



## DEPARTMENT OF THE NAVY

NAVAL AIR STATION OCEANA  
VIRGINIA BEACH, VIRGINIA 23460-5120

IN REPLY REFER TO

NASOCEANAINST 5090.4

18

13 JUL 1995

### NAS OCEANA INSTRUCTION 5090.4

Subj: PROCEDURES FOR PROCUREMENT, SERVICE, MAINTENANCE, REPAIR AND DISPOSAL OF AIR CONDITIONING AND REFRIGERATION (AC&R) EQUIPMENT

Ref: (a) OPNAVINST 5090.1B  
(b) Clean Air Act (CAA) as Amended  
(c) 40 CFR Part 82, Subpart F  
(d) NAVFAC NOTE 5090 FAC151 of 14 Mar 1995

Encl: (1) Procedures for Procurement, Service, Maintenance, Repair and Disposal of Air Conditioning and Refrigeration (AC&R) Equipment

1. Purpose. To establish policies and set forth guidelines on the procurement, use and disposal of air conditioning and refrigeration (AC&R) equipment containing ozone depleting substances (ODSs).

2. Background. ODS's are chemicals used in appliances requiring cooling systems such as air conditioners, refrigerators and water coolers. Research has shown that class I and II ODS's deplete the earth's ozone layer. The ozone layer is a protective shield around the earth which filters and prevents the sun's harmful ultraviolet (UV) rays from reaching the earth. Numerous regulations have been published to control the production, use and release of these substances.

3. Applicable Regulations. This instruction is written in compliance with references (a) through (d). Motor Vehicle Air Conditioners (MVACs) are not included within this instruction.

4. Policy. All commands, tenant activities and contractor personnel who procure, service, maintain, repair or dispose of air conditioning and refrigeration equipment at NAS Oceana shall adhere to the requirement of enclosure (1). NAS Oceana will work to minimize and control unnecessary releases of ODS's into the atmosphere and to procure non-ODS equipment whenever feasible. NAS Oceana's goal is to act in a responsible manner to protect the environment and to conserve and recycle refrigerants for continued use.

5. Effective Date. Compliance with this instruction shall be as follows:

a. Record keeping requirements shall become effective 30 days from the effective date of this instruction.

b. Procurement requirements shall become effective 90 days from the effective date of this instruction.

13 JUL 1995

c. All other requirements set forth in this instruction are effective immediately.

6. Action

a. Commanding Officers of Tenant Commands/Activities, Officers in Charge of Tenant Activities and Contractors shall ensure that this instruction is available to commands, activities and contractor personnel and that requirements set forth in enclosure (1) are followed.

b. Activities, Commands and Contractor personnel shall review enclosure (1) and ensure that all procurement, servicing, maintenance, repair and disposal requirements are followed and that all recordkeeping and reporting requirements are submitted as outlined within this instruction. Commands, activities and contractor personnel shall not service, maintain, repair or dispose of equipment containing ODS's unless certified to do so as required in reference (c). Activities and commands shall obtain approval from the Base Civil Engineer (BCE), Environmental Compliance Division (ECD) prior to purchasing air conditioning and refrigeration (AC&R) equipment.

c. Base Civil Engineer (BCE), Environmental Compliance Division (ECD) shall update enclosure (1) to ensure compliance with all applicable federal, state, local and DOD ODS regulations and requirements.

d. Base Civil Engineer (BCE) and Public Works Center (PWC) Engineering and Contracting Divisions shall ensure that all new contract drawings and specifications comply with state-of-the-art engineering designs and requirements in references (a) and (d).

e. Supply Department, as specified in enclosure (1), shall ensure that commands and activities have obtained the necessary approval forms to purchase AC&R equipment, and if disposing of AC&R equipment through the supply system, ensure that commands and activities have obtained documentation that refrigerants were properly removed.

  
W. H. SHURTLEFF

Distribution (See NASOCEANAINST 5216.1N)  
List I (Case A), IV

Stocked by:  
Commanding Officer  
Naval Air Station Oceana  
Virginia Beach, VA 23460-5120

13 JUL 1995

**Procedures For**  
**Procurement, Service, Maintenance,**  
**Repair and Disposal**  
**of**  
**Air Conditioning and Refrigeration (AC&R)**  
**Equipment**

13 JUL 1995

TABLE OF CONTENTS

1. DEFINITIONS
2. PROHIBITIONS
3. TECHNICIAN CERTIFICATION
4. STANDARDS FOR RECYCLING AND RECOVERY EQUIPMENT
  - A. GENERAL
  - B. EVACUATION LEVELS
5. MAINTENANCE, SERVICE AND REPAIR
  - A. GENERAL PROCEDURES
  - B. LEAK DETECTION
  - C. RECOVERY PRACTICES
  - D. OPENING APPLIANCES
  - E. REPAIRING LEAKS
  - F. CLEANING SYSTEM COMPONENTS
6. RECORDKEEPING AND REPORTING REQUIREMENTS
  - A. GENERAL REQUIREMENTS
  - B. RECORDKEEPING DURING SERVICING
  - C. ANNUAL DEMAND REPORTING
  - D. ACCIDENTAL RELEASES
7. REFRIGERANT PROCUREMENT, HANDLING AND DISPOSAL
  - A. PROCUREMENT OF REFRIGERANT
  - B. STORAGE AND HANDLING OF REFRIGERANT
  - C. DISPOSAL OF REFRIGERANT
8. AC&R EQUIPMENT DISPOSAL AND PROCUREMENT
  - A. DISPOSAL OF AC&R EQUIPMENT
  - B. PROCUREMENT OF NEW AC&R EQUIPMENT
9. POINTS OF CONTACT

- APPENDIX A Class I and II Ozone Depleting Substances
- APPENDIX B Notification of Intent to Purchase Recovery/Recycling Equipment
- APPENDIX C Table 1- Levels of Evacuation for Recovery or Recycling Machines
- APPENDIX D Table 2 - Required Levels of Evacuation For Appliances
- APPENDIX E Servicing Recordkeeping Form
- APPENDIX F Annual Demand Reporting (Form DD2530)
- APPENDIX G Accidental or Unintentional Venting Report Form
- APPENDIX H Procedures for Depositing and Requesting Class I ODS's from the DoD Reserve
- APPENDIX I Notification of the Intent to Purchase AC&R Equipment
- APPENDIX J Pressure/Temperature Chart

73 JUL 1995

## 1. DEFINITIONS

The following are definitions used in the procedure:

a. **APPLIANCE** - any device which contains and uses a class I or class II substance as a refrigerant and which is used for household or commercial purposes, including any air conditioner, refrigerator, chiller, or freezer.

The Clean Air Act (CAA) further defines an appliance as either a low pressure appliance, high pressure appliance, very high pressure appliance, and small appliance as shown below:

- i) **LOW-PRESSURE APPLIANCE** - an appliance that uses a refrigerant with a boiling point above 10 degrees Centigrade at atmospheric pressure (29.9 inches of mercury). This definition includes, but is not limited to, equipment utilizing refrigerants 11, 113, and 123.
- ii) **HIGH-PRESSURE APPLIANCE** - an appliance that uses a refrigerant with a boiling point between -50 and 10 degrees Centigrade at atmospheric pressure (29.9 inches of mercury). This definition includes, but is not limited to, appliances using refrigerants 12, 22, 114, 500, or 502.
- iii) **VERY-HIGH-PRESSURE APPLIANCE** - an appliance that uses a refrigerant with a boiling point below 50 degrees Centigrade at atmospheric pressure (29.9 inches of mercury). This definition includes, but is not limited to, equipment utilizing refrigerants 13 and 503.
- iv) **SMALL APPLIANCE** - any of the following products that are fully manufactured, charged, and hermetically sealed in a factory with five (5) pounds or less of refrigerant: refrigerators and freezers designed for home use, room air conditioners (including window air conditioners and packaged terminal air conditioners), packaged terminal heat pumps, dehumidifiers, under-the-counter ice makers, vending machines, and drinking water coolers.

b. **COMMERCIAL REFRIGERATION** - refrigeration appliances utilized in the retail food and cold storage warehouse sectors. Retail food includes refrigeration equipment found in supermarkets, convenience stores, restaurants and other food service establishments. Cold storage includes the equipment used to store meat, produce, dairy products, and other perishable goods. All of the equipment contains large refrigerant charges, typically over 75 pounds.

c. **DISPOSAL** - the process leading to and including:

- 1) the discharge, deposit, dumping or placing of any discarded appliance into or on any land or water.

