

## CHAPTER 6

### MANAGEMENT OF OZONE DEPLETING SUBSTANCES

#### 6-1 Scope

This chapter implements Department of Defense (DOD) and Secretary of the Navy (SECNAV) policy concerning the management of ozone depleting substances (ODSs); incorporates the necessary changes to the U.S. Navy ODS Program under the requirements of the Clean Air Act Amendments of 1990, the accelerated production phase-out schedules for Class I ODSs (1 January 1994 for Halons, 31 December 1995 for all other Class I ODSs), and Executive Order (E.O.) 12843 of April 21, 1993 regarding acquisition and ODSs; and details specific restrictions and uses of ODSs within the Navy. OPNAVINST 5090.2A, "Management of Ozone Depleting Substances," dated 14 July 1994, was canceled.

The requirements of this chapter apply to all Navy ships, aircraft, shore activities (including non-appropriated fund activities), and government-owned/contractor-operated (GOCO) facilities world-wide except as follows:

a. **Naval Nuclear Propulsion Program.** E.O. 12344 and Public Law (P.L.) 98-525 (42 U.S.C. 7158, note) establish the responsibilities and authorities of the Director of Naval Nuclear Propulsion Program, N00N, in the Office of the Chief of Naval Operations (CNO) (who is also Deputy Commander Nuclear Propulsion Directorate (SEA 08) in the Naval Sea Systems Command) over all facilities and activities that comprise the Program, a joint Department of Energy (DOE)/Navy organization. These responsibilities and authorities include all technical and logistical matters related to naval nuclear propulsion. Nothing in this policy supersedes or changes these responsibilities and authorities. Accordingly, the provisions of this policy do not apply A) to facilities and activities covered under E.O. 12344 and Pub.L. 98-525.

b. **Medical Devices.** This policy does not apply to essential uses of ODSs for medical devices as defined in the Clean Air Act (CAA) section 601(8) and approved for use as specified in CAA section 604(d)(2) and section 605(d)(1) by the Commissioner of the Food and Drug Administration and the Administrator of the Environmental Protection Agency (EPA) for Class I and Class II ODSs.

c. **Small Appliances.** This policy does not apply to small appliances, defined as appliances that do not normally require routine maintenance of the sealed refrigerant system and contain a refrigerant charge of 5 pounds or less. Examples include refrigerators and freezers designed for home use, dehumidifiers, room air conditioners (including window air conditioners), ice makers, vending machines and water coolers at shore activities and installed in surface ships and submarines. (R)

d. **Laboratory and Analytical Uses.** This policy does not apply to essential uses of ODSs in very small quantities for laboratory purposes. As defined in the Technology and Economic Assessment Panel Report of the Montreal Protocol of March 1994 (NOTAL), laboratory purposes include: equipment calibration; use as extraction solvents, diluting agents, or carriers for specific chemical analysis; biochemical research; inert solvents for chemical reactions; and other critical purposes in research and development where substitutes are not readily available or where standards set by national and international agencies require specific use of ODSs.

e. **Base Realignment and Closure (BRAC) Activities.** Section 6-5.9.3 does not

apply to BRAC facilities scheduled for closure. Section 6-5.13.1 does not apply to Class I ODSs to be transferred per BRAC procedures.

**6-1.1 References.** Relevant references are:

a. 40 CFR Part 82, EPA Regulations on the Protection of Stratospheric Ozone;

b. SECNAVINST 5090.5 Ozone Depleting Substances; (NOTAL);

c. SECNAV memorandum of 28 May 1993: "Elimination of Class I Ozone Depleting Substances in Department of the Navy Contracts;" (NOTAL);

D)

A) d. Navy Acquisition Procedures Supplement to the Defense Federal Acquisition Regulation Supplement (DFARS) Subpart 5210.002-71 and Notice 5252.210-9000;

e. BUMEDINST 6270.8, Procedures for Obtaining Health Hazard Assessments Pertaining to Operational Use of Hazardous Materials; (NOTAL);

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A) f. OPNAVINST 5100.23D of 11 October 1994, Navy Occupational Safety and Health (NAVOSH) Program Manual; (NOTAL);

g. DOD Directive 6050.9 of 13 February 1989, Chlorofluorocarbons and Halons (CFCs); (NOTAL).

**6-2 Legislation**

R) **6-2.1 Clean Air Act (CAA), as amended.** In November of 1990, the United States Con-

gress passed implementing national legislation for stratospheric ozone protection as Title VI of the 1990 Clean Air Act Amendments.

**6-2.2 Montreal Protocol on Substances that Deplete the Ozone Layer.**

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The presence of chlorofluorocarbons (CFCs), halons, other chlorinated hydrocarbons (carbon tetrachloride, methyl chloroform), hydrochlorofluorocarbons (HCFCs), etc., in the stratosphere is linked to the depletion of the earth's ozone layer that protects life and vegetation from damaging ultraviolet light. These materials are collectively referred to as ODSs. In response to the threat ODSs present to the environment, more than 125 nations, including the United States, have signed an international agreement, known as the Montreal Protocol, limiting ODS production. In 1990, due to increasing evidence of continued harm to the ozone layer, the Protocol was amended to provide for the eventual elimination of most ODSs. In November 1992, in a meeting in Copenhagen, parties to the Montreal Protocol agreed to accelerate the production phase-out schedules of CFCs to 31 December 1995 and halons to 1 January 1994.

