Department of Health and Environmental Control administers the agreement state program. The Department is advised on radiation control issues by a governor-appointed Technical Advisory Radiation Control Council.

For response to radiological incidents, the Department trains and maintains an Emergency Radiological Assistance Team. The Bureau of Land and Waste Management, with personnel from the Division of Waste Assessment and Emergency Response and the Division of Radiological Waste Management, responds to technical issues, environmental monitoring, exposure control, and protective action guidance, and advice on decontamination and disposal of radiological materials involved in fixed nuclear facilities, transportation accidents, and other non-licensed sources and provides state and local response training. The Department's Radiological Health Branch responds to technical issues, monitoring needs, exposure control, and protective action guidance for radiological sources licensed by their office.

Doug Bryant, Commissioner
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201
(803) 734-4880
bryantde@columb20.dhec.state.sc.us

Emergency Support/Coordination Services

The Emergency Preparedness Division, Office of the Adjutant General, coordinates the disaster training and response activities of the state and local governments. In the event of a Fixed Nuclear Facility emergency, the division may establish a state emergency operations center and/or a forward emergency operations center in the threatened area.

Stan M. McKinney, Director
Emergency Preparedness Division
Office of the Adjutant General
1100 Fish Hatchery Road
West Columbia, South Carolina 29172-2024
(803) 737-8500
simmckinn@strider.epd.state.sc.us

Designee for Advance Notification of Shipments

Henry Porter, Assitant Director
South Carolina Division of Waste Management
Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201
(803) 896-4240
porterhj@columb34.dhec.sc.us

Radiological Emergency Assistance Contacts

South Carolina Emergency Preparedness Division (803) 737-8500
(803) 734-8462

Nuclear Emergency Response (803) 896-4096 (8:30am - 5pm)

South Carolina Department of Health and Environmental Control (803) 253-6488
(nights, weekends and holidays)
2600 Bull Street
Columbia, South Carolina 29201

Emergency Team Members

| Name | Title | Off-Duty Phone | Email Address |
|--------------------|--|-----------------------|--|
| Threatt, Sandra J. | Section Manager, Nuclear Emergency Planning | (803) 345-1844 | threatsj@Columb34.dhec. state.sc.us |
| Kinney, Ronald W. | Director, Division of Waste Assessment and Emergency Response | (803) 794-7350 | kinneyrw@Columb34.dhec. state.sc.us |
| Corley, Wayne R. | Nuclear Emergency Planning | (803) 772-3332 | corleywr@Columb34.dhec. state.sc.us |
| Jesse, John W. | Nuclear Emergency Planning | (803) 955-9220 | jessejw@Columb34.dhec. state.sc.us |
| Porter, Henry J. | Assistant Director, Division of Radioactive Waste Management | (803) 254-8881 | porterhj@Columb34.dhec. state.sc.us |
| Wingard, Rodney | Manager, Division of Radioactive Waste Management | (803) 356-4957 | wingarrw@Columb34.dhec. state.sc.us |
| Peterson, Jim K. | Director, Division of Radioactive Materials, Licensing and Compliance | (803) 736-9747 | petersjk@Columb54.dhec.s tate.sc.us |
| O'Kelly, T. Pearce | Chief, Radiological Health Branch | (803) 788-3286 | okelletp@Columb54.dhec. state.sc.us |

Laboratory and Analytical Programs

| Type of Sample | Type of Analysis | Major Equipment |
|---------------------------|--|--|
| Air | Gross Alpha and Beta-particulate Strontium-90 Iiodine-131 Krypton-85 | Canberra Genie 2000 System Canberra VMS Genie System |
| | Xenon-133 other gamma emitters | Panasonic VD -716 TLD Reader |
| Direct Exposure | Gamma (TLD) Gamma (RSS-111) Strontium-89,90 gamma emitters Tritium | Tennelec LB-5100 Beta Analyzer, Automatic System Protean WPC-9350 |
| Silt, Soil and Vegetation | Gross Alpha Gross Beta gamma emitters | Packard 2300 TriCarb Liquid Scintillation Counter with printout. |
| Water | Gross Alpha Gross Beta Trituim Strontium-89, 90 Cobalt-58, 60 Cesium-137 Iodine-129, 131 Other gamma emitters | Downlooker Ge Detector Canberra VMS Genie 2000 System Portable Micro R Meters, Pic 6A, E520 with pancake and HP270s. |

Emergency Vehicles:

- Mobile Radiological Laboratory (Winnebago 28' Motor Home), mobile radio, mobile phone, decontamination capability, air samplers, radiation monitoring, dress out packs and field analysis instrumentation.
- Boat equipped with electro-fish shocking equipment.
- Eleven vehicles equipped with VHF transceivers; six hand-held or portable transceivers; portable base station, 65' portable telescoping antenna AC base station.
- Mobile radiological tracking van, mobile radio, satellite computer tracking display, gamma and tritium detectors.

