Environmental Management

FORM

MAINTENANCE OF REFRIGERANT APPLIANCE

SECTION I

Maintenance/Service/Repair - Appliance 50 lbs or greater refrigerant per circuit.
If not University technician, contractor/vendor must complete.

SAP or SPHERA ID #: Circuit #:

If SAP or SPHERA ID # is unknown, complete and attach form AQ-FORM-101

Date of Maintenance/Service/Repair:

Maintenance/Service/Repair due to automatic leak detection equipment: [Y / N]

Part(s) of appliance being Maintenance/Serviced/Repaired:

Type of Maintenance/Service/Repair for each part(s):

Certified Technician Name:
Contractor/Vendor Contact/Email:

Accidental release of refrigerant [Y / N]
If yes, estimated amount released. _____lbs. _____oz.

REFRIGERANT EVACUATED

Refrigerant evacuated: [Y / N] Date Refrigerant Evacuated:
Quantity of refrigerant evacuated: _____lbs. _____oz.

Refrigerant evacuated to required levels using certified recovery equipment. [Y / N]

Seasonal Variance:
Refrigerant evacuated due to a Seasonal Variance. [Y / N]

Quantity of refrigerant removed in above Seasonal Variance: _____lbs. _____oz.

Purged Refrigerant:

Is refrigerant being excluded from leak rate calculation: [Y / N]

If Yes,

Refrigerant purged and destroyed to at least 98% efficiency (attach record). [Y / N]
Start and end time(s) of purge flow:
Flow rate:
Quantity of refrigerant removed: _____lbs. _____oz.

Contractor/Vendor that destroyed purged refrigerant:
Contractor/Vendor Contact address:
Contractor/Vendor Email/telephone number:
Description of purging equipment:

Description of method used to determine quantity of refrigerant sent for destruction:

Frequency of monitoring/data-recording:

Description of control device and destruction efficiency:

REFRIGERANT ADDED

Refrigerant added to appliance: [Y / N] Date Refrigerant added:

Was refrigerant added due to a Seasonal variance: [Y / N]

Quantity of refrigerant added in above Seasonal Variance: _____lbs. _____oz.

Date refrigerant was removed due to above Seasonal Variance:

Quantity of refrigerant removed in last Seasonal Variance: _____lbs. _____oz.

Refrigerant Name(s):	Quantity of Refrigerant(s) Added: _____lbs. _____oz. Net Quantity of Refrigerant(s) Added (addition minus seasonal variance, purged, and/or evacuated): _____lbs. _____oz.

Prior date refrigerant added to appliance
due to Maintenance/Service/Repair:

For appliances that contain class I, class II, or a blend of class I and class II refrigerants, a leak rate calculation must be performed when refrigerant is added which is not part of a seasonal variance or a purge where refrigerant was destroying.

Leak Rate = lbs net refrigerant added ___ x 365 days/yr _____ x 100%
(% / yr) lbs refrigerant in full charge shorter of: # days since refrigerant last added or 365

Leak Rate: _____

If leak rate exceeds 20% for commercial refrigeration or 10% for comfort cooling or other types,
Action* Taken After Leak Rate Exceedance:
[ ] Repair [ ] Repair and Request EPA Extension
[ ] Retire/Retrofit [ ] Retire/Retrofit and Request EPA Extension
[ ] Mothball

If Mothballed, date refrigerant was removed:
If Mothballed, date refrigerant was added:
If mothballed, actions are suspended until refrigerant is added.

One of the above actions* must be taken once a leak rate is exceeded and Section II or III must be completed, as appropriate.

SECTION II

(Applicable only to appliances that contain class I, class II, or a blend of class I and class II refrigerants)

Appliance Leak Repair:

Leak Inspection and Initial Verification Tests (IVT) must be completed within 30 days of refrigerant added and Follow-up verification must be completed within 10 days of IVT or normal operating conditions unless EPA extension submitted. An extension must be submitted within the 30-day timeframe.

If not University technician, contractor/vendor must complete.

LEAK INSPECTION
Leak Inspection Date: Certified Technician Name: Contractor/Vendor Contact/Email:
Method(s) used to conduct leak inspection (i.e., ultrasonic tests, gas-imaging cameras, bubble tests, leak detection device):
Method(s) used to determine appliance is leaking (i.e., standing pressure/vacuum decay, sight glass checks, viewing receiver levels, pressure checks, charging charts):
Location of Each Leak:
All visible and accessible parts of appliance were inspected. [Y / N]

INITIAL VERIFICATION TESTS
Initial Verification Test(s) Date: Certified Technician Name: Contractor/Vendor Contact/Email:
Location of Each Repaired Leak:
Method(s) of Initial Verification Test(s), (i.e., standing pressure/vacuum decay, sight glass checks, viewing receiver levels, pressure checks, charging charts):
Result of Initial Verification Test(s):

FOLLOW-UP VERIFICATION TESTS
Follow-up Verification Test(s) Date: Certified Technician Name: Contractor/Vendor Contact/Email:
Location of Each Repaired Leak:
Method(s) of Follow-up Verification Test(s), (i.e., standing pressure/vacuum decay, sight glass checks, viewing receiver levels, pressure checks, charging charts):
Result of Follow-up Verification Test(s):

EXTENSION REQUEST FOR REPAIR
Appliance repair and verification tests not possible within 30 days due to: [ ] Appliance is located in an area subject to radiological contamination or shutting down appliance would lead to radiological contamination. Additional time permitted to the extent needed to complete repair in a safe working environment. [ ] Other Federal, state, or local regulations make repair impossible. Additional time permitted to the extent needed to comply with pertinent regulations. [ ] Replacement components for repair are not available. Additional time permitted up to 30 days after receiving delivery of necessary components, not to exceed 180 days from the data appliance exceeded the leak rate.
Description and date of any repair work performed prior to extension request:
Description of why more than 30 days are needed for repair:
Estimated date of Completion:

SECTION III

(Applicable only to appliances that contain class I, class II, or a blend of class I and class II refrigerants)

Appliance Retrofit or Retire:

A plan must be completed within 30 days of refrigerant added when no action to identify/repair leak occurred or leak is exceeded after repairs/verification tests. Schedule to retire/retrofit not to exceed one year after plan created unless EPA extension granted. An extension must be submitted within 7 months after leak rate was exceeded.

Appliance Retired [Y / N]	Appliance Retrofit [Y / N]

RETROFIT

Converted Refrigerant Name(s):	Full Charge of Refrigerant(s): _____lbs. _____oz.

Itemized changes to appliance for compatibility with new refrigerant:

Plan for disposing of recovered refrigerant:

Identification of all appliance leaks:

All appliance leaks must be repaired for retrofit. Use Section II to identify leaks and repairs.

Retrofit Schedule:

RETIRE

Plan for disposing of recovered refrigerant:

Plan for disposal of appliance:

Retire Schedule:

RETROFIT/RETIRE EXTENSION REQUEST
Description and date of any repair work performed prior to extension request:
Detailed plan to complete retirement/retrofit:
Description of why more than one-year is needed:
Estimated date of completion:
RETROFIT/RETIRE RELIEF REQUEST
Trigger date of retrofit/retire: Attach associated AQ-FORM-201, Section I and II
Description of completed repairs:
Description of incomplete repairs:
Description of why repairs were not completed within 30-days or within extension date:
Date when all repairs will be completed: