

Purpose

The purpose of this standard operating procedure is to standardize the information required for the evacuation and disposal of refrigerant-containing appliances and HFC cylinders in compliance of the following EPA regulations:

- 40 CFR 82.155, *Safe disposal of appliances*
- 40 CFR 82.156, *Proper evacuation of refrigerant from appliances*
- 40 CFR 82.157, *Appliance maintenance and leak repair*
- 40 CFR 84.106, *Leak Repair*
- 40 CFR 84.110, *Emissions from fire suppression equipment*
- 40 CFR 84.116, *Requirements for disposable cylinders.*

Scope & Procedure

This procedure applies to all University employees, contractors, and vendors that evacuate and dispose of refrigerant-containing appliances or HFC disposable cylinders.

Responsible personnel ensure the work instructions in AQ-WI-301 are followed; the form AQ-FORM-301 is completed for disposals; and the form is submitted to UK's Air Quality Compliance Specialist (AQCS), [Leo Smart](mailto:leo.smart@uky.edu), at leo.smart@uky.edu.

The AQCS must enter the disposal information into the University's refrigerant tracking system, SPHERA.

Responsible Personnel

- The EPA Certified Technician (40 CFR 82, Subpart F) removing refrigerant from appliances or cylinders for disposal.
- The supervisor in charge of operating the equipment is ultimately responsible for ensuring the appropriate forms are completed by any contractor or vendor and submitted to the AQCS.
- The AQCS ensures records are added in SPHERA and properly maintained.

Associated Work Instructions and Forms

AQ-WI-301 and AQ-FORM-301

Supporting Documents

Refrigerant Management Plan

University of Kentucky – Work Instructions for Disposal of Refrigerant-Containing Appliances, HFC Fire Suppression Systems, or HFC Cylinders (AQ-WI-301)

Purpose

The purpose of these instructions is to describe the EPA recordkeeping required on form AQ-FORM-301 for evacuation and disposal of refrigerant-containing appliances, HFC fire suppression systems, and disposable HFC cylinders.

Scope

These instructions apply to all University employees, contractors, and vendors that dispose of refrigerant-containing appliances, HFC fire suppression systems, and disposable HFC cylinders.

Responsible Personnel

Responsible personnel must follow the work instructions in AQ-WI-301; complete form AQ-FORM-301; and submit the form to UK's Air Quality Compliance Specialist (AQCS), **Leo Smart, at leo.smart@uky.edu**. Responsible personnel include:

- EPA Certified Technicians (40 CFR 82, Subpart F) that evacuate refrigerant from appliances greater than 5 pounds of refrigerant per circuit.
- Technicians that evacuate refrigerant from small appliances where the charge is less than or equal to 5 pounds of refrigerant per circuit.
- The AQCS in charge of the refrigerant tracking and recordkeeping system.

Associated Standard Operating Procedure and Form

AQ-PROC-300 and AQ-FORM-301

Work Instructions

General Requirements for Disposals

- No person shall knowingly release or dispose of any refrigerant into the environment. Contact the AQCS immediately if this occurs.
- Refrigerant evacuation is the responsibility of the final processor, i.e., the facility taking the final step in the disposal process such as a scrap recycler or landfill operator. The University is not considered the final processor.
- Recovery and/or recycling equipment must be certified and properly operated per manufacturer's instructions unless the directions conflict with the requirements of the regulation.
- All contractors or vendors that receive appliances or cylinders with refrigerant intact from the University must adhere to the disposal and evacuation requirements of 40 CFR 82 and/or 40 CFR 84.
- At no time should refrigerant-containing appliances or cylinders be finally disposed of with the refrigerant still intact. In the event an appliance's refrigerant leaked out before disposal or the University recovers refrigerant from the appliance before disposal, the final processor will require a signed statement/contract from the University.
- In Fayette county, all appliances or HFC cylinders not repurposed by Surplus Properties, should be sent to Facilities Services Recycling and collected by Environmental Recycling Company for refrigerant evacuation and disposal. All other University properties must work with a contractor or vendor to evacuate appliances before final disposal.
- Copies of all University employee technician certifications must be retained on file with the technician's specific Department and a copy submitted to the AQCS.
- Employees of contractors and vendors must supply technician certification to the AQCS.