Tennessee

Governor

The Honorable Don Sundquist (Term ends January 2003)
State Capitol
Nashville, Tennessee 37219
(615) 741-2001

Emergency Services

The Tennessee Emergency Management Agency (TEMA), within the Department of Military, is the responsible agency for the development of state emergency plans and procedures. By executive order, TEMA is the agency responsible for coordinating state response to all emergencies, including peacetime radiological accidents. TEMA also provides an Emergency Operations Center that is operational 24 hours a day. TEMA maintains, calibrates and provides radiological instrumentation to state and local government agencies for use in the detection of radiation. Additionally, TEMA coordinates and conducts radiological training for state and local first responders.

John White, Director
Tennessee Emergency Management Agency
State Emergency Operations Center
3041 Sidco Drive
Nashville, Tennessee 37204-1502
(615) 741-0001

Health Services

The Department of Environment and Conservation administers the state's radiation control program. In support of the Tennessee Emergency Management Agency, the department provides radiological monitoring, training guidance, protective action advice and decontamination assistance. The department's Division of Radiological Health is responsible for training and equipping Radiological Monitoring Teams, which are part of the State Radiological Response Team. It also provides radiological accident assessments.

Milton H. Hamilton, Jr.
Department of Environment and Conservation
21st Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243-0435

Designee for Advance Notification of Shipments

John White, Director
Tennessee Emergency Management Agency
State Emergency Operations Center
3041 Sidco Drive
Nashville, Tennessee 37204
(615) 741-0001

Radiological Emergency Assistance Contacts

Emergency Management Agency (615) 741-0001 (24 Hours)
 (800) 262-3300 (In TN)
 (800) 258-3300 (Out Of TN)

Division of Radiological Health (615) 532-0364
 Department of Environment and Conservation
 3rd Floor, L & C Annex
 401 Church Street
 Nashville, Tennessee 37243-1532

Emergency Team Members

| Name | Title | Off-Duty Phone |
|------------------------|---|----------------|
| Nanney, L. Edward | Director | (615) 362-4166 |
| Arnott, Charles W. | Manager, RM Specific Licensing | (615) 889-3639 |
| Crosslin, Ruben K. | Manager, Personnel & Environmental Monitoring | (615) 849-9298 |
| Flanagan, Elizabeth N. | Supervisor, Emergency Preparedness and Training | (615) 824-5839 |
| Freeman, Billy H. | Manager, Knoxville Area Office | (423) 573-4786 |
| Graves, Johnny C. | Manager, Licensing, Registration and Planning | (615) 359-5032 |
| Grewe, Allen E. | Manager, Memphis Area Office | (901) 365-1950 |
| Politte, John | Manager, Chattanooga Area Office | (423) 332-7186 |
| Shults, Debra G. | Deputy Director | (615) 776-2481 |
| Hogan, Anthony | Manager, Nashville Area Office | (615) 902-9510 |

In addition to the above listed individuals, there are 31 Health Physicists available for emergency response.

Laboratory and Analytical Programs

Type of Sample Type of Analysis Major Equipment

| | | |
|-------------------|--------------------|--|
| Air Filter | Gamma Spectroscopy | Ortec Gamma Vision Gamma Spectroscopy System with two HP Germanium detectors |
| Cartridge (I-131) | Gross Alpha | Packard Tri-Carb 4530 Liquid Scintillation Counter with 300 sample capacity |
| Fish | Gross Beta | Canberra 2404 (manual) |
| Milk | Radium 226-228 | Canberra 2404 (automatic) with computer interface, 100 sample capacity |
| Sludge | Strontium 89-90 | Canberra HT 1000 |
| Soil | Total Uranium | |
| Vegetation | Tritium | |
| Water | | |

