

Title: Procedures for Ozone Depleting Substances

Effective Date: November 2005

Revision Date: April 1, 2017

Issuing Authority: VP, Capital Projects & Facilities

Responsible Officer: Director Environmental Health and Safety

### **PURPOSE OF THE PROCEDURE**

New York University has established a procedure to comply with the regulations and requirements for the reduction and management of ozone depleting substances (ODS) in their facilities. Title VI of the Clean Air Act Amendments contain specific requirements on the management and eventual elimination of ODS, and the U.S. Environmental Protection Agency (EPA) has issued requirements and guidance for facilities in 40 CFR Part 82. As a user and not a producer of ODS, only portions of the regulations apply to NYU. The purpose of this procedure is to outline specific requirements for compliance with the applicable portions of the regulations, and to provide guidance in the eventual phase-out and elimination of the use of ODS at NYU.

### **SCOPE OF THIS PROCEDURE**

This procedure covers the use and maintenance of ozone depleting chemicals at New York University by University personnel as well as outside contractors who may maintain equipment.

### **WHO NEEDS TO KNOW THIS PROCEDURE**

This procedure applies to all New York University academic, commercial and residential facilities that store or use ozone-depleting substances.

## **Responsibilities:**

### **Department of Environmental Health and Safety**

- Responsible for developing and updating this procedure
- Work with Facilities, Department Heads, and building staff to ensure proper use and management of ODS
- Ensure maintenance of records by building staff and managers that oversee ODS management

### **Department Managers and Supervisors**

- Maintain an inventory of equipment that uses ODS, the type of ODS, and provide Environmental Health & Safety with a copy of the inventory. Household refrigerators, freezers and window air conditioners may be excluded from the inventory. Any changes to the inventory shall be recorded and a copy provided to Environmental Health & Safety;
- Ensure that all technicians, whether NYU employees or outside contractors, who perform maintenance, service, repair or disposal activities that could reasonably be expected to release refrigerants be certified through a US EPA approved training program;
- Track leak rates for all refrigeration equipment with more than 50 pounds of charge and maintain records;
- Ensure prompt repair of substantial leaks in air conditioning and refrigeration equipment with charges greater

- than 50 pounds;
- Prohibit venting and ensure proper evacuation of appliances using certified recovery equipment prior to maintenance, repair or disposal of equipment containing ODS;
  - Ensure that equipment owned and operated by NYU for refrigerant recovery is certified and complies with EPA requirements.
  - Maintain records of technician certification, leak rates, certification of recycling equipment, disposal of refrigerant and service records for equipment containing more than a 50-pound charge;
  - Prepare and implement a plan to phase-out equipment which uses ODS.
  - Maintain a list of areas where halon fire suppression equipment is used, and keep an inventory of the amount and type of halon used at each location. Provide Environmental Health & Safety with a copy, and update of any changes as they occur;
  - Ensure that all technicians who test, maintain, service, repair or dispose of halon-containing equipment be trained, as required by EPA, regarding halon emissions reduction;
  - Prohibit venting of halon equipment;
  - Dispose of Halon and Halon-containing equipment by sending to a recycler and/or manufacturer operating in accordance with NFPA 10 and NFPA 12A standards, and maintain disposal records;
  - Implement a plan to phase-out the use of halon based fire suppression equipment.

## PROCEDURE DEFINITIONS

**Small 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.

**Certified Refrigerant Recovery or Recycling Equipment** - Any equipment certified by an approved equipment testing organization to meet the EPA standards (40 CFR 82.158), or equipment manufactured before November 15, 1993 that meets EPA standards (40 CFR 82.158).

**Ozone Depleting Substance (ODS)** - Chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and other halogenated chemicals that have been found to contribute to the depletion of the stratospheric ozone layer and are of worldwide environmental concern.

# UNIVERSITY PROCEDURES

## Prohibition on Venting

Under 40 CFR Part 82, individuals are prohibited from knowingly venting ODS into the atmosphere while maintaining, servicing, repairing or disposing of air-conditioning or refrigeration equipment, or halon-containing equipment. Exceptions to this prohibition include releases of “de minimis” quantities of refrigerant; refrigerant emitted in the normal course of operation as opposed to during maintenance, service and repair; releases of CFCs and HCFCs that are not used as refrigerants; and small releases that result from purging hoses.

## Service Practice Requirements

All NYU refrigeration technicians and all outside vendors who service refrigeration equipment are required to comply with the following:

### *Evacuation Requirements*

Air-conditioning and refrigeration equipment must be evacuated to EPA-required vacuum levels prior to opening equipment. If the equipment used to evacuate the system was manufactured on, or after, November 15, 1993, the equipment must be certified by an EPA-approved equipment testing organization. Persons who simply add refrigerant (top-off) to appliances are not required to evacuate systems.

### *Reclamation Requirement*

EPA has established that refrigerant recovered and/or recycled can be returned to the same system or other systems owned by the same person without restriction. If refrigerant changes ownership, however, that refrigerant must be reclaimed.

## Equipment Certification

### *Certification by Owners*

EPA requires that persons servicing or disposing of air-conditioning and refrigeration equipment certify to the EPA Region II Office that they have acquired recovery or recycling equipment, and that they are complying with the applicable requirements of this rule. A special form can be used however, NYU currently has a service contract with an approved vendor for proper disposal of all small appliances for compliant and proper disposal and ODS management.