**6-2.3 DOD Authorization Act of 1993 (Pub.L. 102-484).**

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The DOD authorization of funds for 1993 that restricts the purchase of Class I ODSs. The law requires that no class I ODS contracts can be issued without a Technical Certification provided by an authorized technical representative (ATR) and the approval of a senior acquisition official (SAO).

**6-3 Terms and Definitions**

**6-3.1 Mission Critical Application.** Uses of ODSs as determined by CNO and defined in paragraph 6-5.7.1.

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**CLEAN AIR ACT SECTION 602**

<b><u>CLASS I CHEMICAL AGENTS</u></b>		<b><u>ODP<sup>1</sup></u></b>
<b><u>Group I</u></b> (CFC - chlorofluorocarbon)		
CFC-11	Trichlorofluoromethane	1.0
CFC-12	Dichlorodifluoromethane	1.0
CFC-113	Trichlorotrifluoroethane	0.8
CFC-114	Dichlorotetrafluoroethane	1.0
CFC-115	Monochloropentafluoroethane	0.6
CFC-500 <sup>2</sup>	Dichlorodifluoromethane-difluoroethane	0.738
CFC-502 <sup>3</sup>	Monochlorodifluoromethane-monochloropentafluoroethane	0.307
<b><u>Group II</u></b>		
Halon-1211	Bromochlorodifluoromethane	3.0
Halon-1301	Bromotrifluoromethane	10.0
Halon-2402	Dibromotetrafluoroethane	6.0
<b><u>Group III</u></b> (CFC - chlorofluorocarbon)		
CFC-13	Chlorotrifluoromethane	1.0
CFC-111	Pentachlorofluoroethane	1.0
CFC-112	Tetrachlorodifluoroethane	1.0
CFC-211	Heptachlorofluoropropane	1.0
CFC-212	Hexachlorodifluoropropane	1.0
CFC-213	Pentachlorotrifluoropropane	1.0
CFC-214	Tetrachlorotetrafluoropropane	1.0
CFC-215	Trichloropentafluoropropane	1.0
CFC-216	Dichlorohexafluoropropane	1.0
CFC-217	Monochloroheptafluoropropane	1.0
CFC-503 <sup>4</sup>	Trifluoromethane-trichlorotrifluoroethane	0.599
<b><u>Group IV</u></b>		
Carbon Tetrachloride	Tetrachloromethane	1.1
<b><u>Group V</u></b>		
Methyl Chloroform	1,1,1-Trichloroethane	0.1
<b><u>Group VI</u></b>		
Methyl Bromide	Bromomethane	0.7

Table 6.1

**CLASS I CHEMICAL AGENTS**

**ODP<sup>1</sup>**

Group VII

CHBr <sub>3</sub>	1.0
CHBr <sub>2</sub> Br (HBFC-22B1)	0.74
CH <sub>2</sub> Br <sub>2</sub>	0.73
C <sub>2</sub> HBr <sub>4</sub>	0.3-0.8
C <sub>2</sub> HBr <sub>2</sub> Br <sub>3</sub>	0.5-1.8
C <sub>2</sub> HBr <sub>3</sub> Br <sub>2</sub>	0.4-1.6
C <sub>2</sub> HBr <sub>4</sub> Br	0.7-1.2
C <sub>2</sub> H <sub>2</sub> Br <sub>3</sub>	0.1-1.1
C <sub>2</sub> H <sub>2</sub> Br <sub>2</sub> Br <sub>2</sub>	0.2-1.5
C <sub>2</sub> H <sub>2</sub> Br <sub>3</sub> Br	0.7-1.6
C <sub>2</sub> H <sub>3</sub> Br <sub>2</sub>	0.1-1.7
C <sub>2</sub> H <sub>3</sub> Br <sub>2</sub> Br	0.2-1.1
C <sub>2</sub> H <sub>4</sub> Br <sub>2</sub>	0.07-0.1
C <sub>3</sub> HBr <sub>6</sub>	0.3-1.5
C <sub>3</sub> HBr <sub>2</sub> Br <sub>5</sub>	0.2-1.9
C <sub>3</sub> HBr <sub>3</sub> Br <sub>4</sub>	0.3-1.8
C <sub>3</sub> HBr <sub>4</sub> Br <sub>3</sub>	0.5-2.2
C <sub>3</sub> HBr <sub>5</sub> Br <sub>2</sub>	0.9-2.0
C <sub>3</sub> HBr <sub>6</sub> Br	0.7-3.3
C <sub>3</sub> H <sub>2</sub> Br <sub>5</sub>	0.1-1.9
C <sub>3</sub> H <sub>2</sub> Br <sub>2</sub> Br <sub>4</sub>	0.2-2.1
C <sub>3</sub> H <sub>2</sub> Br <sub>3</sub> Br <sub>3</sub>	0.2-5.6
C <sub>3</sub> H <sub>2</sub> Br <sub>4</sub> Br <sub>2</sub>	0.3-7.5
C <sub>3</sub> H <sub>2</sub> Br <sub>5</sub> Br	0.9-1.4
C <sub>3</sub> H <sub>3</sub> Br <sub>4</sub>	0.08-1.9
C <sub>3</sub> H <sub>3</sub> Br <sub>2</sub> Br <sub>3</sub>	0.1-3.1
C <sub>3</sub> H <sub>3</sub> Br <sub>3</sub> Br <sub>2</sub>	0.1-2.5
C <sub>3</sub> H <sub>3</sub> Br <sub>4</sub> Br	0.3-4.4
C <sub>3</sub> H <sub>4</sub> Br <sub>3</sub>	0.03-0.3
C <sub>3</sub> H <sub>4</sub> Br <sub>2</sub> Br <sub>2</sub>	0.1-1.0
C <sub>3</sub> H <sub>4</sub> Br <sub>3</sub> Br	0.07-0.8
C <sub>3</sub> H <sub>5</sub> Br <sub>2</sub>	0.04-0.4
C <sub>3</sub> H <sub>5</sub> Br <sub>2</sub> Br	0.07-0.8
C <sub>3</sub> H <sub>6</sub> Br	0.02-0.7