13 JUL 1995

- 2) the disassembly of any appliance for discharge, deposit, dumping or placing of its discarded component parts into or on any land or water.
  - 3) the disassembly of any appliance for reuse of its component parts.
- d. DE MINIMUS RELEASE - the CAA permits three types of releases including:
- 1) refrigerant released in the course of making good faith attempts to recapture and recycle or safely dispose of refrigerant.
  - 2) leaks or emissions in the course of normal operation of AC&R equipment. The EPA requires the repair of substantial leaks.
  - 3) mixtures of nitrogen and R-22 that are permitted as holding charges or as leak test.
- e. ENVIRONMENTAL COMPLIANCE DIVISION (ECD) - a branch of NAS Oceana's Base Civil Engineer (BCE) responsible for ensuring compliance with environmental regulations. The ECD, Air Programs Manager is responsible for all regulations dealing with air pollution.
- f. INDUSTRIAL PROCESS REFRIGERATION - complex customized appliances used in the chemical, pharmaceutical, petrochemical and manufacturing industries. This includes industrial ice machines and ice rinks.
- g. LOW-LOSS FITTING - any device that is intended to establish a connection between hoses, appliances, or recovery or recycling machines and that is designed to close automatically or to be closed manually when disconnected, minimizing the release of refrigerant from hoses, appliances, and recovery or recycling machines.
- h. MAJOR MAINTENANCE, SERVICE, OR REPAIR (MSR) - any maintenance, service, or repair involving the removal of any or all of the following appliance components: compressor, condenser, evaporator, evaporator coil, or auxiliary heat exchanger coil.
- i. MINOR MAINTENANCE, SERVICE, OR REPAIR (MSR) - any maintenance, service, or repair which is not followed by an evacuation to the environment (e.g., addition of refrigerant through a process port, replacement of pressure switches, etc.).
- j. MISSION CRITICAL USE - any use of a substance which has an impact on combat mission capability as determined by the Chief of Naval Operations (CNO) including:
- 1) CFC-11, CFC-12, CFC-114 and CFC-500 used in ship combat system support equipment and aircraft environmental control systems.
  - 2) Shore-based heating, ventilating, air conditioning, and refrigerating (AC&R) equipment systems directly supporting weapon delivery systems.

13 JUL 1995

- k. **MOTOR VEHICLE AIR CONDITIONER-LIKE APPLIANCE (MVAC-LIKE APPLIANCE)** - Mechanical vapor compression, open-drive compressor appliances used to cool the driver's or passenger's compartment of a non-road motor vehicle. This includes the air conditioning equipment found on agricultural or construction vehicles.
- l. **NORMALLY CONTAINING A QUANTITY OF REFRIGERANT** - means containing the quantity of refrigerant within the appliance or appliance component when the appliance is operating within a full charge of refrigerant.
- m. **OPENING AN APPLIANCE** - any service, maintenance, or repair on an appliance that could be reasonably expected to release refrigerant from the appliance to the atmosphere unless the refrigerant were previously recovered from the appliance.
- n. **OZONE DEPLETING SUBSTANCE (ODS)** - Any chemical which is listed as a class I or class II substance as defined by the CAA. A listing of class I and class II substances is found in Appendix A.
- o. **OZONE DEPLETING SUBSTANCE (ODS) RESERVE** - The DoD ODS reserve is located at Defense General Supply Center (DGSC) Richmond, Va. and provides class I ODS's to support mission critical applications.
- p. **PROCESS STUB** - a length of tubing that provides access to the refrigerant inside a small appliance or room air conditioner and that can be resealed at the conclusion of repair or service.
- q. **RECLAIM REFRIGERANT** - to reprocess refrigerant to at least the purity specified in the ARI Standard 700-1993, Specifications for Fluorocarbon Refrigerants and Other Refrigerants and to verify this purity using the analytical methodology prescribed in the ARI Standard 700-1993. This involves the use of processes or procedures available only at a reprocessing or manufacturing facility.
- r. **RECOVER REFRIGERANT** - to remove refrigerant in any condition from an appliance without testing or processing it.
- s. **RECYCLE REFRIGERANT** - to extract refrigerant from an appliance and clean refrigerant for reuse without meeting all of the requirements for reclamation. Recycled refrigerant is cleaned using oil separation and single or multiple passes through devices, such as replaceable core filter-driers, which reduce moisture, acidity, and particulate matter.
- t. **SELF-CONTAINED RECOVERY EQUIPMENT** - refrigerant recovery or recycling equipment that is capable of removing the refrigerant from an appliance without the assistance of components contained in the appliance.
- u. **SYSTEM-DEPENDENT RECOVERY EQUIPMENT** - refrigerant recovery equipment that requires the assistance of components contained in an appliance to remove the refrigerant from the appliance. System dependent equipment may be used only with appliances containing less than 15 pounds of refrigerant.

13 JUL 1995

v. **TECHNICIAN** - means any person who performs maintenance, service, or repair that could reasonably be expected to release class I or class II substances from appliances into the atmosphere, including but not limited to installers, contractor employees, in-house service personnel, service personnel, and in some cases, owners. Technician also means any person disposing of appliances except for small appliances and MVAC-like equipment.

## 2. PROHIBITIONS

a. No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the environment any class I or class II substance used as refrigerant in such equipment. Very small releases associated with good faith attempts to recycle or recover refrigerants are not subject to these regulations.

b. No person shall alter the design of certified refrigerant recycling or recovery equipment in a way that would affect the equipment's ability to meet the requirements in Section 4 "STANDARDS FOR RECYCLING AND RECOVERY EQUIPMENT" without resubmitting the new design for certification testing.

c. No person shall purchase or use class I or class II substances for service, maintenance or repair unless properly trained and certified.

d. No person shall purchase new air conditioning and refrigeration equipment without obtaining prior approval from the Environmental Compliance Division (ECD), Air Programs Manager.

## 3. TECHNICAL CERTIFICATIONS

a. Effective November 14, 1994, persons who maintain, service, or repair appliances and persons who remove refrigerant from appliances for disposal purposes must be certified by an EPA approved technician certification program. All Navy military and civilian refrigerant technicians shall be properly trained and certified in one of the following certification categories depending on type of equipment being serviced.

- (i) For small appliances, a Type I certification is required.
- (ii) For high or very high pressure appliances, a Type II certification is required.
- (iii) For low pressure appliances, a Type III certification is required.
- (iv) For all appliances, a Universal certification is required.

b. Personnel working on AC&R equipment must obtain the proper level certification prior to engaging in maintenance and repair activities. Personnel who receive certifications are not required to become recertified. Personnel who wish to advance to a higher certification level, may do so at any time without being required to recertify in areas already successfully completed.

c. Technicians must keep a copy of their certifications at their place of business and forward a copy to NAS Oceana's ECD, Air Programs Manager.

13 JAN 1995

d. Training courses are available from non-government agencies on a "fee" basis and by government agencies on a limited basis. The Naval Air Warfare Center (NAWC) has obtained EPA approval to conduct certification testing. Type I, II, III and Universal testing is available at NAS Oceana for civilian and military personnel. Contractor personnel will not be tested at government sites. Contact the ECD, Air Programs Manager for site locations and training manuals.

#### 4. STANDARDS FOR RECYCLING AND RECOVERY EQUIPMENT

##### a. General

(1) Personnel wishing to order new recovery/recycling equipment shall fill out and forward Appendix B to the ECD, Air Programs Manager prior to purchasing such equipment. A signed copy of Appendix B will be returned to the requester upon approval. The ECD is responsible for proper notification of equipment type and usage to the EPA.

(2) Service technicians shall check the integrity of the recovery system being used with a refrigerant leak detector, or other procedures as outlined by the manufacturer, on a daily basis or prior to each days use.

(3) System dependent type (passive type) refrigerant recovery systems utilize refrigeration system components to remove refrigerants. System dependent equipment shall not be used with appliances normally containing more than 15 pounds of refrigerant, unless the system dependent equipment is permanently attached to the appliance as a pump-out unit.

(4) Recovery/recycle equipment purchased after November 15, 1993 must have a certification label to be utilized at NAS Oceana. The label must state:

"This equipment has been certified by {approved equipment testing organization} to meet EPA's minimum requirements for recycling or recovery equipment intended for use with {appropriate category of appliance}"

##### b. Evacuations Levels

(1) Appliances: Recovery and recycling equipment used to service, maintain, repair or dispose of appliances shall meet the evacuation requirements outlined in Table 1, Appendix C.

