

OPERATIONS MANUAL

RECLAIMED REFRIGERANT CERTIFICATION PROGRAM



AHRI RECL OM JANUARY 2018

2111 Wilson Blvd, Suite 500
Arlington, Virginia 22201
(703) 524-8800

Sponsored and administered by:



PREFACE

The following manual outlines the procedures and policies of the AHRI Reclaimed Refrigerant (RECL) Certification Program operated by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). This manual is to be used in conjunction with the AHRI General Operations Manual for AHRI Certification Programs. Where the AHRI General Operations Manual and this product-specific manual differ, this product-specific operations manual shall prevail.

The revision of this manual supersedes all previous revisions. The current edition of this manual, as well as the AHRI General Operations Manual, can be accessed through the AHRI website, www.ahrinet.org.

The RECL Certification Program by AHRI provides for independent verification of the Reclaimed Refrigerant manufacturers' stated equipment performance. Safety criteria are not within the scope of this program.

Participation in the program is voluntary. Any manufacturer, regardless of AHRI membership, may obtain approval of Program Ratings and use of the AHRI RECL Certification Mark hereinafter referred to as the "Mark". The Mark is the Participant's public representation that the ratings of randomly selected samples have been verified by an independent laboratory in accordance with test procedures prescribed by this operations manual. A Certification Agreement is executed between the manufacturer and AHRI specifying the conditions under which such Ratings and the Mark may be used. No manufacturer has the right to use Program Ratings or to state that their products have been tested in conformance with the procedures outlined in this Rating Procedure unless and until they have received written authority from AHRI to use the Mark as applied to the specific approved Program Ratings.

This Operations Manual has been prepared to assure that administration of the program is carried out in a uniform manner. It is an amplification of the license agreement signed by licensees and AHRI. General information, procedural details, and copies of forms are included in the guide. Provisions of the Operations Manual may be amended as provided in the Certification Agreements.

This certification program complies with requirements of the ISO/IEC Standard 17065:2012, *General Requirements for Bodies Operating Product Certification Systems*.

Note:

This manual supersedes the ARI Reclaimed Refrigerant Certification Program Operational Manual
January 2017.

**CERTIFICATION OPERATIONS MANUAL FOR
RECLAIMED REFRIGERANT**

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1. Program Overview

1.1 Applicable Rating Standard. It is mandatory for program Participants to comply with the provisions of the latest edition of AHRI Standard 700, *Specifications for Refrigerants* (Standard). A copy of the Standard is available for download from the AHRI website, www.ahrinet.org.

1.2 Product Definition of Reclaimed Refrigerant. Reclaimed Refrigerant is refrigerant that has been re-processed to at least the purity specified in the Standard and to verify this purity using the analytical methodology prescribed.

1.3 Program Scope. This program applies to all reclaimed fluorocarbon refrigerants as defined in Section 1.2 and covered under the scope of the Standard.

1.4 Intended Market. The intended market for this certification program, where the Standard applies, includes all refrigerants defined in Section 1.3 that are sold for use in the U.S. and Canada (U.S., U.S. Territories, and Canada).

2. Qualification Process

2.1 Original Equipment Manufacturer (OEM) Applicants. With the additions noted below, the OEM qualification process shall proceed according to the AHRI General Operations Manual, Section 4.

STEP 2.1.1 Certification Application Package. In addition to the Application for AHRI Certification and Annual Sales Volume Form noted in the AHRI General Operations Manual, Section 4, STEP 4.1, Applicants shall submit the list of refrigerants to AHRI via the Directory.

STEP 2.1.2 Processing Application Package.

STEP 2.1.2.1 Performance Certification Agreement for Original Equipment Manufacturer (OEM Agreement). No further action required beyond that listed in Section 4, STEP 4.2 of the AHRI General Operations Manual.

STEP 2.1.2.2 Participation and Licensing Fee Invoice. Payment of the Participation and Licensing Fee is due within 30 calendar days of the invoice issue date. Testing shall not be conducted until the invoice is paid in full. No further action required beyond that listed in Section 4, STEP 4.2 of the AHRI General Operations Manual.

STEP 2.1.3 Selection and Qualification Testing.

STEP 2.1.3.1 Number of Qualification Tests. One (1) sample, of each refrigerant reclaimed by the applicant, shall be tested. The Applicant must certify a minimum of three (3) refrigerants.

STEP 2.1.3.2 Acquisition of Qualification Test Samples/Selection Criteria. Within 30 calendar days of a request from AHRI, the Applicant must be ready for the independent-third party laboratory contracted by AHRI (Laboratory) personnel to visit the site to draw qualification test samples. The Laboratory shall coordinate the site visit with the Applicant.