Current Inventory of Radiological Equipment for the State of Tennessee

| | |
|----|---|
| 1 | Ludium 12-4 BF3 Rem Ball |
| 8 | Ludium 12-S Internal NaI |
| 6 | Bicron Micro-Rem Organic Scintillators |
| 3 | Aptec Multi-Channel Analyzers |
| 3 | Eberline RO-2 Ion Chamber |
| 5 | Eberline RO-2A Ion Chambers |
| 1 | Technical Associates IBM 3P2, Energy Compensated GM |
| 4 | Ludium 5 Internal GMs |
| 12 | Canary II 4080 Electronic Personnel Dosimeters |
| 9 | Canary III 4083 Electronic Personnel Dosimeters |
| 3 | Keithley 36155 Ion Chambers |
| 9 | Ludium 43-2 ZnS Scintillators |
| 6 | Ludium 43-5 ZnS Scintillators |
| 12 | Ludium 44-2 NaI Scintillators |
| 1 | Ludium 44-3 NaI Scintillator |
| 4 | Ludium 44-38 Energy Compensated, Side Window GMs |
| 10 | Ludium 44-4 End Window GMs |
| 15 | Ludium 44-9 Pancake GMs |
| 4 | HP-270 Energy Compensated, Side Window GMs |
| 8 | Ludium 12 Survey Meters |
| 6 | F & J HV-1BC Air Samplers |
| 5 | Ludlum 3 Survey Meters |
| 2 | Ludlum 14A Survey Meters |

Texas

Governor

The Honorable George W. Bush (Term ends January 2003)
State Capitol
Austin, Texas 78711
(512) 475-4101

Emergency Services

The Division of Emergency Management prepares, maintains and coordinates the state's comprehensive emergency plan. A Disaster Emergency Funding Board maintains a disaster contingency fund. The governor, lieutenant governor and the directors of the State Board of Insurance, the Department of Human Resources and the Division of Emergency Management are members.

The Division provides the emergency response functions that are not available through other state agencies. These include shelter planning and promotion, crisis relocation planning, continuity of government programs, resources management, economic stabilization plans, emergency public information activities, emergency management training, hazard mitigation and recovery and rehabilitation activities.

Tom Millwee, Coordinator
Division of Emergency Management
Department of Public Safety
P.O. Box 4087
Austin, Texas 78733
(512) 424-2000

Health Services

Texas' radiation safety statute designates the Department of Health as the radiation control agency. The Bureau of Radiation Control within the agency administers the agreement state program. In the event of a radiological incident, the bureau is responsible for detection, measurement and supervision of clean-up of materials that are released into the environment. It also provides an assessment of the incident as the basis for the assignment of protective responses.

William R. Archer III, M.D.
Commissioner
Department of Health
1100 West 49th Street
Austin, Texas 78756
(512) 458-7375

Designee(s) for Advance Notification of Shipments*

10 CFR Part 71
Richard Ratliff
Chief, Bureau of
Radiation Control
Department of Health
1100 West 49th Street
Austin, Texas 78756
(512) 834-6688

10 CFR Part 73
Col. Thomas A. Davis
Director
Texas Department of Public Safety
5805 North Lamar Blvd.
Austin, Texas 78752
(512) 424-2000

* Texas has two separate agencies that are designated to receive prenotification for the two types of shipments.

Radiological Emergency Assistance Contacts

(Mailing Address)
Bureau of Radiation Control
Texas Department of Health
1100 W. 49th Street
Austin, Texas 78756-3189

Fax (512) 834-6654 (For routine communications)
Fax (512) 832-9715 (For emergency use only)

(Physical Address)
Bureau of Radiation Control
The Exchange Building
8407 Wall Street
Austin, Texas

(512) 834-6688 (8am - 5pm)
(512) 458-7460 (24 Hours)

Division of Emergency Management
Texas Department of Public Safety
5805 N. Lamar Blvd.
Austin, Texas 78773-0001

(512) 424-2000
Ext. 2138 (8am - 5pm)
Ext. 2277 (24 Hours)

Emergency Team Members

| Name | Title | Off-Duty Phone |
|---------------------|--|--|
| Ratliff, Richard A. | Chief, Bureau of Radiation Control | (512) 346-5130 richard.ratliff@tdh.state.tx.us |
| McBurney, Ruth E. | Director, Division of Licensing, Registration and Standards | (512) 250-9564 ruth.mcburney@tdh.state.tx.us |
| Tate, Arthur C. | Director, Division of Compliance & Inspection | (512) 345-2388 arthur.tate@tdh.state.tx.us |
| Free, Robert E. | Deputy Director, Emergency Response & Investigation, Division of Compliance & Inspection | (512) 759-2292 robert.free@tdh.state.tx.us |
| Rawlston, John E. | Emergency Planner/Project Coordinator | (512) 250-9409 john.rawlston@tdh.state.tx.us |
| Flowerday, Scott | Emergency Planner | (512) 301-9272 scott.flowerday@tdh.state.tx.us |
| Froemsdorf, Gary L. | Emergency Planner | (512) 396-8255 (unlisted) gary.froemsdorf@tdh.state.tx.us |