NOTE:

1. Ozone Depletion Potential as stated in Section 602 of the CAA.
2. Azeotropic mixture of CFC-12 and Hydrofluorocarbon (HFC) 152a.
3. Azeotropic mixture of CFC-115 and HFC-22.
4. Azeotropic mixture of CFC-113 and HFC-23.

Table 6.1 Continued

**CLEAN AIR ACT SECTION 602**

<b><u>CLASS II CHEMICAL AGENTS</u></b> (HCFC - hydrochlorofluorocarbon)		<b><u>ODP</u></b> <sup>1</sup>
HCFC-21	Dichlorofluoromethane	
HCFC-22	Monochlorodifluoromethane	0.05
HCFC-31	Monochlorofluoromethane	
HCFC-121	Tetrachlorofluoroethane	
HCFC-122	Trichlorodifluoroethane	
HCFC-123	Dichlorotrifluoroethane	0.02
HCFC-124	Monochlorotetrafluoroethane	0.02
HCFC-131	Trichlorofluoroethane	
HCFC-132	Dichlorodifluoroethane	
HCFC-133	Monochlorotrifluoroethane	
HCFC-141(b)	Dichlorofluoroethane	0.1
HCFC-142(b)	Monochlorodifluoroethane	0.06
HCFC-221	Hexachlorofluoropropane	
HCFC-222	Pentachlorodifluoropropane	
HCFC-223	Tetrachlorotrifluoropropane	
HCFC-224	Trichlorotetrafluoropropane	
HCFC-225	Dichloropentafluoropropane	
HCFC-226	Monochlorohexafluoropropane	
HCFC-231	Pentachlorofluoropropane	
HCFC-232	Tetrachlorodifluoropropane	
HCFC-233	Trichlorotrifluoropropane	
HCFC-234	Dichlorotetrafluoropropane	
HCFC-235	Monochloropentafluoropropane	
HCFC-241	Tetrachlorofluoropropane	
HCFC-242	Trichlorodifluoropropane	
HCFC-243	Dichlorotrifluoropropane	
HCFC-244	Monochlorotetrafluoropropane	
HCFC-251	Trichlorofluoropropane	
HCFC-252	Dichlorodifluoropropane	
HCFC-253	Monochlorotrifluoropropane	
HCFC-261	Dichlorofluoropropane	
HCFC-262	Monochlorodifluoropropane	
HCFC-271	Monochlorofluoropropane	

NOTE:

1. Ozone Depletion Potential as stated in Section 602 of the CAA.

Table 6.2

- R) **6-3.2 Ozone Depleting Substances (ODSs).** Any chemical listed as a Class I or Class II substance as defined by the CAA. Tables 6.1 and 6.2 list Class I and Class II ODSs. Class I ODSs most prevalent in Navy applications include CFC-11, CFC-12, CFC-113, CFC-114, Halon 1211, Halon 1301, methyl chloroform(1,1,1 trichloroethane), and carbon tetrachloride. Class II ODSs most prevalent in Navy applications include HCFC-22, HCFC-123, and HCFC-141b. CFCs and HCFCs are commonly referred to as Freons.
- R) **6-3.3 ODS Reserve.** Supply of selected Class I ODSs to support mission critical applications as defined in paragraph 6-5.7.1. The DOD ODS Reserve is located at Defense Supply Center, Richmond, Virginia (DSC,R)
- 6-3.4 Reclaiming.** The process of returning a used or contaminated ODS to near original specifications, by means which may include distillation. A reclaimer must perform chemical analysis of the ODS to determine that the appropriate product specifications are met.
- R) **6-3.5 Recovery.** The removal and containment (or capture) of any ODS in any condition from a system without testing or processing.
- 6-3.6 Recycling.** The reduction of contaminants in a used ODS by oil separation and single or multiple passes through devices that reduce moisture, acidity, and particulate matter.
- 6-4 Requirements**
- R) **6-4.1 General.** The following legislative requirements apply to shore facilities. Refer to Chapter 19 for shipboard requirements.
- a. Production of CFCs, carbon tetrachloride, methyl chloroform was prohibited as of 31 December 1995; production of halons was prohibited as of 1 January 1994.
- b. Only technicians trained and certified per the requirements of reference (a) who use approved recovery and recycling equipment may repair or service motor vehicle air conditioners. (R)
- c. Only technicians trained and certified per the requirements of reference (a) who use approved recovery and recycling equipment may repair, service, maintain or dispose of appliances and industrial process refrigeration and air conditioning. (R)
- d. It is unlawful to knowingly release any Class I or Class II ODS refrigerant into the atmosphere during the service, repair, or disposal of appliances and industrial process refrigeration and air conditioning equipment.
- e. Activities must reduce the use and emissions of ODSs to the lowest achievable level.
- f. Activities must meet labeling requirements for ODSs. (R)
- g. Owners or operators of appliances normally containing more than 50 pounds of refrigerant must monitor leakage rates and repair leaks as specified by reference (a). This requirement does not apply to military unique equipment as defined in reference (a) and Chapter 19. (A)
- h. Owners/operators of air conditioning and refrigeration equipment, owners of recovery and recycling equipment, disposers, technician certification programs, equipment certification programs, wholesalers, and reclaimers must meet recordkeeping requirements as specified in reference (a). (A)

## 6-5 Navy Policy

**6-5.1 General.** In recent years, the Navy has been involved in research and development of alternative substances and systems, and recovery and recycling equipment that decrease the Navy's dependence on ODSs. Due to the large quantities of ODSs used and the numerous applications of these ODSs, Navy personnel should carefully evaluate each situation to determine the proper course of action needed to phase out ODS usage. In all military applications, such as fire protection and shipboard chilled water air conditioning and refrigeration systems, it is essential to recycle, conserve, and properly manage these ODSs to ensure adequate availability of ODSs until suitable alternatives can be tested, qualified, and implemented. It is important that the Navy continue to reduce the use of ODSs and eliminate emissions for compliance with the requirements of the CAA.

R) To satisfy these objectives, this chapter provides policy on ODS procurement, recovery, use, recycling, material management, emission, substitution, and research, development, testing and evaluation.

R) **6-5.2 Acquisition.** Acquisition of ODSs shall be per the DOD Authorization Act of 1993; E.O. 12843 of April 21, 1993; reference (b); reference (c); reference (d); all implementing procurement regulations; and the requirements of this instruction. Class I ODSs for mission critical applications shall be procured from the ODS Reserve per section 6-5.8 and not by contracting action.

A) **6-5.3 ODS Inventory Reporting.** Activities shall submit ODS inventory data to claimants on an annual basis. The report should provide information as of 1 January of the calendar year in which it is submitted. Claimants shall validate the data and submit a consolidated annual report

for their activities to CNO (N45) no later than 1 April for calendar years 1997-2001.

Appendix O provides detailed descriptions and formats for data call responses. CNO (N45) will use the data to validate funding requirements and measure Navy progress in eliminating use of ODSs.

**6-5.4 Procurement of Recycled or Reclaimed ODSs.** If ODS procurement is necessary, Navy activities shall procure recycled or reclaimed ODSs whenever possible. (R)

**6-5.5 Conservation Practices.** Activities shall implement conservation practices to the extent practical for all ODS applications, including performing regular system leak checks, improving supply management, and recycling and reclaiming Class I and Class II ODSs.

**6-5.6 Review of Navy Practices.** Activities shall review and modify all operational, training and testing practices to reduce and eliminate emissions of ODSs to the maximum extent possible.

**6-5.7 Mission Critical Applications.** The use of Class I ODSs shall continue for mission critical applications so as to not jeopardize or degrade the safety or operational requirements of the Navy. (R)

**6-5.7.1 Navy mission critical applications are:**

a. CFC-11, CFC-12, CFC-114, and CFC-500 used in ship chilled water air conditioning, ships stores and cargo refrigeration, and aircraft environmental control systems. CFCs used in shore-based training applications where weapon system equipment is stationed at a shore facility responsible for training of personnel in the handling, operation, and maintenance of that equipment. (R)

- R) b. Halon 1211 used in flight line fire protection and ship and shore-based crash, fire, and rescue vehicles. Limited use of Halon 1211 for landing craft, air cushion (LCAC).
- R) c. Halon 1301 used in shipboard room flooding applications and aircraft explosion suppression and fire protection.
- R) d. CFC-113 used in support of oxygen system cleaning and gyroscope cleaning applications.
- R) e. Shore-based heating, ventilation, air conditioning and refrigeration (HVAC&R) equipment and fire protection systems as approved by CNO (N45).
- R) Activities shall continue to use ODSs for mission critical applications until such time as the cognizant System Command develops and approves, and Echelon 2 Commands implement the use of safe alternative substances or systems. Navy Advisory 95-01 provides additional guidance.
- R) **6-5.8 Use of ODS Reserve**
- R) **6-5.8.1 General.** CNO (N45) shall control access to the ODS Reserve. The ODS Reserve shall be used only to support mission critical applications as described in paragraph 6-5.7 when no alternative is available or when interim support is required during retrofit or implementation of alternatives. Requisition of ODS Reserve material for non-mission critical applications is not authorized. CNO (N45) shall control access to the Reserve with an authorized users' list. Defense Logistics Agency (DLA) established procedures for deposits to and requisitions from the Reserve. Navy distributed these procedures in Navy Advisory 96-01 (series) which is revised as required. CNO (N45), Commander, Naval Sea Systems Command (COMNAVSEASYS COM), Commander, Naval Air Systems Command (COMNAVAIRSYS-COM) and Commander,

Military Sealift Command (COMSC) shall monitor requisitions. Activities shall submit requests for waivers to this policy to CNO (N45) via the chain of command as described in paragraph 6-5.14.