(2) Small Appliances: Recovery and recycling equipment used to service, maintain and repair small appliances shall meet the following evacuation requirements:

- (i) If the recycling/recovery equipment was manufactured or imported before November 15, 1993, the equipment must recover 80% of the refrigerant in the system, whether or not the compressor of the test stand is operating, or achieve a 4-inch vacuum when tested using a properly calibrated pressure gauge.

13 JUL 1995

- (ii) Recycling/recovery equipment manufactured or imported on or after November 15, 1993 must meet all new EPA specifications and be appropriately labeled.

(3) Small Appliances: Recovery and recycling equipment used to dispose of small appliances shall meet the following evacuation requirements:

- (i) Must be capable of removing 90% of the refrigerant when the compressor of the small appliance is operating and 80% of the refrigerant when the compressor of the small appliance is not operating, or
- (ii) Must evacuate the small appliance to 4-inches of vacuum when tested using a properly calibrated pressure gauge.

(4) MVAC-like Appliances: Recovery and recycling equipment used to service, maintain or repair MVAC-like appliances shall meet the following evacuation requirements:

- (i) If the recycling/recovery equipment was manufactured or imported before November 15, 1993, the equipment must be capable of reducing the system pressure to 102 mm of mercury vacuum.
- (ii) Recycling/recovery equipment manufactured or imported on or after November 15, 1993 must meet all new EPA specifications and be appropriately labeled.

(5) MVAC-like Appliances: Recovery and recycling equipment used to dispose of MVAC-like appliances shall be capable of reducing the system pressure to 102mm of mercury vacuum.

## 5. MAINTENANCE, SERVICE AND REPAIR (MSR) PROCEDURES

### a. General Procedures

(1) It is unlawful for any person, in the course of maintaining, servicing or repairing any equipment or systems containing ODS's to knowingly vent or otherwise knowingly release the ODS in a manner which permits the substance to enter the environment. De Minimus and accidental releases associated with good faith attempts to safely recapture, recycle and dispose of ODS's are not subject to these restrictions. All accidental releases should be reported in accordance with Section 6 "RECORDKEEPING AND REPORTING PROCEDURES".

(2) All recovery or recycling equipment shall be used in accordance with the manufacturer's directions. Service personnel shall follow all necessary safety precautions when performing MSR including the following:

13 JUL 1995

- i) Do not use oxygen to purge lines or to pressurize equipment or systems.
- ii) Do not cut or weld any refrigeration lines with refrigerant in the equipment.
- iii) Never apply an open flame or live steam to a refrigerant cylinder.
- iv) Wear protective gloves and safety glasses during servicing.
- v) Follow all safety precautions for the equipment.

(3) Refrigerant may be returned to the appliance from which it is recovered or to another appliance owned by the same person (Department of Defense) without being recycled or reclaimed.

(4) If a chiller is to be idle less than six months, service technicians will make efforts to keep the chiller room temperature at less than the boiling point of the refrigerant to lessen the possibility of leakage. If the room's temperature is above that boiling point, refrigerant may boil and leak; if much below that point, the chiller may draw in air and moisture. If it is not possible to control ambient temperature in the chiller room, service technicians shall make a determination as to the feasibility of heating the refrigerant to slightly below its boiling point to keep the chiller vessel pressure equal to the atmospheric pressure.

#### b. Leak Detection

(1) If leak-testing with trace refrigerant and nitrogen, HCFC-22 or any other fully halogenated refrigerant shall be used instead of CFC-12. NOTE: It is considered a violation of the CAA to release CFC, HCFC or HFC refrigerants that contain a mixture of nitrogen and refrigerant that result from adding nitrogen to a fully charged appliance for leak checking.

(2) All detected leaks shall be repaired in a timely manner. Leaks are most often found in tubing, flanges, O-rings, and connections where components meet. In addition, fittings will be tightened, welded joints checked, worn gaskets and seals replaced, and attention given to the anti-leak integrity of a chillers outer shell.

(3) A leak test will be required on any repaired area. Refrigerant will be charged into AC&R equipment only after it has been determined that the equipment does not leak or contain moisture. After charging the equipment, service personnel shall purge or drain charging lines into an approved refrigerant container.

#### c. Recovery Practices

(1) Refrigerant used in air conditioning and refrigeration equipment shall be recovered and/or recycled for reuse, reprocessing (reclaimed), or properly disposed of, whenever it is removed from the equipment.

(2) Only one refrigerant may be recovered into any single container. Do not mix refrigerants during the recovery process because the mixture may be impossible to reclaim.

13 JUL 1995

d. Opening Appliances

(1) All persons opening appliances for MSR must have at least one piece of certified, self-contained recovery equipment available at their place of business.

(2) Persons opening appliances for MSR must evacuate the refrigerant in either the entire unit or the part to be serviced (if it can be isolated) to a system receiver or a certified recovery or recycling machine. Service personnel must obtain evacuations as shown in Table 2, Appendix D before opening the appliance.

(3) Persons opening small appliances for MSR must follow evacuation levels listed below:

- (i) When using recycling and recovery equipment manufactured before November 15, 1993, recover 80% of the refrigerant in the appliance, or
- (ii) When using recycling and recovery equipment manufactured on or after November 15, 1993, recover 90% of the refrigerant in the appliance when the compressor in the appliance is operating, or 80% of the refrigerant in the appliance when the compressor in the appliance is not operating, or
- (iii) Evacuate the small appliance to 4 inches of mercury vacuum.

(4) Persons opening MVAC-like appliances for MSR must use certified recycling or recovery equipment.

e. Repairing Leaks

(1) Persons performing MSR shall notify owners of any leaks detected in excess of the following:

- (i) Commercial and industrial process refrigeration equipment containing more than 50 pounds of refrigerant - The equipment is leaking at a rate such that the loss of refrigerant will exceed 35 percent of the total charge during a 12 month period.
- (ii) Appliances normally containing more than 50 pounds of refrigerant and are not covered in the above paragraph of this section - The appliance is leaking at a rate such that the loss of refrigerant will exceed 15 percent of the total charge during a 12-month period.

(2) Owners of equipment identified as leaking shall repair all leaks within the following time frames:

13 JUL 1995

- (i) Repair the leak(s) within 30 days of discovery, or
- (ii) Repair the leak(s) within 30 days of when the leak(s) should have been discovered if the owners intentionally shielded themselves from information which would have revealed a leak; or
- (iii) Within 30 days of discovering the leak(s), the owners develop a one-year retrofit or retirement plan for the leaking equipment. This plan (or a legible copy) must be kept at the site of the equipment. The original must be made available for EPA inspection upon request. The plan must be dated and all work under the plan must be completed within one year of plan's date. Owners must maintain a copy of the retirement plan on file and forward a copy to the ECD, Air Programs Manager.

(3) Service personnel shall document all problems and repair options given to the equipment owners. Documentation should include a signed statement from the service/repair contractor and equipment owner as to when the leak was discovered and any repair options discussed by the service contractor.

f. **Cleaning System Components**

(1) When cleaning system components or parts, CFC's or other ODS's shall not be used. Only cleaning solvents that do not have ozone depletion factors shall be used. All cleaning solvents shall be properly disposed of after use. Refrigeration system cleanup methods using filters and dryers are preferred, and shall be used when practical.

**6. RECORDKEEPING AND REPORTING REQUIREMENTS**

a. **General Requirements**

(1) All the records required by this section must be maintained and kept for a minimum of three years. Persons who dispose of appliances must keep records on-site.

b. **Recordkeeping During Servicing**

(1) Persons who service appliances normally containing 50 or more pounds of refrigerant must provide the owner/operator of such appliances with an invoice or other documentation, which indicates the amount of refrigerant added to the appliance.

(2) Personnel servicing any appliances (including small appliances) with refrigerant shall maintain records indicating the amount of refrigerant added or removed from the equipment. Records may be maintained in log book form or internally developed tracking forms as deemed

13 JUL 1995

appropriate by individual commands and activities. Information required within the log book shall include all information identified in Appendix E, "Service Recordkeeping Form". Personnel wishing to use Appendix E in lieu of a log book may do so. Additional information can be added as necessary for shop personnel to accurately track ODS usage. In addition to log book recordkeeping requirements, PWC shall maintain service information directly on service call/work request forms, or other appropriate maintenance forms.

(3) Copies of servicing records (log book) shall be sent to NAS Oceana's ECD on a quarterly basis who will compile this information into a data base.

c. Annual Demand Reporting

(1) All air conditioning and refrigeration personnel shall maintain records of the amount and type of refrigerants purchased. It is recommended that service personnel keep purchase records on file and document all purchases within their service log book.