### *Equipment Manufactured After November 15, 1993*

Equipment used to recycle or recover ODS must be certified if the equipment was manufactured on, or after, November 15, 1993. Certified equipment can be identified by a label reading “This equipment has been certified by ARI/UL to meet EPA’s minimum requirements for use.”.

### *Equipment Manufactured Before November 15, 1993*

Recovery/recycling equipment manufactured before November 15, 1993 may be grandfathered if it meets the standards detailed in 40 CFR 82.158.

## Tracking Leaks

Facility Departments with equipment having refrigerant charges of greater than 50 pounds are required to maintain records indicating the quantity of refrigerant added to their equipment during servicing and the maintenance procedures. These records must be available for review by outside parties, including government inspectors.

Based on the quantities of materials added to equipment, leak rates are to be calculated. If a leak rate of 15% or greater is detected, the leak must be repaired within 30 days of discovery.

## Technician Certification

### *Refrigerant-Containing Equipment*

All technicians who service, repair, recover and/or dispose of regulated refrigerants at NYU must be certified through a US EPA-approved training program. Proper training must also be received for the equipment being used. Outside contractors must provide proof of the proper certifications for their personnel.

### *Halon-Containing Equipment*

Technicians who work on halon-containing equipment must be trained regarding halon emissions reduction.

## Outside Services

### *Certified Technicians*

- All outside contractors who service or repair air-conditioning or refrigeration equipment shall be required to use certified technicians. Facility Depts. shall obtain proof of certifications prior to the service or repair work.
- *Reclaimers/Recyclers*
- Facility Depts. must ensure that contracted services that reclaim and recycle refrigerants must be on the EPA list of approved reclaimers, available through the EPA website at <https://www.epa.gov/section608/epa-certified-refrigerant-reclaimers>. In order to be on the EPA approved list, reclaimers must certify to EPA, in writing, that they release no more than 1.5 percent of the refrigerant during the reclamation process. They must also certify that wastes are disposed of according to EPA requirements.
- Facility Depts. shall ensure that halon is disposed of by sending it to a recycler operating in accordance with NFPA 10 and NFPA 12A standards.
- Facility Depts. shall ensure that halon-containing equipment is disposed of by sending it for halon recovery to a manufacturer operating in accordance with NFPA 10 and NFPA 12A standards.

## Disposal Requirements

- All central air-conditioning equipment, chillers, fire suppression systems, and other major ODS-containing equipment must have the ODS recovered prior to dismantling.

- Currently NYU has retained an approved vendor that can remove all small appliances and recover the refrigerant of removed appliances. This vendor is fully compliant with all applicable city, state, and EPA regulations.
- Disposal of Halon and Halon-containing equipment shall be through recyclers and manufacturers operating in accordance with NFPA 10 and NFPA 12A standards.

### Recordkeeping

- All records relating to ODS shall be maintained for a minimum of three years.
- Refrigeration Technicians are required to keep a copy of their certification at their place of business.
- For equipment containing 50 or more pounds of refrigerant, all service records must be maintained and quantity of refrigerant added must be tracked.
- A copy of the Certification by Owner to EPA regarding Refrigerant Recovery/Recycling Device Acquisition shall be maintained.

### Reduction Goals

NYU will reduce its use and releases of the target chemicals through a variety of techniques. These include:

- Replace CFC equipment with non-CFC equipment;
- Convert CFC equipment to non-CFC alternatives, when feasible;
- Maintain existing equipment and repair any leaks detected;
- Clean and reuse CFCs directly back in equipment;
- Ensure only certified technicians work on CFC equipment;
- Prohibit acquisition of most new CFC equipment;
- Restrict purchases and use of CFC supplies

**List of Class I and Class II Ozone Depleting Substances**

|                       | <b>CLASS I</b>       |                  |
|-----------------------|----------------------|------------------|
| <b>Group I</b>        | <b>Group II</b>      | <b>Group III</b> |
| CFC-11                | Halon 1211           | CFC-13           |
| CFC-12                | Halon 1301           | CFC-111          |
| CFC-113               | Halon 2402           | CFC-211          |
| CFC-114               |                      | CFC-212          |
| CFC-115               |                      | CFC-213          |
| R-500                 |                      | CFC-214          |
| R-502                 |                      | CFC-215          |
|                       | <b>Group IV</b>      | CFC-216          |
|                       | Carbon Tetrachloride | CFC-217          |
|                       |                      |                  |
| <b>Group V</b>        | <b>Group VI</b>      | <b>Group VII</b> |
| 1,1,1-trichloroethane | Methyl Bromide       | HBFCs            |
|                       |                      |                  |
|                       | <b>CLASS II</b>      |                  |
| HCFC-21               | HCFC-142             | HCFC-242         |
| HCFC-22               | HCFC-221             | HCFC-243         |
| HCFC-31               | HCFC-223             | HCFC-244         |
| HCFC-121              | HCFC-224             | HCFC-252         |
| HCFC-122              | HCFC-225             | HCFC-253         |
| HCFC-123              | HCFC-226             | HCFC-261         |
| HCFC-131              | HCFC-231             | HCFC-262         |
| HCFC-132              | HCFC-234             | HCFC-271         |
| HCFC-133              | HCFC-235             |                  |
| HCFC-141              | HCFC-241             |                  |

**RELATED POLICIES**

NYU Environmental Health and Safety Policy

**RELEVANT RESOURCES**

Stationary Refrigeration Refrigerant Reclamation Requirements - EPA regulations 40 CFR Part 82, Subpart F under Section 608 of the Clean Air Act