Recovery and/or Recycling Equipment Requirements

- Recovery and/or recycling equipment must be used to evacuate appliances. The equipment must be certified and properly operated per manufacturer's instructions unless the directions conflict with the requirements of the regulation.
- Appliances that contain pump-out units are exempt from the requirement to use certified, self-contained recovery and/or recycling equipment.

Evacuation Requirements

- The work must be conducted by an EPA certified technician.
- The required percentage of refrigerant evacuated or vacuum level that must be achieved is listed in 40 CFR 82.156 or 40 CFR 82.158 for MVAC or MVAC-like appliances.
- System-dependent equipment may not be used with appliances with a full charge of more than 15 pounds of refrigerant unless the system-dependent equipment is permanently attached to the appliance as a pump-out unit.
- Appliances that contain pump-out units are exempt from the requirement to use certified, self-contained recovery and/or recycling equipment.

Disposal of refrigerant-containing appliances, including MVAC or MVAC-like appliances

Sections I and II of form AQ-FORM-301 must be completed for disposal; Section III should also be completed if refrigerant is removed before final disposal.

Effective January 1, 2026, fire suppression equipment that uses an HFC must either have the HFC recovered before being sent for disposal or the equipment must be sent to a facility, such as a fire suppression equipment manufacturer, distributor, or fire suppressant recycler, if the HFC is left in the equipment.

SECTION I – Appliance or HFC Fire Suppression System Information

Technician completes and submits this section when appliances are being disposed of. The technician must be an EPA certified technician unless the appliance contains less than or equal to 5 pounds of refrigerant per circuit, is an MVAC or MVAC-like appliance, or is an HFC fire suppression system.

SECTION II – Appliance or HFC Fire Suppression System Disposal Requirements

Technician completes and submits this section to identify specifics about the disposal.

- If all refrigerant leaked out prior to disposal, the technician needs to obtain the signature of the responsible person, generally the area maintenance supervisor or general contractor.
- The technician or final processor signature is required for evacuation before final disposal.

Special Conditions for HFC Fire Suppression Systems.

- Cross-contamination must be prevented.
 - Recovery, Storage, and/or Recycling Equipment must be evacuated prior to use to prevent contamination.
 - The recovered HFCs cannot be mixed with other HFCs that may be contained in similar cylinders.
- Recovered HFCs must be sent for recycling to a fire suppressant recycler or reclaimer certified under 40 CFR 82.164 or for its destruction using one of the controlled processes listed in 40 CFR 82.29.
- Wastes from the recycling process must be collected and properly disposed of.

SECTION III – Refrigerant Removal before Final Disposal Requirements

Technician completes and submits this section when refrigerant is completely removed before final disposal or when an HFC fire suppression system is removed. If refrigerant is to be reused by the University, provide the University cylinder ID.

SECTION IV – Disposal of HFC Cylinder Requirements

Effective January 1, 2028, there are additional requirements for disposable cylinders that contain an HFC used in the servicing, repair, or installation of refrigerant-containing appliances or fire suppression systems where the disposable cylinder will not be re-used in the future. This section must be completed and submitted by a technician to the AQCS.

Disposal Requirements

Disposable cylinders must be sent to:

- A reclaimer certified under 40 CFR 82.164;
- A fire suppressant recycler if the disposable cylinder was used in the servicing, repair, or installation of fire suppression equipment;
- A refrigerant supplier (including but not limited to distributors and wholesalers) who is capable of removing the heel from disposable cylinders; or
- A final processor, such as a landfill operator or scrap metal recycler, who is capable of removing the heel from disposable cylinders. Disposable cylinders may be discarded to a final processor without meeting the above requirement when:
 - The heel was removed by a certified technician;
 - The heel of the used disposable cylinder has been evacuated to a vacuum of 15 inHg prior to discarding the cylinder;
 - The certified technician provides a certification statement, which certifies that the heel was evacuated to a vacuum of 15 inHg; states the name and address of the certified technician who evacuated the cylinder(s) and the date the cylinder(s) was/were evacuated; and is signed by the certified technician who evacuated the cylinder(s); and
 - The certified technician discarding the cylinder to the final processor provides the signed certification statement to the final processor when they discard the cylinder.

Recordkeeping and Reporting Requirements

- Refrigerant-containing appliances, HFC fire suppression systems, and HFC disposable cylinders records of disposal must be completed by the technician on AQ-FORM-301 and submitted to the AQCS.
- The AQCS updates the refrigerant tracking system.
- All records must be maintained for five years.
- It is the responsibility of the final processor to keep a copy of applicable signed statements or contracts for three years.
- There are no reporting requirements.

University of Kentucky – Required Form for Disposal of Refrigerant-Containing Appliances; HFC Fire Suppression Systems; or HFC Cylinders (AQ-FORM-301)

SECTION I – Appliance or HFC Fire Suppression System Information

University Equipment ID #:

If unknown, complete and attach form AQ-FORM-101

Appliance/System Disposal Date: ____/____/____

Appliance/System Location (Building name, number, specific location, i.e., room #, roof, ground) :

Refrigerant Name(s):

Appliance/System Full Charge: _____ lbs. _____ oz.

SECTION II – Appliance or HFC Fire Suppression System Disposal

Part(s) of appliance disposed:

☐ Entire Appliance

☐ Other, Explain:

Refrigerant intact ☐ Y ☐ N

All refrigerant leaked prior to disposal ☐ Y ☐ N

If yes,

Responsible Person Name:

Responsible Person Address:

Responsible Person Signature: _____ Date: _____

Refrigerant evacuated before sent for final processing to required levels using certified recovery equipment. ☐ Y ☐ N

If yes, complete below AND Section III

*Technician Name/EPA Certification ID:

*Technician Address:

*Technician Signature: _____ Date: _____

*Technician must be EPA certified except for MVAC, MVAC-like, small appliances, and HFC fire suppression systems

Refrigerant to be evacuated by the final processor in accordance with 40 CFR 82 and/or 40 CFR 84. ☐ Y ☐ N

If yes,

Contractor/Vendor Name:

Contractor/Vendor Address:

Contractor/Vender Signature: _____ Date: _____

University of Kentucky – Required Form for Disposal of Refrigerant-Containing Appliances; HFC Fire Suppression Systems; or HFC Cylinders (AQ-FORM-301)

SECTION III – Refrigerant Removal – Required for disposal of HFC fire suppression systems or if refrigerant is evacuated before an appliance is sent for final disposal

Date of Refrigerant Removal: ____/____/____ Amount of refrigerant recovered: _____lbs. ____oz.

Type of Refrigerant Disposal:

☐ Reclaimed ☐ Destruction ☐ Reused ☐ Recycled ☐ Other, Explain:

If reused, provide University cylinder ID:

Refrigerant transferred for reclamation ☐ Y / ☐ N] or destruction ☐ Y / ☐ N]

If yes, Date of transfer: ____/____/____

Company that received refrigerant:

Company contact name and email:

Refrigerant Name(s) sent for reclamation/destruction:

Quantity of refrigerant(s) sent for reclamation/destruction: _____lbs. ____oz.

SECTION IV – Disposable HFC Cylinders

Cylinder ID #: _____ Cylinder Storage Location: _____

Cylinder Disposal Date: ____/____/____ Refrigerant Name: _____

Heel was removed by an EPA certified technician ☐ Y / ☐ N]

If yes, heel was evacuated to a vacuum of 15 inHg ☐ Y / ☐ N]

Date cylinder was evacuated: ____/____/____

Certified Technician Name: _____

Contractor/Vendor: _____

Address: _____

Signature: _____ Date: _____

Accidental release of refrigerant ☐ Y / ☐ N]

If yes, estimated amount released. _____lbs. ____oz.

Cylinder sent to:

☐ Certified Reclaimer ☐ Refrigerant Supplier ☐ Recycler ☐ Final Processor ☐ Other, Explain:

Company that received disposable cylinder:

Company Contact name and email:

Contact phone number:

Submit completed form to Air Quality Compliance Specialist, Leo Smart, at leo.smart@uky.edu