(2) OPNAVINST 5090.1B requires annual reporting of ODS's purchased. Reporting is required on DD form 2530. All commands who purchase ODS's shall complete DD 2530 (Appendix F, "Ozone Depleting Chemicals Annual Report") and forward it to NAS Oceana's ECD, Air Programs Manager no later than 15 January of each year. NAS Oceana will submit compiled information to COMNAVSUPSYSCOM (SUP 45) no later than 1 February of each year.

d. Accidental Releases

(1) Personnel who accidentally or unintentionally release five (5) or more pounds of refrigerants during the maintenance, service, repair or disposal of AC&R equipment shall complete Appendix G, "Accidental or Unintentional Venting Reporting Form". The form shall be forwarded to NAS Oceana's ECD, Air Programs Manager within five (5) working days of the release. The ECD shall retain accidental and unintentional release information for documentation purposes only and to report such releases to the Chief of Naval Operations (CNO) upon request.

It is not the intent of the CAA to fine or penalize personnel for accidental releases, however, service personnel are required by NAS Oceana to maintain such records to ensure compliance with EPA regulations and CNO policy.

(2) Document all accidental releases on Appendix E, "Servicing Recordkeeping Form", or equivalent form/logbook as established by individual commands and activities.

## 7. REFRIGERANT PROCUREMENT, HANDLING AND DISPOSAL

a. Procurement of Refrigerant

(1) Navy activities will procure recycled or reclaimed refrigerants whenever possible. Prior to purchasing virgin and recycled/reclaimed class I ODS's for use in the servicing, maintenance and repair of AC&R equipment, contact the ECD to ensure that a procurement waiver

13 JUL 1995

has been obtained in accordance with reference (d). All refrigerant purchases of class I and II ODS's shall be documented in accordance with Section 6, "RECORDKEEPING AND REPORTING REQUIREMENTS".

(2) All refrigerants used at NAS Oceana shall be added to the Authorized User List (AUL) and a numbered Material Safety Data Sheet (MSDS) obtained from the Supply SCHRIMP Division prior to usage. MSDS's must be available for each type of refrigerant utilized and for each manufacturer of the refrigerant.

(3) Class I ODS's can be ordered from the DoD ODS Reserve for mission critical use. Use of the DoD ODS reserve shall be restricted by CNO. The ODS reserve shall be used to obtain class I ODS's only to support mission critical requirements. Activities are prohibited from requisitioning ODS's from the reserve for non-mission critical applications. Procedures in Appendix H, "Procedures for Depositing and Requesting Class I ODS's from the DoD Reserve", shall be followed when requesting ODS's. All commands and activities wishing to obtain ODS's from the reserve must provide the ECD, Air Programs Manager with a copy of all procurement/shipping requests.

b. Storage and Handling of Refrigerant

(1) Refrigerant shall be recovered, recycled, reclaimed and reused. Refrigerant may be stored and used locally in order to service existing AC&R equipment. The supply shall be managed at the activity level. Class I ODS's in excess of local needs shall be deposited in the DoD ODS reserve.

(2) Service personnel shall consult the MSDS for refrigerant used to understand health, safety, storage, handling, and disposal requirements.

(3) ODS refrigerants are considered hazardous material (HM) and are subject to Federal, state and local regulatory requirements. Under 56 Federal Register (FR) 5910, EPA issued an interim final rule that suspends the toxicity characteristics of class I and class II ODS refrigerants obtained with enclosed recycling systems provided the refrigerant is intended for further use. Therefore, used class I and class II ODS refrigerants that are recycled for future use will not be considered hazardous waste under federal laws.

(4) Service personnel will use only approved containment vessels and follow appropriate safety standards during transfer of refrigerant. Only containers designated "refillable" by the Department of Transportation (DOT) shall be used to transport recovered pressurized refrigerant. Disposal containers (called DOT 39s) shall not be used to recover refrigerant. The penalty for transporting a refilled disposable cylinder is a fine of up to \$25,000 per day and five years imprisonment. All used refrigerant containers will be equipped with approved closure devices to prevent unused refrigerant from escaping to the atmosphere.

(5) All containers will be stored in areas where excessive heat build up does not take place. If possible, the storage area temperature will be below 70 degrees F.

13 JUL 1985

(6) Do not place recovered refrigerant in reusable cylinders if the test date on the cylinder is more than five (5) years old. The test date will be stamped on the shoulder or collar of the cylinder and may appear as follows:

A1	This indicates the cylinder was retested in December
12 89	of 1989 by retester number A123.
23	Send all out of date cylinders to appropriate
	laboratory testing facilities.

(7) Navy cylinders used for shipping recovering refrigerant shall have painted orange bodies and a yellow shoulder top.

c. Disposal of Refrigerant

(1) No Navy activity shall sell any class I ODS outside the Navy without written permission from the CNO (N4). Excess class I ODS's shall be deposited into the Navy portion of the DoD ODS reserve. Procedures in Appendix H shall be followed when depositing ODS's into the DoD Reserve. Commands and activities shall provide the ECD, Air Programs Manager a copy of all 1348's used for shipment of ODS's into the reserve.

(2) Recovered/recycled ODS's shall be utilized whenever possible. If necessary, the ODS's will be reclaimed by certified reclaim facilities. Reclaim facilities are currently available from non-government agencies and from the Defense General Supply Center (DGSC), if depositing ODS's into the DoD DOS Reserve. Cost associated with the reclamation process shall be the responsibility of the tenant activity. Activities who do not wish to reclaim ODS's for reuse shall deposit all class I ODS's into the DoD ODS reserve.

(3) All unusable class I and class II substances shall be properly disposed of in accordance with NASOCEANAINST 11345.1.

**8. AC&R EQUIPMENT DISPOSAL AND PROCUREMENT**

a. Disposal of AC&R Equipment

(1) AC&R equipment determined to be usable when turned into the Defense Reutilization and Marketing Service (DRMS) shall be labeled to indicate that the equipment contains an ODS. DRMS may require removal of refrigerant from usable AC&R equipment. Contact DRMS prior to shipment for instructions. Activities transferring AC&R equipment to DRMS or MWR Recycling for disposal of scrap shall have the refrigerant removed prior to disposal.

(2) All equipment containing ODS's shall be serviced by Public Works Center (PWC), Va. Beach Site prior to disposal. PWC shall ensure that all refrigerants and oils have been removed from the equipment and that documentation of removal is provided to equipment owners prior to disposal. Personnel wishing to have refrigerant removed by other certified contractors or

13 JUL 1995

personnel shall obtain permission from the ECD, Air Programs Manager prior to recovery and disposal. Persons who dispose of small appliances and MVAC-like appliances must maintain copies of signed statements indicating that all refrigerant has been removed.

(3) All persons disposing of appliances must have at least one piece of certified, self-contained recovery equipment available at their place of business.

(4) Persons disposing of appliances must evacuate the refrigerant in the entire unit to the levels shown in Table 2, Appendix D with a certified recovery or recycling machine.

b. Procurement of New AC&R Equipment

(1) Acquisition of ODS's shall be per the following: DoD Authorization Act of 1993, EO 12843 of April 1993; SECNAV memorandum of 28 May 1993, "Elimination of Class I ODS's in DON Contracts"; SECNAV 5090.5, "Ozone Depleting Substances"; and OPNAVINST 5090.1B, "Ozone Depleting Substances".

(2) Procurement of class I ODS's after 14 July 1994 is not authorized unless waived by a senior acquisition official in accordance with reference (d).

(3) All shore-based (non-mission critical) AC&R equipment for which procurement is initiated after 14 July 1994 shall use an EPA Significant New Alternatives Program (SNAP) approved alternative refrigerant with an Ozone Depleting Potential (ODP) of zero, whenever possible. If no EPA SNAP-alternatives with an ODP of zero exist, activities shall adopt alternatives with an ODP of 0.05 or less.

(4) Commands, activities and contractor personnel wishing to purchase new AC&R equipment (including small appliances) with class codes 4120 and 4110 shall obtain preauthorization from the ECD, Air Programs Manager. Make notification of the intent to purchase new AC&R equipment by filling out and forwarding Appendix I to the ECD, Air Programs Manager. All requests to purchase new AC&R equipment shall be reviewed to determine compliance with acquisition guidelines outlined in reference (d). Commands and activities must receive authorization to purchase AC&R equipment and must submit a copy of the signed authorization along with the purchase request.