Emergency Team Composition

The Bureau of Radiation Control's Radiological Emergency Response Team includes, but is not limited to, the following manpower and skills. These are normally divided into two twelve-hour shifts, but can be activated in other combinations if required.]

| | |
|--------------------------------------|--------------------------------------|
| Chief of Field Operations | 4 individuals |
| Accident Assessment | 9 individuals (4 person teams) |
| Licensee Technical Liaison | 4 individuals |
| Field Monitoring Team Leader | 2 individuals |
| Field Monitoring Team Members | 32 individuals (16 two-person teams) |
| Sample Preparation & Coordination | 4 individuals (2 two-person teams) |
| Field Sample Analysis (Mobile Lab) | 6 individuals |
| Contamination Control (Roadblocks) | 12 individuals |
| Decontamination Assistance | 18 individuals |
| Medical Facility Liaison | 8 individuals |
| Staging Area Coordination | 4 individuals |
| Logistics Support | 8 individuals |
| Instrument Maintenance & Calibration | 2 individuals |
| Courier Service | 4 individuals |
| State EOC Liaison | 4 individuals |
| Disaster District EOC Liaison | 4 individuals |
| Local Government EOC Liaison | 4 individuals |
| Public Information Coordination | 8 individuals |
| Administrative/Clerical Support | 12 individuals |

Detection, Measurement and Evaluation Systems

Fixed Laboratory Facility:

The Bureau of Laboratories, Texas Department of Health, has in its headquarters laboratory the following equipment:

- 1 Gamma Spectroscopy System
- 2 Automatic Sample Changers
- 3 High Purity (>30%) Germanium Detectors (2 p-type, 1 n-type)
- 7 Manual Alpha-Beta Proportional Systems
- 5 Ludlum Model 200 Scalers with Scintillation Detectors
- 1 Liquid Scintillation System
- 1 Alpha-Beta Proportional System with Automatic (100 capacity) Sample Changer
- 8 Alpha Spectroscopy Channels

Mobile Laboratory:

The Bureau's mobile analysis laboratory is contained within a 45' electronics van-type semi-trailer.

- 1 Gamma Spectroscopy System
- 2 High Purity (>25%) Germanium Detectors (1 p-type, 1 n-type)
- 1 Alpha-Beta Proportional System with Automatic (25 capacity) Sample Changer

Emergency Response Vehicle:

The Bureau's emergency response vehicle consists of a large modular ambulance-type vehicle equipped for incident response. Power can be supplied by a truck-mounted 6.5 kw

generator or obtained from commercial distribution lines. Analysis is performed using an Ortec Model 7150 multichannel analyzer or by survey meters capable of measuring alpha, beta or gamma radiation.

Miscellaneous Equipment:

In addition to the equipment listed for the laboratory and the mobile units, the Bureau of Radiation Control has the following miscellaneous equipment available for incident response:

- 30 Power Inverters (12vdc to 115vac, 60Hz)
- 28 High Volume Air Samplers
- 12 Portable Multichannel Analyzers
- 128 Ludlum 14-C Survey Meters with:
- 100 Ludlum model 44-6 Thin Wall Gamma Probes
- 70 Ludlum model 44-2 High Energy Gamma Scintillators
- 30 Ludlum model 44-3 Low Energy Gamma Scintillators
- 55 Ludlum model 43-2 Alpha Scintillators
- 4 Ludlum model 44-40 Shielded Pancake Probes
- 65 Ludlum model 44-9 Pancake Probes
- 8 Ludlum model 44-7 End Window Geiger-Muller Probes
- @ 200 0-200mR Self-Reading Pocket Dosimeters
- @ 200 0-20R Self-Reading Pocket Dosimeters
- 250 Emergency Response Team Identification Badges with (2 each) TLD
Permanent Dosimetry Chips Incorporated
- 6 Hand-Held 2-watt Radios
- 2 (25-watt) Base Radios (portable)
- 1 (40-watt) Repeater (installed in mobile laboratory)
- 8 (40-watt) 36 Channel Programmable Mobile Radios
- 24 Eberline Smart Portables (ESP-2)
- 19 Eberline E-660s
- 4 Eberline Smart Radiation Monitors (SRM-200) (bench model of ESP-2)
- 26 Eberline Low Energy Gamma (LEG-1) Probes
- 26 Eberline Gas Proportional Detector (HP-100AGS) Probes
- 26 Eberline Geiger-Mueller (HP-270) Probes
- 4 Eberline Alpha Air Monitors (Alpha-6A) with Air Flow Pumps
- 2 SAC-4 Alpha Scintillation Counters

