

<b>The University of British Columbia Land and Building Services</b>		<b>THE USE OF OZONE DEPLETING SUBSTANCES</b>
<b>Work Procedure</b>		
		<b>I-B-18</b>
<b>Prepared by:</b> Mech Maintenance-Harjit Sohpaal LBS HSE – Gail Townsley	<b>Approved by:</b> Geoff Atkins	<b>Issue Date:</b> March 2006 <b>Replaces:</b> New Policy

**1. POLICY:**

This procedure is to be used by all authorized Plant Operations personnel when using ozone-depleting substances (ODS) or working on a system containing them. Authorized workers must have successfully completed an environmental awareness course for ozone depleting substances approved by Environment Canada and the BC Ministry of Water, Land and Land Protection.

**2. OBJECTIVE:**

This procedure shall be followed to track the use of ODS to minimize the release of ODS into the environment to ensure the goals of Trek 2010 are met to ensure environmental and social sustainability and to comply with government regulations. The university will not install any new systems requiring the use of ODS and will phase out the current systems over a period of time.

**3. RESPONSIBILITIES**

**3.1. Managers**

- Assign workers who have the knowledge, training and equipment that meets the requirements of this procedure and the applicable regulations (see references).
- Maintain records for inspection of all authorized personnel, specifying: name, registration number, date of successful completion of ODS course.

**3.2. Shop Heads**

- Monitor all work involving ODS and ensure that the following procedure and other related procedures are followed.
- All discrepancies with the procedures will be immediately reported to the Steam and HVAC Systems Supervisor.
- Responsible to ensure that the log sheets are being correctly filled in and completed sheets are handed to the Steam and HVAC Systems Supervisor for storage in a binder in the Supervisor’s office.
- Ensure that the ODS gas storage facility remains locked, and access is limited to authorized personnel only. Key to the storage facility will remain in the shop lockbox.

**3.3. Workers**

- Authorized workers must have successfully completed an environmental awareness course for ozone depleting substances approved by Environmental Canada and the BC Ministry of Water, Land and Land Protection.

- Workers are responsible to carry out their work in accordance with this procedure and in compliance with the applicable regulations.
- Care for and use the recovery and storage equipment safely and report all defects or malfunctions with the ODS equipment to the Head and Steam and HVAC Systems Supervisor.

#### 4. PROCEDURE

All use of ODS gases will be controlled and monitored to comply with this procedure. Workers must not release or allow or cause the release of an ozone depleting substance into the environment. **Release reporting:** A person must report a release of ozone depleting substance, other halocarbon or any mixtures of ozone depleting substances or other halocarbons in excess of 10 kilograms except (a) carbon tetrachloride R-112 or dibromodifluoromethan Halon-2402 in excess of one kilogram, or (b) trichloroethane R-140 in excess of 5 kilogram. In the event of a leak or spill of ODS gas, the authorized worker or contractor shall follow the procedure outlined in I-B-17 Hazardous waste spills. Copies of the spill reports shall be kept with the Steam and HVAC Systems Supervisor.

- 4.1. A service log sheet for each ODS gas type will be maintained by the Refrigeration Head (crew 31R). When an ODS gas is required, the authorized worker shall weigh the gas cylinder, before and after filling, and log the weight difference on the log sheet along with the worker's name and I.D. Full log sheets will be stored in a binder in the Steam and HVAC Systems Supervisor's office. This service log will be available for inspection.
- 4.2. ODS tags will be provided, installed and correctly filled in by the authorized worker on all refrigeration equipment that contain ODS gasses.
- 4.3. When ODS is added or removed from equipment the tag will be updated. The information on the tag will include the worker's name, ODS number, date, gas type and quantity, equipment number, and building name.
- 4.4. New equipment will be given an ODS tag and the information filled in on the tag, including the date of commissioning of the equipment.
- 4.5. No ODS gas will be added to leaking equipment. The equipment will be repaired and pressure tested as per code prior to re-installation of refrigerant gases.
- 4.6. ODS will be recovered (and the weight will be entered on the log sheet along with the worker's name and I.D.) from decommissioned equipment before disposal of that equipment.
- 4.7. Contaminated ODS gas will be collected by authorized workers and stored in an authorized gas storage container in a secure place. The container will be clearly marked

to indicate its contents and when full returned to the supplier for recycling. Gases of different types will be stored in separate containers.

- 4.8. Recovery devices shall meet the performance standards set out in Schedule B of the BC Ozone-Depleting Substances and Other Halocarbons Regulation, 2002.
- 4.9. A separate record of all gasses returned to the supplier for recycling will be kept by the Head and this record stored at the Head's desk.
- 4.10. All containers for the storage of ozone deleting substances will be approved for that purpose as set out in Schedule B of the BC Ozone-Depleting Substances and Other Halocarbons Regulation, 2002.
- 4.11. Any person who services air conditioning or refrigeration equipment must do so in accordance with the Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems, 1996 and the Code of Practice for the Reduction of CFC Emissions from Refrigeration and Air Conditioning Systems.
- 4.12. Contractors working at UBC will follow procedures that meet or exceed I-B-18 The Use of Ozone-Depleting Substances and the Department of Health, Safety and Environment's "Ozone Depleting Substances Tool" (HSE TOOL # 25).
- 4.13. Prior to commencing work, the contractor will contact Plant Operations Mechanical Maintenance Head at (604) 822-5020 or trouble calls at (604) 822-2173. Contractors will update the UBC log sheets and equipment tags and report all equipment change of status to the Mechanical Maintenance Head after work completion.
- 4.14. Equipment containing ODS with the exception of domestic refrigerators will be on a preventive maintenance program that includes periodic leak testing.

## **5.0 REFERENCES:**

Canadian Environmental Protection Act, 1999 and amendments to 2003 (CEPA)  
CEPA – Ozone-Depleting Regulations, 1998  
Canadian Council of the Ministers of the Environment (CCME)  
CCME – Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems, 1996  
BC Environmental Management Act (EMA), 2003  
EMA – Ozone-Depleting Substances and Other Halocarbons Regulation, 1999 and amendments to 2002  
EMA – Spill Reporting Regulation, 1993.  
Code of Practice for the Reduction of Chlorofluorocarbon Emissions from Refrigeration and Air Conditioning Systems – (Environment Canada)  
UBC Trek 2010  
UBC Spill Reporting Procedures (<http://www.safety.ubc.ca/> under Procedures)

**University of British Columbia  
 Plant Operations  
 Service Log**

ODS RECORD SHEET.

ODS TYPE :

- R12
- R22
- Other: \_\_\_\_\_

<b>DATE</b>	<b>ODS IN-STOCK</b>	<b>ODS USED</b>	<b>ODS NET</b>	<b>ODS RECOVERED</b>	<b>BUILDING</b>	<b>MECHANIC</b>