Requests where class I ODS's are not utilized shall be approved by the ECD, Air Programs Manager or Base Civil Engineer (BCE), Facilities Manager. Requests where class I ODS's are to be utilized shall be forwarded to Base Civil Engineer (BCE). The BCE shall make a determination as to the availability of suitable substitute materials. If the technical evaluation deems that no suitable substitute exists, the BCE shall make a written request for a waiver to Naval Facilities Engineering Command (NAVFAC) in accordance with reference (d).

(5) Currently installed shore-based (non-mission critical) AC&R equipment containing a class I ODS will be replaced or converted to an EPA SNAP-approved refrigerant by December 31, 2000. When considering which alternative refrigerants to use as replacements or retrofits, activities shall consider that the production phase out schedule for most class II ODS's begins in

13 JUL 1995

2020 and is subject to possible acceleration. Serviceable refrigerants from the above replacements or conversions will be recovered and recycled and may be stored and used locally in order to service existing AC&R equipment containing class I ODS's. This supply will be managed at the activity level and eventually disposed of, or deposited in the Navy ODS reserve in accordance with all applicable regulations. Class I ODS's used in small appliances are not subject to the phase out requirements, but are subject to requirements for preauthorization to purchase equipment (Appendix I).

(6) New and converted AC&R equipment will include refrigerant isolation valves and service apertures to facilitate recovery and recycling procedures.

(7) The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) standard 15-94 shall be utilized whenever feasible. Standard 15-94 supersedes ASHREA 15 and requires the installation of refrigerant monitors/alarms in all equipment rooms. The new standard also requires that two self contained breathing apparatuses be available for emergency use.

## 9. POINTS OF CONTACT

- a. NAS Oceana, Environmental Compliance Division (ECD), Air Programs Manager  
Base Civil Engineer  
Code 189  
(COMM) 433-3434  
(FAX) 433-2719
- b. PWC, Environmental Division, Air Programs Manager  
Public Works Center  
Code 941  
(COMM) 445-3208  
(FAX) 445-9837
- c. General Services Administration (GSA)  
Federal Supply Service (7FXIM)  
General Products Commodity Center  
819 Taylor Street  
Forth Worth, Texas 76102  
(COMM) 817-334-2419
- d. Defense General Supply Center (DGSC)  
Defense Depot Richmond  
Richmond, Va. 23297-5000  
(DSN) 695-3756  
(COMM) 804-279-3756  
(HOTLINE) 804-279-4865  
(DSN) 695-4865

13 JUL 1995

- e. Navy CFC and Halon Clearinghouse  
1755 Jefferson Davis Highway #910  
Arlington, VA 22202  
(COMM) 703-769-1883  
(FAX) 703-769-1885
  
- f. The American Society of Heating, Refrigerating and Air Conditioning Engineers  
(ASHRAE)  
1791 Tullie Circle, NE  
Atlanta, GA 30329  
(COMM) 404-636-8400  
(FAX) 404-321-5478

13 JUL 1995

**APPENDIX A**  
**CLASS I AND II OZONE DEPLETING SUBSTANCES**

**Class I Substances:****Group I:**

chlorofluorocarbon-11 (CFC-11)  
 chlorofluorocarbon-12 (CFC-12)  
 chlorofluorocarbon-113 (CFC-113)  
 chlorofluorocarbon-114 (CFC-114)  
 chlorofluorocarbon-115 (CFC-115)  
 chlorofluorocarbon-500 (CFC-500)  
 chlorofluorocarbon-502 (CFC-502)

**Group II:**

halon-1211  
 halon-1301  
 halon-2402

**Group III:**

chlorofluorocarbon-13 (CFC-13)  
 chlorofluorocarbon-111 (CFC-111)  
 chlorofluorocarbon-112 (CFC-112)  
 chlorofluorocarbon-211 (CFC-211)  
 chlorofluorocarbon-212 (CFC-212)  
 chlorofluorocarbon-213 (CFC-213)  
 chlorofluorocarbon-214 (CFC-214)  
 chlorofluorocarbon-215 (CFC-215)  
 chlorofluorocarbon-216 (CFC-216)  
 chlorofluorocarbon-217 (CFC-217)  
 chlorofluorocarbon-503 (CFC-503)

**Group IV:**

carbon tetrachloride

**Group V:**

methyl chloroform

**Group VI:**

Methyl Bromide

**Group VII:**

Hydrobromofluorocarbons

**Class II Substances:**

hydrochlorofluorocarbon-21 (HCFC-21)  
 hydrochlorofluorocarbon-22 (HCFC-22)  
 hydrochlorofluorocarbon-31 (HCFC-31)  
 hydrochlorofluorocarbon-121 (HCFC-121)  
 hydrochlorofluorocarbon-122 (HCFC-122)  
 hydrochlorofluorocarbon-123 (HCFC-123)  
 hydrochlorofluorocarbon-124 (HCFC-124)  
 hydrochlorofluorocarbon-131 (HCFC-131)  
 hydrochlorofluorocarbon-132B (HCFC-132B)  
 hydrochlorofluorocarbon-133A (HCFC-133A)  
 hydrochlorofluorocarbon-141B (HCFC-141B)  
 hydrochlorofluorocarbon-221 (HCFC-221)  
 hydrochlorofluorocarbon-222 (HCFC-222)  
 hydrochlorofluorocarbon-223 (HCFC-223)  
 hydrochlorofluorocarbon-224 (HCFC-224)  
 hydrochlorofluorocarbon-225CA (HCFC-225CA)  
 hydrochlorofluorocarbon-225CB (HCFC-225CB)  
 hydrochlorofluorocarbon-226 (HCFC-226)  
 hydrochlorofluorocarbon-231 (HCFC-231)  
 hydrochlorofluorocarbon-232 (HCFC-232)  
 hydrochlorofluorocarbon-233 (HCFC-233)  
 hydrochlorofluorocarbon-234 (HCFC-234)  
 hydrochlorofluorocarbon-235 (HCFC-235)  
 hydrochlorofluorocarbon-241 (HCFC-241)  
 hydrochlorofluorocarbon-242 (HCFC-242)  
 hydrochlorofluorocarbon-243 (HCFC-243)  
 hydrochlorofluorocarbon-244 (HCFC-244)  
 hydrochlorofluorocarbon-251 (HCFC-251)  
 hydrochlorofluorocarbon-252 (HCFC-252)  
 hydrochlorofluorocarbon-253 (HCFC-253)  
 hydrochlorofluorocarbon-261 (HCFC-261)  
 hydrochlorofluorocarbon-262 (HCFC-262)  
 hydrochlorofluorocarbon-271 (HCFC-271)

13 JUL 1995

**APPENDIX B  
NOTIFICATION OF INTENT  
TO PURCHASE RECOVERY/RECYCLING EQUIPMENT**

NAS Oceana activities shall notify the Environmental Compliance Division (ECD), Code 189 prior to all purchases of refrigerant recovery or recycling equipment. Activities shall make such notification by filling out the information below and forwarding it the BCE, ECD (Code 189), Bldg 830 prior to purchasing such equipment. The ECD will be responsible for making proper notification to the EPA that such equipment was purchased. See Section 4, "STANDARDS FOR RECYCLING AND RECOVERY EQUIPMENT" for additional information.

**PART 1: ESTABLISHMENT INFORMATION**

Command/Activity _____	Shop _____
Phone Number _____	Point of Contact _____

**PART 2: REGULATORY CLASSIFICATION**

Identify the type of work performed at the establishment. Check all boxes that apply.