Virginia

Governor

The Honorable James S. Gilmore, III (Term ends January 2002)
State Capitol
Richmond, Virginia 23219
(804) 786-2211

Emergency Services

The Department of Emergency Services (DES) is responsible for the preparation and implementation of a comprehensive emergency operations plan to cope with emergencies and disasters. Coordination of emergencies are conducted through the State Emergency Operations Center. With respect to radiological emergency response, DES works jointly with the Department of Health (Bureau of Radiological Health) and other agencies if necessary to coordinate federal, state and local response activities and a public information program.

Michael M. Cline, State Coordinator
Department of Emergency Services
10501 Trade Court
Richmond, Virginia 23236
(804) 674-2400

Health Services

In an emergency the Department of Health has primary responsibility for health and medical assistance. The department's Bureau of Radiological Health is responsible for maintaining a state Radiological Emergency Response Team, which has radiological monitoring and dose assessment capabilities. The Radiological Emergency Response Team may be activated upon request by the Department of Emergency Services.

E. Anne Peterson, M.D., M.P.H.
State Health Commissioner
Department of Health
P.O. Box 2448
Richmond, Virginia 23218
(804) 786-3561

Designee for Advance Notification of Shipments

Department of Emergency Services
10501 Trade Court
Richmond, Virginia 23236
(804) 897-6570

Radiological Emergency Assistance Contacts

Department of Emergency Services (804) 674-2400 (24 Hours)

Department of Health (804) 786-5932
Bureau of Radiological Health
1500 East Main Street, Room 240
Richmond, Virginia 23219

Emergency Team Members

| Name | Title | Off-Duty Phone |
|----------------------|--|-----------------------|
| Foldesi, Leslie P. | Director | (804) 285-7931 |
| DeKrafft, James A. | Assistant Director, RAM Licensing and Environmental Surveillance | (804) 674-2400 |
| Orchel, Jr., Stanley | Assistant Director X-Ray Protection | (804) 674-2400 |

Other Bureau staff are available as required.

Laboratory and Analytical Programs

| Type of Sample | Type of Analysis | Major Equipment |
|---|-------------------------|--|
| air (filter), water, wipe test | Gross Alpha | Canberra Model 2401 F Low Background Alpha/Beta |
| | Gross Beta | Gas Proportional gas flow system |
| water, wipe test | tritium | Packard Tri-Carb 2900TR Liquid Scintillation Counter |
| air (charcoal), biota, milk, water, wipe test | gamma analysis | Canberra Genie-PC spectroscopy system with 3X3 sodium iodide detector and high purity germanium detector |
| ambient gamma | Environmental TLD | Harshaw/Bicron 6600 TLD system using Type 8807 environmental dosimeters |

Emergency Vehicles:

- Mobile Radiological Laboratory (van body on truck), Mobile Radios, Portable Monitoring Equipment, Fume Hood.
- Auxiliary Mobile Lab, Portable Monitoring Equipment, Canberra Series 35 Gamma Spectroscopy System, Ludlum Model 2929 Solid State Alpha Beta System.

Federal Agencies

Federal Emergency Management Agency

Region III (District of Columbia, DE, MD, PA, VA, WV)

Regional Director: Rita A. Calvan
FEMA, Region III
Liberty Square Building (Second Floor)
105 South Seventh Street
Philadelphia, Pennsylvania 19106-3316

Commercial: (215) 931-5608
Fax: (215) 931-5621

Region IV (AL, FL, GA, KY, MS, NC, SC, TN)

Regional Director: John B. Copenhaver
FEMA, Region IV
3003 Chamblee Tucker Road
Atlanta, Georgia 30341

Commercial: (770) 220-5200
Fax: (770) 220-5230

Region VI (AR, LA, OK, TX, NM)

Regional Director: R. L. Young
FEMA, Region VI
Federal Regional Center
800 N. Loop 288
Denton, Texas 76209-3698