**6-5.8.2** Activities shall not requisition ODSs from the Reserve for non-mission critical applications such as shore-based HVAC&R equipment, or shore-based fire protection systems except as approved by CNO (N45) in paragraph 6-5.14. (A)

## **6-5.9 Non-mission Critical Applications** (A)

**6-5.9.1 New Equipment.** All shore-based, non-mission critical HVAC&R equipment for which procurement was initiated after 14 July 1994 shall use an EPA Significant New Alternatives Policy (SNAP) Program-approved refrigerant with an ozone depletion potential (ODP) of 0.05 or less and an ODP of zero when possible. Installation of shore-based Halon 1301 fire protection systems and procurement of non-mission critical portable halon fire extinguishers is prohibited. (A)

**6-5.9.2 Acquisition.** Per the DOD Authorization Act of 1993, no Class I ODS contracts may be issued without a Technical Certification and the approval of a SAO. (A)

a. The cognizant command shall designate an authorized technical representative who will conduct a technical review and certify that there are no suitable substitutes available.

b. A flag officer or member of the Senior Executive Service (SES) designated by the requiring command to be the SAO for the procurement shall approve the contract following the Technical Certification. The SAO is the person who actually authorizes the purchase and should be in the chain of command of the activity that owns the equipment or facility requiring the use



of a Class I ODS. Upon signing the approval, the SAO shall report the procurement to the Assistant Secretary of the Navy for Research, Development and Acquisition (ASN (RD&A)) through the appropriate Echelon 2 Command.

- A) **6-5.9.3 ODS Conversion Plan.** Commanding officers ashore shall develop and implement an ODS conversion plan to eliminate use of non-mission critical Class I ODSs by 31 December 2000 and ensure that the use of non-mission critical portable halon fire extinguishers was eliminated by 1 January 1996. Plans shall include equipment for which the preparing activity holds the property record card. Conversion plans were due to claimants for review and prioritization of funding by 31 December 1996. ODS conversion plans shall be referred to or incorporated in facility pollution prevention plans as described in section 3-5.4. CNO (N45) will not fund execution of ODS conversion plans for Defense Business Operations Fund (DBOF)-funded equipment.

Plans should contain at a minimum:

- a. Inventory of Class I ODS equipment/applications.
- b. Description of alternatives that will be implemented.
- c. Schedule for conversion/replacement.
- d. Estimated costs for plan implementation.
- e. Plans for recovery/recycling/reuse of existing stocks of ODSs to support shore-based equipment during plan execution.
- f. Plans for leak monitoring.
- g. Plan for supporting training requirements.

#### **6-5.9.4 Shore-based HVAC&R Equipment** (R)

**6-5.9.4.1 Applicability.** The requirements of paragraph 6-5.9.3 apply to HVAC&R equipment in the following categories: (A)

- a. Refrigeration equipment with more than 5 pounds of refrigerant installed (i.e., all refrigeration equipment that is not a small, hermetically-sealed appliance).
- b. Air conditioning equipment with more than 5 tons cooling capacity (60,000 BTU).

The requirements of paragraph 6-5.9.3 do not apply to motor vehicle air conditioners.

**6-5.9.4.2 Recovered Refrigerant.** Activities shall recover, recycle, and reuse serviceable refrigerant from replacements and conversions. Refrigerant recovered and recycled may be stored and used locally in order to service existing Class I ODS AC&R equipment. Activities shall manage this supply and deposit it in the Navy portion of the ODS Reserve per paragraph 6-5.8.1 when it is no longer needed to support local applications. (R)

#### **6-5.9.5 Shore-Based Halon 1301 systems.**

**6-5.9.5.1 General.** The requirements of paragraph 6-5.9.3 apply to all non-mission critical installed Halon 1301 systems. (R)

**6-5.9.5.2 Recovered Halon 1301.** Activities shall recover and deposit excess Halon 1301 in the Navy portion of the ODS Reserve per paragraph 6-5.8.1. (D)  
(A)

- R) **6-5.9.6 Portable Halon Fire Extinguishers.** 6- As of 1 January 1996, activities were required to remove and locally redistribute all non-mission critical halon portable fire extinguishers to support mission critical requirements or turn them in to the Navy portion of the ODS Reserve per paragraph 6-5.8.1. (A)
- D) **6-5.9.7 ODS Solvents.** Class I ODS solvents were phased out of production on 31 December 1995. Existing supplies are limited. If an activity identifies a Class I ODS solvent application for which it does not know of an alternative, the activity shall consult with the cognizant engineering authority. If no alternative has been identified, the activity shall forward this information via the chain of command to its cognizant Echelon 2 command. Mission critical solvent applications as described in paragraph 6-5.7.1 with no identified alternatives shall be supported by the ODS Reserve until alternatives are implemented. New supplies of material should not be procured. (A)
- A) **6-5.9.7.1 Existing Supplies of ODS Solvents.** Existing stocks of ODS solvents may be used to provide interim support during the transition to non-ODS alternatives. Activities shall turn in unopened containers of Class I ODS solvents that are not required for interim support to the ODS Reserve per paragraph 6-5.8.1. (A)
- A) **6-5.9.8 Shipboard Galley Equipment.** Class I ODS refrigerants used in shipboard galley equipment were phased out of production on 31 December 1995. Existing supplies are limited. Ships shall replace existing equipment with new units through attrition per paragraph 6-5.9.9 and NAVSEA catalog S6161-Q5-CAT-010. CNO (N45) authorized ships to use material from the ODS Reserve per paragraph 6-5.8.1 to support galley equipment until the year 2002. After that date, ships shall meet any remaining material requirements through local sources per paragraph 6-5.9.2. (R)
- 6-5.9.9 Alternative Selection**
- 6-5.9.9.1 Criteria.** Navy activities shall select alternatives that are EPA SNAP-approved with an ODP of zero when possible. If no EPA SNAP-approved alternative with an ODP of zero exists, activities shall adopt alternatives with an ODP of 0.05 or less. Alternatives shall meet performance requirements and be commercially available. (A)
- 6-5.9.9.2 Health and Safety issues.** Activities shall contact their local industrial hygienist or occupational safety and health personnel to ensure proper identification of occupational safety and health hazards associated with ODS alternatives. Activities shall ensure recommended health and safety hazard control measures are properly in place prior to implementing alternatives. Reference (e) details specific procedures for obtaining health hazard assessments pertaining to operational use of hazardous materials. (A)
- 6-5.9.10 Waivers.** If an activity determines that it is beneficial to maintain some HVAC&R or fire suppression equipment containing a Class I ODS beyond 31 December 2000, then the activity shall request a waiver per paragraph 6-5.14. (A)
- 6-5.10 Refrigerants Handling** (R)
- 6-5.10.1 Maintenance.** Navy personnel, in the course of maintaining, servicing, repairing, or disposing of any equipment (including small appliances) or systems containing Class I or Class II ODSs, shall not knowingly vent or otherwise knowingly release any ODS in a manner which permits the substance to enter the environment. These restrictions do not apply to de minimis releases associated with good faith attempts to recapture and recycle or safely dispose of Class I and Class II ODSs.