- Type A - Service small appliances
- Type B - Service refrigeration or air conditioning equipment other than small appliances
- Type C - Dispose of small appliances
- Type D - Disposal of refrigeration or air conditioning equipment other than small appliances

**PART 3: CERTIFIED PERSONNEL**

Identify the type of technician certifications currently available at the establishment. Check all boxes that apply. *Copies of all certifications should be on file at the Environmental Compliance Division.*

- Type I Technician - Maintains, services, or repairs small appliances
- Type II Technician - Maintains, services or repairs high pressure or very high pressure appliances
- Type III Technician - Maintains, services or repairs low pressure appliances
- Universal Technician - Maintains, services or repairs low/high pressure systems

**PART 4: DEVICE IDENTIFICATION**

Name of Device(s) Manufacturer	Model Number	Date of Anticipated Purchase	Purchase Source	Check Box if Self Contained
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>

Reason for choosing system:

---

\_\_\_\_\_  
BCE, ECD, Air Programs Manager (Sign)

\_\_\_\_\_  
Date

13 JUL 1995

**APPENDIX C**  
**TABLE 1**  
**LEVELS OF EVACUATION WHICH MUST BE ACHIEVED**  
**BY RECOVERY OR RECYCLING MACHINES**  
**INTENDED FOR USE WITH APPLIANCES<sup>1</sup>**

A. Evacuation levels for equipment purchased BEFORE NOV 15, 1993:

Type of air-conditioning or refrigeration equipment with which recovery or recycling machine is intended to be used	Inches of vacuum (relative to standard atmospheric pressure of 29.9 inches Hg)
HCFC-22 appliance, or isolated component of such appliance, normally containing less than 200 pounds of refrigerant.	0
HCFC-22 appliance, or isolated component of such appliance, normally containing 200 pounds or more of refrigerant.	4
Very high-pressure appliance	0
Other high-pressure appliance, or isolated component of such appliance, normally containing less than 200 pounds of refrigerant.	4
Other high-pressure appliance, or isolated component of such appliance, normally containing 200 pounds or more of refrigerant.	4
Low-pressure appliance	25

B. Evacuation levels for equipment purchased ON OR AFTER NOV 15, 1993:

Type of air-conditioning or refrigeration equipment with which recovery or recycling machine is intended to be used	Inches of vacuum (relative to standard atmospheric pressure of 29.9 inches Hg)
HCFC-22 appliance, or isolated component of such appliance, normally containing less than 200 pounds of refrigerant.	0
HCFC-22 appliance, or isolated component of such appliance, normally containing 200 pounds or more of refrigerant.	10
Very high-pressure appliance	0
Other high-pressure appliance, or isolated component of such appliance, normally containing less than 200 pounds of refrigerant.	10
Other high-pressure appliance, or isolated component of such appliance, normally containing 200 pounds or more of refrigerant.	15
Low-pressure appliance	25

The equipment must have its liquid recovery rate and its vapor recovery rate measured under the conditions of ARI 740-1993, unless the equipment has no inherent liquid or vapor recovery rate.

<sup>1</sup>Except for small appliances, MVACs and MVAC-like appliances.

JUN 1995

**APPENDIX D**  
**TABLE 2**  
**REQUIRED LEVELS OF EVACUATION FOR APPLIANCES**  
 (Except for small appliances, MVACs, and MVAC-like appliances)

Type of appliance	Inches of Hg vacuum (relative to standard atmospheric pressure of 29.9 inches of Hg)	
	Using recovery or recycling equipment manufactured or imported before Nov. 15, 1993	Using recovery or recycling equipment manufactured or imported on or after Nov. 15, 1993
HCFC-22 appliance, or isolated component of such appliance, normally containing less than 200 pounds of refrigerant.	0	0
HCFC-22 appliance, or isolated component of such appliance, normally containing less than 200 pounds of refrigerant	0	0
HCFC-22 appliance, or isolated component of such appliance, normally containing 200 pounds or more of refrigerant.	4	10
Other high-pressure appliance, or isolated component of such appliance, normally containing less than 200 pounds of refrigerant.	4	10
Other high-pressure appliance, or isolated component of such appliance, normally containing 200 pounds or more of refrigerant.	4	15
Very high-pressure appliance	0	0
Low-pressure appliance	25	25 mm Hg absolute

If the levels shown in Table 2 cannot be met due to the reasons described below, then follow the procedures for each reason.

Reason #1: The evacuation of the appliance to the atmosphere is not to be performed after completion of the MSR and the MSR is not major.

Procedure for Reason #1:

- (a) If high or very-high pressure appliance - The appliance must be evacuated to a pressure no higher than 0 psig before it is opened.
- (b) If low pressure appliance - The appliance must be pressurized to 0 psig before it is opened.
  - (i) Persons pressurizing low-pressure appliances that use refrigerants with boiling points at or below 85 degrees at 29.9 inches of mercury (standard atmospheric pressure), (e.g., CFC-11 and HCFC-123) must not use methods, such as nitrogen, that require subsequent purging.
  - (ii) Persons pressurizing low-pressure appliances that use refrigerants with boiling points above 85 degrees at 29.9 inches of mercury, (e.g., CFC-113) must use heat to raise the internal pressure of the appliance as much as possible, but may use nitrogen to raise the internal pressure of the appliance from the level attainable through use of heat to atmospheric pressure.

13 JUL 1995

**APPENDIX D**  
**TABLE 2**  
**REQUIRED LEVELS OF EVACUATION FOR APPLIANCES**  
(Except for small appliances, MVACs, and MVAC-like appliances)  
(CONTINUED)

Reason #2: Due to leaks in the appliance, the evacuation levels in Table 2 are not attainable or would substantially contaminate the refrigerant being recovered.

Procedure for Reason #2:

- (a) Isolate leaking from non-leaking components wherever possible;
- (b) Evacuate non-leaking components to be opened to the levels in Table 2 and
- (c) Evacuate leaking components to be opened to the lowest level attainable without substantially contaminating the refrigerant. In no case shall this level exceed 0 psig.

Reason #3: The recovery or recycling equipment can not be tested according to ARI 740-1993 but has been certified by a third party to meet evacuation levels in Table 2.

Procedure for Reason #3:

- (a) Follow the manufacturer's directions for achieving the required recovery efficiency.



13 JUL 1991

**APPENDIX F  
ANNUAL DEMAND REPORTING  
FORM DD2530**

OPNAVINST 5090.1B requires annual reporting of ODS's purchased outside of the Naval Supply System. All commands who purchase ODS's shall complete form DD2530 and forward it to the BCE, ECD (Code 189), Bldg 830 no later than 15 January of each year. NAS Oceana will then submit compiled information to COMNAVSUPSYSCOM (SUP 45) no later than 1 February of each year. See Section 10, "RECORDKEEPING AND REPORTING REQUIREMENTS" for additional information.

Activity/Command: \_\_\_\_\_ Point of Contact: \_\_\_\_\_ Phone: \_\_\_\_\_

<b>OZONE DEPLETING CHEMICALS ANNUAL REPORT</b>				
1. COMPONENT				REPORT CONTROL SYMBOL
2. QUANTITIES (in thousands of pounds)				
CHEMICAL <small>a.</small>	PROCUREMENT (DLA USE ONLY) <small>b.</small>	RESERVE QUANTITY (DLA USE ONLY) <small>c.</small>	COMPONENT DEMAND INCLUDING LOCAL PURCHASES <small>d.</small>	NEW SYSTEM ACQUISITIONS <small>e.</small>
(1) CFC-11				
(2) CFC-12				
(3) CFC-13				
(4) CFC-113				
(5) CFC-114				
(6) CFC-115				
(7) R-500				
(8) R-502				
(9) R-503				
(10) HALON 1211				
(11) HALON 1301				
(12) HALON 2402				
(13) METHYL CHLOROFORM				
(14) CARBON TETRACHLORIDE				
(15) HCFC-22				
(16) HCFC-123				
(17) HCFC-141B				

DD 2530 DEC92

13 JUL 1995

### APPENDIX G ACCIDENTAL OR UNINTENTIONAL VENTING REPORT FORM

Personnel who accidentally or unintentionally release greater than five (5) lbs of refrigerants during the maintenance, service, repair or disposal of AC&R equipment are required to report such releases to the Environmental Compliance Division (ECD). Activities shall make such notification by filling out the information below and forwarding it the BCE,ECD (Code 189), Bldg 830 within five (5) working days of the release. The ECD shall retain this information for documentation purposes only and to report such releases to the Chief of Naval Operations (Code 44) upon request. See Section 6, "RECORDKEEPING AND REPORTING REQUIREMENTS" for additional information.

*It is not the intent of the CAA to fine or penalize personnel for accidental releases. The accidental venting reporting requirements are intended to be used for recordkeeping purposes only.*

#### PART 1: ESTABLISHMENT INFORMATION

Activity/Command  
\_\_\_\_\_

Shop  
\_\_\_\_\_

Phone Number  
\_\_\_\_\_

Point of Contact  
\_\_\_\_\_

#### PART 2: RELEASE INFORMATION

Type of Refrigerant Vented: \_\_\_\_\_

Pounds Vented (approx.) \_\_\_\_\_

Date: \_\_\_\_\_

Description of What Happened: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Why Did this Happen?: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What Precautions Have Been Taken To Prevent Future Accidents/Incidents? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Is Anyone else Aware of this Situation?       Yes       No

If Yes, Whom? \_\_\_\_\_

13 JUN 1995

**APPENDIX H  
PROCEDURES FOR DEPOSITING AND REQUESTING CLASS I ODS's  
FROM THE DoD RESERVE**

*Activities should follow these guidelines when depositing or requesting class 1 ODS's from the DoD reserve.*

This following is an excerpt from a COMNAVSUPSYSCOM message 041422Z/312220Z, Jan 95 regarding ozone depleting substance (ODS) supply support.