Commercial: (940) 898-5104
Fax: (940) 898-5325

Region VII (IA, KS, MO, NE)

Regional Director: Beth Freeman
FEMA, Region VII
2323 Grand Boulevard, Suite 900
Kansas City, Missouri 64108-2670

Commercial: (816) 283-7060
Fax: (816) 283-7582

- A. Authorities. FEMA has been assigned, by a Presidential directive dated December 7, 1979, lead responsibilities for all federal offsite radiological emergency preparedness. This directive consolidated, under FEMA, those emergency response activities previously assigned to three agencies: the Defense Civil Preparedness Agency (DCPA), the Emergency Preparedness Agency and the Federal Disaster Assistance Agency (FDAA). FEMA has published rulemaking to fulfill this directive.
1. 44 CFR 350 (48 FR 44335, September 28, 1983 and as amended). This rule describes the criteria for reviewing, evaluating and approving state and local radiological emergency plans and preparedness. It also describes the process FEMA uses to evaluate and determine the state and local governments' capability to effectively implement these plans and preparedness during drills and exercises.

FEMA and the NRC jointly published their guidance document, NUREG 0654/FEMA-REP-1, Revision 1, in November 1980. This document contains the established 16 federal planning standards and related evaluation criteria for evaluating offsite (utility, state and local government) radiological

emergency planning. The 16 planning standards are incorporated into the NRC rule (10 CFR 47 (a) (1-16)) and the FEMA rule (44 CFR 350 (1) (1-16)). Additional guidance documents FEMA-REP-14 and FEMA-REP-15 have been developed to provide consistency and uniformity in evaluating REP program exercises. Additionally, FEMA-REP-10 provides guidance in evaluating state/local alert and notification systems and EPA 400-92-R-001 provides guidance on protective action recommendations.

2. 44 CFR 351 (47 FR 10759, March 11, 1992 and as amended). This regulation assigns federal agency responsibilities for assisting state and local governments in emergency planning and preparedness for fixed nuclear facility accidents and transportation incidents involving radioactive materials. FEMA also has published a Federal Radiological Emergency Response Plan (FRERP) (50 FR 46542, November 8, 1985) which assigns emergency response functions to federal agencies and provides a structure for effectively coordinating federal assistance to state and local governments for accidents at nuclear power plants. This plan has the concurrence of twelve federal agencies. FEMA is now developing a radiological annex to the comprehensive, all-hazards Federal Response Plan (FRP) which was published in April, 1992. The FRERP will remain as the primary federal plan for peacetime radiological emergencies in the absence of a Presidential Declaration of Emergency or disaster.
 2. 44 CFR 352, (FR August 2, 1989). This rule established policies and procedures for a licensee submission of a certification of a "decline or fail" situation should state or local governments choose not to participate in radiological emergency planning. It described FEMA's determination concerning federal assistance to the licensees. It also provided procedures for review and evaluation of the adequacy of the licensee offsite radiological emergency planning and preparedness, which is a precondition to its submission of a "decline or fail" certification.
 3. 44 CFR 353 (FR March 6, 1991). This rule established a structure for assessing user fees to NRC licensees to reimburse the federal government for some costs of the radiological emergency preparedness program. This rule has been superseded by 44 CFR 354.
 4. 44 CFR 354 (FR July 1, 1993). This rule authorized FEMA to assess fees to NRC licensees for commercial power plants for recovery of not less than 100 percent of the amounts anticipated by FEMA to obligated for the radiological emergency preparedness program for fiscal year 1993. This rule has been extended for each of the following fiscal years.
- B. FEMA Regional Offices. (Only those states that are a part of SERC are listed.) FEMA Region II is located in New York City and serves Puerto Rico; FEMA Region IV is located in Atlanta, Georgia and serves the states of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee; FEMA Region VI is located in Denton, Texas and serves the states of Arkansas, Louisiana, Oklahoma and Texas; FEMA Region VII is located in Kansas City, Missouri and serves Iowa, Kansas, Missouri and Nebraska.
- C. State Emergency Offices. In each state a lead agency has been designated for radiological emergency preparedness. In most states this agency is either the State Emergency Management Agency or the Radiological Health organization in the State Health Department. The designated lead state agency works closely with their corresponding FEMA Regional office to develop state and local capabilities to respond to peacetime nuclear and radiological accidents/incidents. Each state Emergency Management office has a staff member designated as a Radiological Officer and most states have Radiological Instrument Inspection, Maintenance and Calibration Facility.