#### **6-5.10.2 Refrigerant Recovery**

R) a. Activities shall use EPA-approved refrigerant recovery equipment for all commercial off-the-shelf equipment. For military-unique systems, recovery equipment shall be designed, to the extent practical, to achieve performance comparable to that required of commercial equipment by the EPA. In shipboard operations, personnel shall recover ODSs prior to performing maintenance on air conditioning and refrigeration systems per paragraph 19-4.2.2.f.

D) b. New and converted HVAC&R equipment shall include refrigerant isolation valves and service apertures to facilitate recovery and recycling procedures per CAA rulemaking requirements.

c. Per reference (a), activities owning recycling and recovery equipment shall certify to the appropriate EPA regional office that they have acquired such equipment and that they are complying with CAA section 608 requirements.

R) **6-5.10.3 Refrigerant Technician Certification.** All Navy military and civilian refrigerant technicians shall be certified per reference (a). Training priority should be granted to technicians servicing equipment within the U.S., then to technicians overseas. Technicians may require additional State or local certifications if they are more stringent than Federal certification. Technician certification requirements do not apply to foreign nationals working on U.S. Navy equipment overseas.

R) **6-5.10.4 Motor Vehicle Technician Certification.** All Navy military and civilian motor vehicle technicians performing service and repair on motor vehicle air conditioners shall be certified as specified by reference (a). Certification requirements do not apply to foreign nationals working on U.S. Navy vehicles overseas.

R **6-5.10.5 Refrigerants as Hazardous Material.** (R) ODS refrigerants are considered hazardous material (HM) and are subject to the requirements of this chapter as well as to the CAA and reference (f). However, used Class I and Class II ODS refrigerants that are recycled for future use are not considered hazardous waste under Federal laws. Where they are more restrictive, however, State and local ODS regulations apply.

**6-5.11 Intentional Releases of Halon.** Navy personnel shall not intentionally release halon during the service, maintenance, repair, or disposal of any firefighting equipment. (R)

**6-5.12 Emerging Technology/Alternatives.** Navy activities having any information regarding new emerging technologies and alternatives for the elimination of ODSs should contact their claimant or COMNAVSEASYS COM for incorporation into the Navy CFC/Halon Clearinghouse. In addition, activities may request information on ODS alternatives by contacting the clearinghouse through COMNAVSEASYS COM.

#### **6-5.13 Disposal of ODSs**

**6-5.13.1 Sale of ODSs.** No Navy activity shall sell or otherwise transfer any Class I ODS outside the Navy without written permission from the CNO (N4). Contract specifications and contractual actions shall not include the transfer of Class I ODSs to contractors. Activities shall deposit excess Class I ODSs into the Navy portion of the DOD ODS Reserve per paragraph 6-5.8.1. (R)

**6-5.13.2 Turn-in of Equipment to Defense Reutilization and Marketing Service (DRMS).** (R) Activities transferring HVAC&R equipment to DRMS for reuse shall label the equipment to indicate that it contains an ODS. Activities transferring HVAC&R equipment to DRMS for disposal as scrap shall recover the ODS prior to disposal. Activities are not required to recover

ODSs from HVAC&R equipment classified as small appliances by paragraph 6-1c prior to transfer of equipment to DRMS for reuse or disposal.

**6-5.14 Waivers.** Requests for waivers to the provisions of this chapter shall be submitted to CNO (N45) via the chain of command. For such waivers, an activity must demonstrate that the application of the requirements of this chapter is impractical or results in the expenditure of resources that are not commensurate with the resultant reduction in the potential for unintentional release of ODSs to the environment. Statutory requirements shall not be waived.

A) **6-5.14.1 Content.** At a minimum, waiver requests should contain the following:

- a. ODS involved
- b. Number of units affected
- c. Quantity of ODS involved
- d. Associated costs
- e. Statement of environmental impact (i.e., annual leakage, average annual discharge of material, etc.)
- f. Safety and occupational health impact
- g. Operational impact
- h. Plan for meeting requirement
- i. Additional information as appropriate.