The Laboratory personnel shall visit the Applicant's site and draw a sample of the selected refrigerant(s) from the container. The sample shall be secured, sealed, and labeled by the Laboratory personnel in a test cylinder as described in Section 3.5 of this manual.

The Laboratory shall draw a duplicate sample of the selection. The Laboratory personnel shall also secure, seal, and label this sample. The 2nd sample shall be retained by the Applicant and held for submission to the Laboratory in the event of a 1st sample failure. The sample may only be used for 2nd sample testing if the seals and label placed by the Laboratory personnel are still intact.

STEP 2.1.4 Qualification Testing. The Laboratory shall analyze the sample(s), in accordance with the Standard to verify conformance to the Standard's specifications.

STEP 2.1.4.1 Successful Completion of All Qualification Tests. If all qualification tests pass proceed to STEP 2.5.

STEP 2.1.4.2 First Sample Qualification Test Failure. When the Applicant is notified of a first sample qualification failure, it has seven (7) calendar days to select one of the following options as listed in Section 3.9.1.

STEP 2.1.4.3 Second Sample Qualification Test Failure. When the Applicant is notified of a second sample qualification failure for any sample, the entire application is cancelled.

STEP 2.5 Welcome to the Program. No further action required beyond that listed in Section 4, STEP 4.5 of the AHRI General Operations Manual.

3. Sample Selection and Testing

3.1 Annual Testing Requirement. All certified refrigerants that have been reclaimed by the Participant that year shall be tested within that year. The Laboratory shall schedule a site visit to the Participant's facility quarterly. Annually, a minimum of four (4) samples from each Participant's facility shall be tested by the Laboratory, even if a Participant only reclaims one (1) type of refrigerant.

If some certified refrigerants are not tested that year, certification shall be maintained if the refrigerant has been tested within the past five (5) years. Certification of any refrigerant shall expire if that refrigerant has not been tested by the Laboratory in the past five (5) years and shall no longer be listed in the AHRI Directory of Certified Product Performance (Directory), and the Participant shall no longer claim certification or advertise the ability to reclaim that refrigerant under the AHRI's Reclaimed Refrigerant Certification Program. If the Participant resumes reclamation of that refrigerant at a future date, they shall re-apply for qualification.

3.1.1 Listing New Refrigerants. Each new refrigerant must pass qualification testing before it can be listed in the Directory.

3.2 Location of Tests. Testing is performed at the Laboratory.

3.3 Selection of Test Samples. Selections shall be made based on the refrigerants listed in the Directory. AHRI may select the refrigerant for analysis on the basis of availability and direct the Laboratory to select a sample at random from the Participant's inventory.

3.4 Methods for Acquiring Test Samples. The Laboratory personnel shall coordinate the site visit with the Participant prior to obtaining samples for test. The Laboratory shall consult with AHRI regarding substitute refrigerant selections or whether to re-schedule the visit.

The Primary Sampling Method is the main method for acquiring test samples. The Alternate Sampling Method can only be granted upon written request to AHRI, indicating which refrigerants are to be sampled using this method and certifying that all such cylinder(s) or drum(s) (Container) of refrigerant(s) are batch identified. This means that the particular lot of refrigerant from which the Container was filled can be traced to the specific day it was processed and packaged, or to an analysis performed by the Participant.

The Participant may have one (1) or more reclaimed refrigerants tested by the Primary Sampling Method and others by the Alternate Sampling Method. The second sample shall be retained by the Participant for 30 calendar days from the date of sampling.

3.4.1 Primary Sampling Method. The Laboratory personnel shall visit the Participant's site and draw two (2) samples of the selected refrigerant(s) from the appropriate Containers. One (1) sample shall be sent to the Laboratory and one (1) sample shall be retained by the Participant in the event of a first test failure. The samples shall be secured, sealed, and labeled by the Laboratory personnel in test cylinders as described below. The sample(s) shall be shipped to the Laboratory at the Participant's expense.

3.4.1.1 Test Cylinders for Primary Sampling Method. The Participant shall obtain a sufficient quantity of stainless steel sample test cylinders to test all refrigerants listed. The Participant is responsible for the thorough cleaning and maintenance of all test sample cylinders. The 500cc stainless test cylinders include a ¼" valve assembly and pressure relief disc and are DOT rated.