These personnel and facilities are, in part, funded by FEMA. Each state has personnel who are licensed users of multi-curie radiation sources.

- D. Instrumentation. As of August, 1994, over 36,100 radiological instrument sets have been granted by FEMA to the States of Region IV and over 22,500 sets have been granted to the states of Region VI. Additional sets have been granted to the State of Missouri and to Puerto Rico. These sets, which were developed in the 1960s, were originally intended for use in the high gamma radiation environment that would have followed a nuclear war. These instruments include 25,800 sets for self-protection monitoring by emergency services and vital facility personnel (RADEF Instrument Set types CDV-777 and CDV-777-1); 6,800 sets for weapons effects stations (RADEF Instrument Set type CDV-777A); and over 26,000 sets for fallout shelters (RADEF Instrument type CDV-777-2). The different sets contain various combinations of radiation survey meters and dosimeters with scales ranging from 0-200 mR to 500 R. The instrument sets would be of small utility in a peacetime radiological incident, but some of the instruments that they contain could be valuable under these conditions. These sets were distributed throughout the FEMA Regions and are under the control of state and local emergency preparedness organizations. Sets for self-protection and weapons effects reporting are located at many facilities in the states. Shelter sets and additional instrument sets are stored under local control. In addition to the instrument sets mentioned above, FEMA has granted to each state two or more specially modified CDV-700-M GM survey meters equipped with a thin-end-window GM Tube and probe housing. This instrument has an increased detection sensitivity for alpha and beta radiation.
- E. Communications. FEMA has the capability to provide a multifaceted communications capability to connect national, regional, state and local governments for emergency communications. Among the systems available are:
- FEMA National Radio System (FNARS). A high-frequency radio system that provides connections to each state in each FEMA Region, and connections to FNARS stations at the National level, other FEMA Regions, other federal agencies and military installations. This system uses single sideband modulation for voice transmission and data communications.
 - FEMA Wide Area Network (WAN). A computer network connecting each state with their FEMA Region, and which also provides data communications with stations at FEMA National and with other FEMA Regions.
 - National Warning System (NAWAS). A full-time leased wire system operating between two National Warning Centers, each of the ten FEMA Regions, state and local governments and various warning points strategically located throughout the regions. All primary warning points are staffed for 24-hour operation.
 - Mobile Emergency Response Support (MERS) Detachment. The five FEMA MERS Detachments stationed at strategic locations around the nation are multi-vehicle organizations designed to support federal emergency response operations. The communication, logistic, operation, and life support service provided by these Detachments is fully independent of local infrastructure. Communication support is based around a large mobile communications truck, called the Multi-Radio Vehicle (MRV), that carries high frequency (HF), very high frequency (VHF), ultra high frequency (UHF), line-of-sight microwave and KU band satellite radios to support voice and data transmissions, along with telephone, modem, FEMA LAN/WAN, video conference, and television broadcast capabilities. The MRV, using the KU band satellite, can provide high quality, multi-line telephone service to any remote location in a very short time frame. Additionally, the Detachment in Denton, Texas is equipped with an Emergency Operations Vehicle (EOV) that can provide a comfortable, well-equipped space for 20 people to manage response operations. Other vehicles under MERS

control can further augment radio or telephone capabilities from disaster sites, provide logistics and life support services to federal disaster teams, provide electrical generation capability, provide environmental control to special operating sites and provide fuel to operate all of the above for extended periods. The majority of the MERS vehicles are air transportable by military transport aircraft and can be on-scene and operational at a disaster site in less than 24 hours.

Recommended Composition of RADEF Instrument Sets

| Set Types | Quantity and Types of Instruments in Sets | | | | |
|-----------|---|---------|---------|---------|---------|
| | CDV-700 | CDV-715 | CDV-717 | CDV-742 | CDV-750 |
| CDV-777 | 1 | 2 | 0 | 6 | 1 |
| CDV-777A | 1 | 1 | 1 | 6 | 1 |
| CDV-777-1 | 1 | 1 | 0 | 6 | 1 |
| CDV-777-2 | 0 | 1 | 0 | 6 | 1 |

U.S. Department of Energy

Radiological Emergency Assistance Contacts

Emergency Operations Center (202) 586-8100

Radiological assistance from the U.S. Department of Energy Regional Coordinating Offices is available 24 hours a day and can be requested by calling the emergency assistance numbers listed.