1. Chloroflorocarbon (CFC) refrigerants are ozone depleting substances (ODS's). The Montreal Protocol banned production of all chlorofluorocarbons (CFC's) 1 Jan 96. A Department of Defense (DoD) ODS reserve has been established to ensure availability of refrigerants for existing mission critical equipment until suitable substitute materials are found or new, non-ODS equipment is designed and fielded. Mission critical applications are defined as those applications where the ODS is used on or in direct combat support of navy ships and aircraft. Activities should begin using the defense ODS reserve to support mission critical requirements 1 Feb 95.

2. Defense Logistics Agency (DLA) now provides central management for procurement, receipt, storage, issue, turn-in, and reclamation of ODS products. The inventory control point for the defense reserve is the Defense General Supply Center (DGSC) Richmond, VA. The co-located Defense Depot Richmond, VA (DDRV) is the primary storage site. Fleet and Industrial Supply Centers (FISC's) will continue to carry stock to support operating fleet and aviation units.

3. ODS requisitioning procedures:

*All commands and activities wishing to obtain ODS's from the reserve must provide the ECD, Air Programs Manager a copy of all procurement/shipping requests.*

A. ODS's are requisitioned from the defense reserve using the following national stock numbers (R = refrigerant):

COMMODITY	NSN	SIZE (LBS)
R-11	6830-01-355-9749	59
	6830-01-355-9750	171
	6830-01-355-9753	1400
R-12	6830-00-264-9089	10
	6830-00-292-0147	25
	6830-00-264-5913	45
	6830-00-292-0133	145
	6830-01-355-4011	1190
R-114	6830-00-290-4378	11.5
	6830-00-290-4379	57
	6830-00-782-6232	165
	6830-01-356-1201	1360

13 JUL 1985

R-500	6830-01-357-7648	43
	6830-91-357-7646	127
	6830-01-357-9135	1045
R-502	6830-00-138-2482	128
	6830-01-357-6903	1050

B. Submit requisitions to navy point of entry in standard 80-column card MILSTRIP format. Following special MILSTRIP data elements required for requisitioning:

CC 4-6	Routing Identifier:	S9G
CC 57-59	Project Code:	GDB
CC 67-69	Transaction Routing:	SRG
CC 70	Leave Blank	
CC 71	Condition Code:	A

C. To receive shipment from the ODS reserve, ordering activity must have prior CNO authorization. To support this process, NAVSEA, NAVAIR, and NAVSUP have identified UIC's of authorized users for each ODS NSN. FISC's will screen requisitions prior to issue from FISC-held stock. Similarly, any requirement passed to DGSC for direct issue to customers will be screened by DGSC against CNO-approved list of authorized activities prior to issue. FISC's and DGSC will reject requisitions from non-approved activities with a rejection code of D8 to advise ordering activity that requested material requires advanced authorization.

D. FISC's are authorized to support mission critical requirements by replenishing FISC-held stocks from the ODS reserve. FISC's will ensure that issue of any stock replenished from defense reserve is restricted to only mission critical customer requirements.

E. To assist FISC's in screening customer requisitions prior to issue from FISC held stock, NAVSUP has update technical screening expert system (TSES) to include authorized UIC's for each ODS NSN. FISC's are not authorized to deviate from TSES table of authorized users. NAVSUP will update TSES UIC data whenever CNO sends updated UIC lists to DLA.

F. Activities are encouraged to use the reserve to support mission critical ODS requirements. DoD has centrally funded the Navy's portion of the reserve so the material is currently free to authorized navy requisitioner. Although the ODS reserve price may eventually include a modest handling fee, no charge is contemplated for either chemicals or containers. When an ODS is purchased locally, buyers pay full price and those prices continue to escalate. Activity budgets are too constrained to waste funds buying expensive material locally when that same material is available free from the reserve. Activities should always check the reserve before purchasing ODS locally. OSCG has a new assistance hotline that can be called to check stock availability or the status of requisitions. Call 804-279-4865 or DSN 695-4865 and follow the on-line instructions.

13 JUL 1995

G. The ODS reserve can not be used to satisfy non-mission critical ODS requirements. Those requirements will continue to be filled from local supply sources or on-site recycling programs. Anticipate that local supplies will become extremely limited (and expensive) in near term. Shore activities should be in the process of transitioning to non-ODS HVAC&R equipment. Transition should be completed no later than 31 Dec 2000. The sooner activities complete the transition, the better. No exceptions will be made to the mission critical designation of ODS material in the reserve.

H. Navy field activities and operating units should have previously suspended sale and transfer of excess and recovered refrigerant to non-Navy activities. Excess and recovered ODS (both mission critical and non-mission critical) not required for local recycling efforts should be turned in to the ODS reserve as soon as it become available. Effectiveness of ODS reserve is premised on full compliance with SECNAV policy, including turn-in of excess and recovered material.

4. ODS turn-in procedures.

*Commands and activities shall provide the ECD, Air Programs Manger a copy of all 1348's used for shipment of ODS's into the reserve.*

A. Refrigerants can be returned in their original cylinders or in specially designed government recovery cylinders. The recovery cylinders have dual port valves to ease the recovery process. They are available from DGSC using normal MISTRIP stock ordering procedures. The recovery cylinders can be requisitioned free of charge if the cylinders and recovered ODS are returned to the reserve. DLA is prepared to accept all types of cylinders, including standard, system, and commercial cylinders if transferring refrigerant to recovery cylinders is not practical.

B. The following stock numbers should be used to order ODS recovery cylinders:

COMMODITY	NSN	PRODUCT WEIGHT IN CYLINDER	CYLINDER WATER WEIGHT
R-11	8120-01-356-5960	59	42
	8120-01-356-9756	170	122
	8120-01-355-9763	1400	1000
R-12	8120-01-355-4017	45	42
	8120-01-355-4018	145	122
	8120-01-355-4019	1190	1000
R-114	8120-01-356-1245	57	42
	8120-01-356-1246	165	122
	8120-01-356-1247	1350	1000
R-500	8120-01-357-6774	43	42
	8120-01-357-7656	127	122
	8120-01-357-7657	1045	1000
R-502	8120-01-357-6770	44	42
	8120-01-357-6771	128	122
	8120-00-357-6769	1050	1000

13 JUL 1995

C. Prior to turn-in, each standard, system, commercial, or recovery cylinder containing ODS will be tagged with the following information and the tag will be tucked beneath the cylinder's protective cap.

- (1) Branch of service (Navy)
- (2) Name of ODS (R-11, Halon 1211, etc.)
- (3) NSN (see paragraph 6D below)
- (4) Pounds of ODS contained in cylinder
- (5) Shipping activity name and UIC
- (6) Point of contact and phone number

D. When turning in excess or recovered refrigerant in any type of cylinder to the reserve, use the following NSN's (based on cylinder size) to identify the material on the tag attached to each cylinder:

COMMODITY	NSN	PRODUCT WEIGHT IN CYLINDER	cylinder WATER WEIGHT
R-11	6830-01-355-9754	59	42
	6830-01-355-9756	170	122
	6830-01-355-9758	1400	1000
R-12	6830-01-355-4013	45	42
	6830-01-355-6648	145	122
	6830-01-355-4015	1190	1000
R-114	6830-01-356-1203	57	42
	6830-01-356-1205	165	122
	6830-01-355-1207	1350	1000
R-500	6830-01-357-7650	43	42
	6830-01-358-5123	127	122
	6830-01-357-7654	1045	1000
R-502	6830-01-357-6726	44	42
	6830-01-357-6727	128	122
	6830-01-357-6905	1050	1000

E. After tagging, activities with in-house shipping capability can ship the ODS cylinders directly to the address in paragraph 6F below. No advance authorization is needed. No documentation other than the tag attached to each cylinder is required. If an activity does not have shipping capability, it should return the ODS in to the point of where excess material is normally turned in for material turned into store (MTIS) processing. The MTIS operation will then ship it to the ODS reserve (paragraph 6F). Contact the NAS Oceana's Supply Division for shipping guidance.