A) **6-5.14.2 Review and Approval Process.** CNO (N45) will review waivers on a case-by-case basis and provide responses by letter via the chain of command. All approved waivers will be granted for a finite time period.

## **6-6 Responsibilities**

### **6-6.1 Deputy Chief of Naval Operations (Logistics) (N4) shall:**

a. Annually review, in conjunction with the Directors of Warfare Divisions (CNO (N85, N86, N87 N88)) and Director of Test & Evaluation and Technology Requirements (CNO (N091)), the adequacy of ODS programs and resources.

b. Review all requests for waivers to the requirements of this chapter and forward recommendations to the Assistant Secretary of the Navy (Installations & Environment) (ASN (I&E)).

c. Review and approve requests for additions, deletions, or changes to the authorized users list for the ODS Reserve. (A)

d. Compile claimant data on ODS Reserve requirements and identify any shortfalls. (A)

e. Review annual ODS inventory data submitted by claimants. (A)

f. Coordinate activities of Echelon 2 commands to ensure an orderly transition from ODSs to suitable alternatives. (A)

### **6-6.2 All major claimants and subordinate commands shall:**

a. Implement the policies and procedures of this chapter and ensure their activities correctly follow the annual reporting requirements outlined in this chapter. Annually submit ODS inventory data for their activities no later than 1 April. (R)

b. Identify funding in their Program Objectives Memorandum (POM) process for elimination, recycling, and substitution of ODSs. Coordinate research and development (R&D) requirements with CNO (N45) to avoid redun- (R)

dant efforts. Coordinate all funding requirements with CNO (N45) and forward directly to the appropriate resource sponsor. Funding requirements shall include funds necessary for activities to meet all ODS-related requirements as described in Baseline Assessment Memorandum (BAM) Cookbook categories.

A) c. Ensure activities execute funds to meet deadlines for elimination of ODS equipment as described in section 6-5.9.

d. Revise preventive and corrective maintenance procedures, for which they are the cognizant activity, to incorporate the use of ODS recovery and recycling units.

e. Revise military specifications and manuals, for which they are the cognizant activity, to reduce or eliminate references to the use of ODSs.

f. Participate in ODS consortiums, conferences, and technology transfer to ensure the Navy's interests are identified and satisfied.

g. Submit an annual report by letter to CNO (N45) no later than 1 January on the status of elimination of ODSs in specifications and standards for which the Echelon 2 command is the cognizant authority. The report shall include:

(1) The total number of specifications and standards containing ODSs for which they have cognizant authority since November 1994,

(2) The number of specifications and standards which reference an ODS that were revised to remove the reference to ODSs during this period,

R) (3) The total number of specifications and standards which reference an ODS that were revised to remove the reference to ODSs since November 1994, and

(4) Any impediments to removing ODSs from specifications or standards and actions taken to resolve impediments.

Echelon 2 commands not holding cognizant authority over any specifications or standards shall submit a one-time negative report.

h. Review all requests from subordinate activities for waivers to the requirements of this chapter and forward recommendations to CNO (N45).

### 6-6.3 COMNAVSEASYS COM shall:

a. Serve as the lead technical Echelon 2 command to ensure that all Navy-wide common interests and concerns are addressed. (R)  
(D)

b. Maintain the Navy CFC/Halon Clearinghouse for use by all Navy activities. (A)

c. Manage the conversion of Navy shipboard HVAC&R systems. (A)

d. Monitor the drawdown of the Navy's reserve of ODSs and, if the actual rate of drawdown varies from predicted rates, develop corrective actions, fully coordinate them with the appropriate Echelon 2 commands, and provide recommended corrective actions to CNO (N45). (A)

e. Establish and maintain a single Navy ODS Advisory System that will provide consistent guidance to the Fleets and field activities. (A)

f. In coordination with the Fleets, evaluate on an annual basis the ODS Reserve requirements for cognizant mission-critical applications of ODSs and submit any changes to CNO (N45). (A)

g. Revise procurement guidance for shipboard galley equipment to include only equipment that meets the requirements of paragraph 6-5.9.9. (A)

A) h. Ensure miscellaneous NAVSEA-owned equipment and systems that use ODSs have material support plans or are converted or replaced to use non-ODS materials.

A) i. Ensure COMNAVSEASYSCOM field activities meet requirements for elimination of ODS equipment.

**6-6.4 Commander, Naval Supply System Command (COMNAVSUPSYSCOM) shall:**

R) a. Serve as the Navy liaison with DLA on matters pertaining to the establishment, maintenance, operation, and funding, as appropriate, of the ODS Reserve.

D) b. Revise, as necessary, acquisition instructions and guidance to include additional ODSs as they are regulated by the EPA.

c. Assist Echelon 2 commands with the ODS recycling and reclamation program.

d. Incorporate refrigerant and halon recovery and recycling equipment and appropriate spare parts into the Navy supply system as soon as possible after contract award and notification by other Echelon 2 commands.

A) e. Provide monthly reports of ODS requisitions as compiled by Navy Inventory Control Point, Mechanicsburg (NAVICP-M) to COMNAVSEASYSCOM for incorporation into the ODS Reserve monitoring system.

