

Refrigerant Procedure

Document: This procedure is to only cover services from outside contractors, hired by the Computing Division who service Computing Division's air conditioning units.

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Refrigerant Emissions

Objective

The Computing Division's program complies with the intent of Section 608 of the Clean Air Act of 1990 and Fermilab's ES&H Manual (FESHM) Chapter 5035 Mechanical Refrigeration Systems 6/94. Compliance includes adherence to the Environmental Protection Agency (EPA) regulations that require:

- Service practices that maximize recycling of ozone depleting compounds.
- Technicians and contractors to comply with the requirement of the rule.
- Repair of substantial leaks for systems with charges of 50 lbs or more.
- Establish vacuum levels for evacuation/recovery.
- Refrigerants to be returned to the same system or other systems owned by Fermilab without restriction.
- A certification program for recovery and recycling equipment.
- Allowable pressures for oil change to prevent refrigerant release during maintenance or refrigerant change.
- Best Management Practices are followed.
- Restricted issuance of refrigerant to those other than universal certified technicians
- Safe disposal requirements for equipment and refrigerant appliances are utilized.
- Hazardous waste procedures for refrigerants and refrigerant oils are in compliance with existing hazardous waste disposal regulations.

Scope

This procedure is to only cover services from outside contractors, hired by the Computing Division who service Computing Division's air conditioning units. Services hired by Facilities Engineering Services Section (FESS) must adhere to FESS Procedure 5035.

Definitions

Maintenance Storeroom Supervisor (MSS) – FESS/Operation’s employee who oversees the complete purchase, inventory and reclamation of refrigerant through the FESS Storeroom.

Refrigerant Database Support (RDS) – FESS/Operation’s employee who enters all refrigerant emissions into the FESS Database.

Refrigerant Manager (RM) – Individual appointed by the Division Head who oversees the implementation of the Refrigerant Program and its procedures.

Responsibilities

Refrigerant Manager (RM)

- Oversees the hired subcontractor’s purchase, use and reclamation of ozone depleting chemicals used in the operation of Computing Division’s air conditioning process.
- Verifies that the subcontractor is certified to work on refrigeration systems.
- Provides guidance to lead the technician through the required process for the use of refrigerant.
- Inventory and document all refrigeration systems as they are worked on or disposed of under the RM’s control.
- Track all refrigerant, refrigerant usage, and/or recovered refrigerant in those systems.
- Maintains service order records and records of recovery/recycling units.
- Maintains refrigerant certification documentation for all refrigeration subcontractors.
- Reviews all refrigerant usage forms completed and submitted by the subcontractors and correct any information prior to submitting to data entry.
- Coordinates with the subcontractor and the MSS to determine the appropriate time to send out the recovered gas(s) for reclamation or disposal.
- Coordinates with the subcontractor to maintain hydrostatic testing requirements for all recovery cylinders.
- Coordinates with the contractor’s supervision to monitor/audit the initial leak and follow-up verification testing methods of each technician to verify compliance and accountability with Section 608 and Chapter 5035.

Procedure

- Refrigerant work performed on equipment shall be detailed in the Refrigerant Service Order Form (obtained from the RDS), and that all data within the refrigerant database program is accurate and up-to-date. The form must be completely filled out.
- The RM must have technician information for all who will handle refrigerant under this program.
- Refrigerant inventory including new and recovered and or contaminated shall be entered into and maintained in the database.
- If the technician comes upon a piece of refrigerant equipment that does not have the necessary refrigerant program label, the technician shall fill out the Appliance Asset Input Form (obtained from the RDS) and return to RM for entry into the database. If system is multi circuit, technicians shall note charge of each circuit.
- When the contractor is issued a contract that will require the use of refrigerant, the RM must turn in a copy of the Refrigerant Service Order Form and the Contractor Service Form to the Refrigerant

Database Support (RDS) to verify that all necessary equipment information match on both orders. If the service work order does not contain all necessary information, the form will be returned to the contractor for completion. If the form is not returned completed, there will be a discrepancy in the contractor's cylinder weight at the end of the month. The contractor will be responsible for obtaining that information.

- When disposing of appliances containing refrigerant, the contractor shall supply a service order input form completing the necessary information relating to the disposal of the unit. Be sure to indicate into which cylinder the refrigerant recovery was made.
- The RM shall maintain the documentation for refrigerant contractors.
- The RM is responsible for the documentation required for recovery/recycling units.

Disposal of Containers

- Specific disposal requirements shall be detailed in the contract.

Handling of Refrigerant

- Specific handling requirements shall be laid out in the contract.

Leaking System and Leak Testing Requirements

- If a system holding refrigerant exceeds its leak rate limit, the RM shall be notified by the contractor servicing the equipment to take immediate action to abate the leak in accordance with Section 608.
- After the successful initial test is performed and the system is placed back in operation, a follow-up leak verification test shall be performed at the area(s) of repair and documented if successful. List date performed and method used.

Training

- Training records and certification records shall be part of the program compliance documentation and maintained by the RM.