F. Ship excess and recovered ODS to the following address:

Defense Depot Richmond VA (DDRV)  
 SW0400  
 Cylinder Operations  
 8000 Jefferson Davis Highway  
 Richmond, VA 23297-5000

13 JUL 1995

G. When no military cargo transport is available and ODS turn-in shipping costs exceed \$250.00, DLA can assist with payment of transportation costs if necessary. Activities that need funding assistance should contact Steve Minus, DGSC, telephone 804-279-5203 or fax 804-279-4970 (DSN 695) at least five working days before the planned shipment. Be prepared to provide the following information:

- (1) Lowest cost estimate (from carrier)
- (2) NSN and quantity (see paragraph 6D)
- (3) DoD activity address code
- (4) Point of contact

H. When shipping refrigerants, the following regulations should be followed when applicable:

- (1) MIL-STD-129L, Military Standard for Marking for Shipment and Storage.
- (2) DLAR 4125.25, Storage and Handling of Compressed Gas and Liquids in Cylinder
- (3) NAVSUPINST 4440.128C
- (4) CFR 49, 173.301, Requirements for the Shipment of Compressed Gas Cylinders
- (5) DoD Regulation 4000.25-1-M.

5. The defense reserve can not be used by foreign governments. Material in the reserve is not available for foreign military sales (FMS) nor are navy activities authorized to buy ODS's in local markets for transfer to organizations outside the Department of Defense.

6. NAVSUP points of contact are Robert Law, SUP 4241, and Ross Thompson, SUP 4241A. Telephone 703-607-0312, DSN 327-0312, Fax 703-607-0250.



13 JUL 1995

APPENDIX I
NOTIFICATION OF THE INTENT TO PURCHASE AC&R EQUIPMENT
CONTINUED

PART 3: TECHNICAL CERTIFICATION (To be completed by the ECD, Air Programs Manager or BCE, Facilities Manager)

Equipment Requested: \_\_\_\_\_ NSN: \_\_\_\_\_
Class Code of Equipment: [ ] 4120 [ ] 4110 [ ] Other (specify): \_\_\_\_\_
Refrigerant Used: [ ] Class I (specify): \_\_\_\_\_ [ ] Class II (specify): \_\_\_\_\_ [ ] Other (specify): \_\_\_\_\_
Requester: \_\_\_\_\_

A. NON-CLASS I USAGE: (To be completed by the ECD, Air Programs Manager or BCE, Facilities Manager)

I have reviewed this request and determined that the procurement of this equipment does not fall under the class I ODS acquisition requirements.

Requester is authorized to purchase this equipment in accordance with NAVFAC Note 5090.

Environmental Compliance Division, Air Programs Manager (or) Base Civil Engineer, Facilities Manager
Code
Date

B. PREAUTHORIZED WAIVER AVAILABLE: (To be completed by the ECD, Air Programs Manager or BCE, Facilities Manager)

A preauthorized waiver from the ATR and SAO is available and attached. Requester is authorized to purchase this equipment in accordance with NAVFAC Note 5090.

Environmental Compliance Division, Air Programs Manager (or) Base Civil Engineer, Facilities Manager
Code
Date

C. SUBSTITUTE AVAILABLE FOR CLASS I ODS: (To be completed by the Base Civil Engineer)

I have reviewed this request, and to the best of my knowledge, the following is a suitable substitute or alternative technology available for use in lieu of the class I ODS.

Commands and activities shall procure new AC&R equipment with the following alternative refrigerant:

Table with 2 columns: Class I ODS Requested, Substitute/Alternative Available

Commanding Officer, Base Civil Engineer
Code
Date

13 JUL 1995

**APPENDIX I  
NOTIFICATION OF THE INTENT TO PURCHASE AC&R EQUIPMENT  
CONTINUED**

**PART 3: TECHNICAL CERTIFICATION** (To be completed by the ECD, Air Programs Manager or BCE, Facilities Manager)

Equipment Requested: \_\_\_\_\_ NSN: \_\_\_\_\_  
 Class Code of Equipment:    4120            4110            Other (specify): \_\_\_\_\_  
 Refrigerant Used:            Class I (specify): \_\_\_\_\_    Class II (specify): \_\_\_\_\_    Other (specify): \_\_\_\_\_  
 Requester: \_\_\_\_\_

**D. SUBSTITUTE UNAVAILABLE FOR CLASS I ODS:** (To be completed by the Base Civil Engineer)

I have reviewed this request, and to the best of my knowledge, there are no substitutes or alternative technologies currently available to replace the class I ODS. This request shall be forwarded to the Naval Facilities Engineering Command for review by the Appropriate Technical Representative (ATR) as outlined in NAVFAC Note 5090 and to the Senior Acquisition Official (SAO) at CINCLANTFLT via the ATR.

Commanding Officer, Base Civil Engineer	Code	Date
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**ACTIVITIES SHALL NOT PURCHASE NEW AC&R EQUIPMENT UNLESS AUTHORIZATION TO PURCHASE EQUIPMENT IS GRANTED (A SIGNED AUTHORIZATION FORM WILL BE PROVIDED TO REQUESTING COMMAND OR ACTIVITY)**

**REQUESTS WHERE EQUIPMENT UTILIZES A NON-CLASS I ODS CAN BE GRANTED BY THE ENVIRONMENTAL COMPLIANCE DIVISION, AIR PROGRAMS MANAGER OR BASE CIVIL ENGINEER, FACILITIES MANAGER.**

**EQUIPMENT CONTAINING A CLASS I ODS MUST BE APPROVED BY A SENIOR ACQUISITION OFFICER AT CINCLANTFLT.**

13 JUL 1965

Appendix J  
Pressure/Temperature Chart

TEMP (°F)	CFC 11	CFC 12	CFC 500	CFC 502	HCFC 22	HCFC 123	HCFC 134a
-50	28.9	15.4		0.0	6.1	29.2	18.7
-45	28.7	13.3		2.0	2.7	29.1	16.9
-40	28.4	11.0	7.9	4.3	0.5	28.9	14.8
-35	28.1	8.4	4.8	6.7	2.5	28.7	12.5
-30	27.8	5.5	1.4	9.4	4.8	28.5	9.8
-25	27.4	2.3	1.1	12.3	7.3	28.4	6.9
-20	27.0	0.6	3.1	15.5	10.1	27.8	3.7
-15	26.5	2.4	5.4	19.0	13.1	27.4	0.0
-10	26.0	4.5	7.8	22.8	16.4	27.0	1.9
-5	25.4	6.7	10.4	26.9	20.0	26.5	4.1
0	24.7	9.2	13.3	31.2	23.9	25.8	6.5
5	24.0	11.8	16.4	36.0	28.1	25.2	9.1
10	23.1	14.6	19.8	41.1	32.7	24.5	12.0
15	22.1	17.7	23.4	46.6	37.7	23.7	15.0
20	21.1	21.0	27.3	52.4	43.0	22.8	18.4
25	19.9	24.6	31.6	58.7	48.7	21.8	22.1
30	18.6	28.5	36.1	65.4	54.8	20.7	26.1
35	17.2	32.6	41.0	72.6	61.4	19.5	30.4
40	15.6	37.0	46.2	80.2	68.5	18.1	35.0
45	13.9	41.7	51.8	87.7	76.0	16.6	40.0
50	12.0	46.7	58.7	96.9	84.0	15.0	45.3
55	10.0	52.0	64.1	109.7	92.5	13.1	51.1
60	7.7	57.7	71.0	115.6	101.6	11.7	57.3
65	5.3	68.8	78.1	125.8	111.2	9.0	63.9
70	2.6	70.2	85.8	136.6	121.4	6.6	70.9
75	0.1	77.0	93.8	147.9	132.2	4.1	78.4
80	1.6	84.2	102.5	159.9	143.6	1.3	86.4
85	3.2	91.8	111.5	172.5	155.6	0.9	94.9
90	5.0	99.8	121.2	185.8	168.4	2.5	103.9
95	6.8	108.3	131.3	199.7	181.8	4.2	113.5
100	8.9	117.2	141.9	214.4	195.9	6.1	123.6
105	11.1	126.6	153.1	229.7	210.7	8.1	134.3
110	13.4	136.4	164.9	245.8	226.3	10.2	145.6
115	15.9	146.8	177.4	266.1	242.7	12.6	157.6
120	18.5	157.7	190.3	280.3	259.9	15.0	170.3
125	21.3	169.1	204.0	298.7	277.9	17.7	183.6
130	24.3	181.0	218.2	318.0	296.8	20.5	197.6
135	27.4	193.5	233.2	338.1	316.5	23.5	212.4
140	30.8	206.5	248.8	359.2	337.2	26.7	227.9
145	34.4	220.3		381.1	358.8	30.2	244.3
150	38.2	234.6		404.0	381.5	33.8	261.4

Highlighted areas indicate inches of mercury (hg)

760 mmHg = 0 psig = 14.7 psia