**6-6.5 Commander, Naval Facilities Engineering Command (COMNAVFACENGCOM) shall:**

R) a. Develop, and revise as necessary, guidance for shore activities on ODS alternatives for air conditioning and fire protection systems. R

b. Develop a sample scope of work for analyzing shore-based HVAC&R equipment and providing recommendations to commanding officers on the most cost-effective manner of replacing, converting, or retrofitting existing HVAC&R systems. (R)

c. Prepare plans for the replacement, conversion, or retrofitting of existing HVAC&R systems at shore activities as requested.

d. Provide technical support to activities in the development of ODS conversion plans. (R)

**6-6.6 Chief, Bureau of Medicine and Surgery (BUMED)** shall provide workplace hazard evaluations and health risk assessments for ODS substitutes which are proposed for use in industrial operations and Navy-unique working environments, as requested by other Echelon 2 commands. Reference (e) provides guidance regarding procedures for requesting health hazard assessments.

**6-6.7 Chief of Naval Education and Training (CNET) shall:**

a. Develop alternate training procedures using safe alternatives to ODSs where consistent with operational requirements without degradation of mission effectiveness.

b. Incorporate ODS issues into hazardous material control and management training as well as enlisted Class A and Class C schools and officer training courses, as appropriate. (R)

c. Incorporate EPA-required training on the proper use of ODS recovery and recycling equipment into HVAC&R technician curriculums.

d. Ensure that training in the proper use of ODS recovery and recycling equipment is incorporated into the Environmental and Natural Resources Training System Plan.

e. Ensure all graduates of CNET courses that teach maintenance on systems containing ODSs are Federally certified per reference (a) as a condition for graduation.

A) **6-6.8 COMNAVAIRSYSCOM shall:**

a. Monitor the drawdown of the COMNAVAIRSYSCOM portion of the ODS Reserve and develop any required corrective actions in cooperation with CNO (N45), COMNAV-SEASYS-SCOM, Military Sealift Command (MSC), and the Fleets.

b. In coordination with the Fleets, evaluate on an annual basis the ODS Reserve requirements for cognizant mission-critical applications of ODSs and submit any changes to CNO (N45).

c. Identify and address ODS program, technical, and supportability issues related to naval aviation and coordinate solutions with appropriate aircraft program managers, Echelon 2 commands and CNO (N45).

A) **6-6.9 COMSC shall:**

a. Monitor the drawdown of the MSC portion of the ODS Reserve and develop any required corrective actions in cooperation with CNO (N45), COMNAVSEASYS-SCOM, COMNAVAIRSYSCOM, and the Fleets.

b. In coordination with other Echelon 2 commands as appropriate, evaluate on an annual basis the ODS Reserve requirements for cognizant mission critical applications of ODSs and submit any changes to CNO (N45).

c. Identify and address ODS program, technical, and supportability issues related to COMSC operations and coordinate solutions with appropriate Echelon 2 commands and CNO (N45).

d. Revise procurement guidance for shipboard galley equipment to include only equipment that meets the requirements of paragraph 6-5.9.9.

e. Manage the conversion of shipboard HVAC&R systems on COMSC vessels.

(D

f. Ensure miscellaneous MSC-managed equipment and systems that use ODSs have material support plans or are converted or replaced to use non-ODS materials.

(A

**6-6.10 Director of Test and Evaluation and Technology Requirements (CN0 (N091)) shall** annually review the adequacy of programmed funds and schedules, including test and evaluation, to achieve the R&D policies established in this chapter and reference (g).

**6-6.11 Fleet Commanders in Chief (CINCs) shall:**

(A

a. Coordinate with COMNAVSEASYS-SCOM, COMNAVAIRSYSCOM, and COMSC, as appropriate, to manage equipment and weapon system conversion programs and schedules.

b. In coordination with CNO (N45), COMNAVSEASYS-SCOM, COMNAVAIRSYSCOM, and COMSC, monitor the drawdown of the ODS Reserve and develop any required corrective actions.

c. In coordination with COMNAVAIRSYSCOM, COMNAVSEASYS-SCOM, and COMSC, as appropriate, evaluate on an annual basis the ODS Reserve requirements for cognizant mission critical applications of ODSs.

d. Develop and execute plans to meet Navy performance goals for shipboard AC&R equipment leakage rates as described in paragraph 19-4.2.2.e.

e. Ensure Type Commanders manage existing funds to replace shipboard galley equipment as described in paragraph 6-5.9.8.

**6-6.12 Commanding officers ashore and afloat shall:**

D)

R)

a. Implement appropriate ODS procurement guidance as established by COMNAVSUPSYSCOM, COMNAVFACENGCOM, and other Echelon 2 commands. Establish requisition procedures to ensure ODS Reserve material is used only for prescribed mission critical applications.

b. Ensure that ODSs are included in the HM authorized use list.

c. Establish practices and procedures internally to reduce emissions of ODSs as much as possible.

d. Provide resources (tuition, travel, per diem, etc.) for training refrigerant technicians on recovery and recycling equipment and ensure compliance with applicable certification requirements.

e. Submit requests for waivers to any of the mandatory provisions of this policy via the chain of command to CNO (N45). Statutory requirements may not be waived.

**6-6.12.1 Commanding officers ashore shall :**

a. Develop and implement an ODS conversion plan as described in 6-5.9.3 to eliminate use of non-mission critical Class I ODSs by 31 December 2000. Ensure non-mission critical portable halon fire extinguishers were eliminated by 1 January 1996. (R)

b. Annually submit ODS inventory data to claimants as described in paragraph 6-5.3. (A)

c. Ensure ODS conversion plans were approved and submitted to claimants for review and funding in the POM cycle by 31 December 1996. (R)