Region 2 (AR, KY, LA, MS, MO, PR, TN, VI, VA, WV)

Regional Response Coordinator: Steven M. Johnson
Oak Ridge Operations Office
U.S. Department of Energy (865) 576-1005 or
P.O. Box 2001, SE-341 (865) 525-7885
Oak Ridge, Tennessee 37831-8543

Region 3 (AL, FL, GA, NC, SC, CZ)

Regional Response Coordinator: Christina Edwards
Savannah River Operations Office
U.S. Department of Energy (803) 725-3333
P.O. Box A
Aiken, South Carolina 29802

Region 4 (AZ, KS, NM, OK, TX)

Regional Response Coordinator: James E. Straka
Albuquerque Operations Office
U.S. Department of Energy (505) 845-5581 or
P.O. Box 5400 (505) 845-4667 (24 Hours)
Albuquerque, New Mexico 87185-5400

U.S. Nuclear Regulatory Commission

Radiological Emergency Assistance Contacts

NRC Emergency Operations Center (301) 816-5100
Rockville, MD (301) 951-0550 (backup)
(301) 415-0550 (backup)
(301) 816-5151 Fax

Region II (AL, FL, GA, KY, MS, NC, PR, SC, TN, VA, VI, WV)

Regional Administrator: Luis A. Reyes (404) 562-4400
U.S. Nuclear Regulatory Commission (404) 562-4410
Region II
Atlanta Federal Center, 23 T85
61 Forsyth Street, S. W.
Atlanta, Georgia 30303-3415

Region III (IL, IN, IA, MI, MN, MO*, OH, WI)

Regional Administrator: James E. Dyer (630) 829-9500
U.S. Nuclear Regulatory Commission (630) 829-9657
Region III
801 Warrenville Road
Lisle, Illinois 60532-4351

Region IV (AK, AR, AZ, CA, CO, HI, ID, KS, LA, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, WY, Pacific Territories, and the Callaway Nuclear Power Plant in MO*)

Regional Administrator: Ellis W. Merschoff (817) 860-8100
U.S. Nuclear Regulatory Commission (817) 860-8225
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-8064

** Region III is responsible for the entire state of Missouri except the Callaway Nuclear Power Plant.
Region IV is responsible for the Callaway Nuclear Power Plant.*

NRC Emergency Response Teams are activated to respond to incidents at NRC-licensed facilities by calling the NRC Operations Officer at (301) 816-5100. Team composition depends on the specific facility and includes NRC personnel qualified to respond to an emergency at that facility. Radiological assessment expertise is available upon DOE request.

Tennessee Valley Authority

Radiological Emergency Assistance Contacts

Tennessee Valley Authority
Emergency Preparedness
1101 Market Street
6B Lookout Place
Chattanooga, Tennessee 37402-2801

TVA Operations Duty Specialist
(423) 751-1700 (24-hours)

Emergency Team Members

| Name | Title | Off-Duty Phone |
|-------------|---|-----------------------|
| Kitts, R.J. | Manager, Emergency Preparedness | (423) 751-1700 |
| Marks, B.K. | Manager, Emergency Preparedness Program Planning and Implementation Section | (423) 751-1700 |

Capacity to Dispatch:
Two Environs Radiological Monitoring Teams - two staff per team.

Laboratory and Analytical Programs

Subject to TVA's commitment to its ongoing nuclear power programs, the following services or facilities could possibly be made available as a part of the regional radiation emergency response plan. These are:

1. Two (2) Environs Radiological Monitoring Vehicles: TVA has dedicated vehicles for emergency radiological monitoring which are equipped with radio/cellular telephone communications, onboard generators, air samplers and monitoring instruments. Scalers include NaI and GM detectors. Protective clothing, floodlights and items for transportation accident response are onboard.
2. Instrumentation Calibration and Repair Facilities: These facilities could be available for limited use.
3. Radiological Laboratory Services: The Western Area Radiological Laboratory in Muscle Shoals, Alabama operates a dedicated vehicle equipped with a multi-channel analyzer with two GeLi detectors, radio and cellular telephone. Additional analytical services from the fixed facility could be available in extreme emergencies, but only for short periods of time due to the ongoing commitment in support of TVA nuclear programs.
4. TLD Services: Services based at the Sequoyah Nuclear Plant Training and Visitor Center could be available for limited use. TLD services include NVLAP accreditation for Panasonic 710 readers and 802 dosimeters.