3.4.2 Alternate Sampling Method. The Laboratory shall randomly choose two (2) Containers of the selected refrigerant from the Participant's inventory. For each refrigerant to be tested, six (6) Containers of that refrigerant must be available for selection. The Container(s) shall be secured, sealed, and labeled by the Laboratory personnel. One (1) Container shall be sent to the Laboratory and one (1) Container shall be retained by the Participant in the event of a first sample failure. The Container(s) shall be shipped to the Laboratory at the Participant's expense. The Laboratory shall draw a sample from the Container for testing.

3.5 Sample Acquisition Timeframe. The Participant shall deliver the selected sample(s) to the Laboratory within 14 calendar days of the visit by Laboratory personnel.

3.6 Testing. Each sample shall be tested under the conditions described in the Standard. All sample test results shall not exceed the maximum contaminant levels established in the Standard for:

- Acidity;
- Chloride;
- High Boiling Residue;
- Air and Other Non-Condensables;
- Volatile Impurities (including other refrigerants);
- Particulates/Solids; and
- Water

3.7 Certified Data. Per the Standard, the following certified ratings are verified through test:

- Acidity (ppm by weight)
- Chloride (pass/fail)
- High Boiling Residue (% by volume or % by weight)
- Air and Other Non-Condensables (% by volume)
- Volatile Impurities (including other refrigerants) (% by weight)
- Particulates/Solids (pass/fail)
- Water (ppm by weight)

3.8 Test Successes. If the first sample passes, the test sample or Container with its remaining contents shall be returned to the Participant at its expense and the Participant shall now remove the seal from the second test sample or Container.

3.9 Test Failures.

3.9.1 Options Following First Sample Failure. When the Participant is notified of a first sample failure, it has seven (7) calendar days to select one of the following options:

- Send the 2nd test sample or Container to the Laboratory for testing; or
- Cease reclaiming the failed refrigerant.

The refrigerant batch which failed may not be sold or transferred off-site until 2nd sample has passed the test conducted by the Laboratory.

3.9.2 Second Sample Failure. AHRI shall notify the Participant, in writing, that the reclaimed refrigerant has lost certification and that reclamation of that refrigerant must cease immediately unless a Test Result Appeal or a Corrective Action is approved. All sales, shipments, and reuse of the failed refrigerant type must be suspended until the refrigerant passes qualification testing.

3.9.2.1 Test Result Appeal. If the Participant fails the second sample, the Participant must submit its analysis to AHRI indicating the sample passed. If the Test Result Appeal is approved by AHRI, the Participant may request the Laboratory personnel to take another sample of the source Container. The Participant shall be responsible for the additional testing fees. AHRI shall inform the Laboratory to send the sample to an independent third-party laboratory in the AHRI Refrigerant Testing Laboratory (RTL) Certification Program to test the failed certified rating (s). AHRI shall not inform the Participant of the RTL chosen. The test result of the failed certified rating (s) shall overwrite the results of the second sample.

3.9.2.2 Corrective Action Plan.

3.9.2.2.1 Requesting Approval of Corrective Plan. Unless a Test Result Appeal is approved, the Participant shall file a Corrective Action Plan. Within 14 calendar days of failure notification, the Participant shall submit a written report to AHRI stating the reasons for the 1st and 2nd sample failures and describe corrective actions that have been or shall be taken to remediate the failure. The Participant may also request, in writing, additional time to complete the Corrective Action. AHRI shall notify the Participant, in writing, of its judgment regarding the Participant's Corrective Actions and/or request for additional time to complete the Corrective Actions.

3.9.2.2.2 AHRI Acceptance of Corrective Plan/Request for Extension. Once the Participant's Corrective Plan is approved by AHRI, the Participant shall have another sample available for selection within 30 calendar days of notification by AHRI. The sample shall be obtained through the Primary Sampling Method or Alternate Sampling Method (this method is only allowed with written permission from AHRI).

If the sample passes all certified ratings at the Laboratory, the previous failures shall be overwritten with the passing results. If the sample fails, the Participant must cease reclaiming the refrigerant in accordance with the program until it re-qualifies the refrigerant (see Section 2).

3.9.2.2.3 AHRI Rejection of Corrective Plan. If the Participant's Corrective Action Plan is rejected, the Participant loses certification for that refrigerant until it re-qualifies that refrigerant.

3.10 Additional Tests Due to Failure. If a refrigerant fails a 1st sample test, but passes a 2nd sample test, that refrigerant shall be subject to an additional test based on availability at the next site visit. This shall be done in addition to the quarterly sample, unless the quarterly sample and the additional test sample are the same refrigerant.

4. Challenge Tests

Refer to Section 10 of the AHRI General Operations Manual.

5. AHRI Directory of Certified Product Performance

All certified refrigerants shall be listed in the Directory, www.ahridirectory.org. Certification shall not be implied nor claimed for any refrigerant not listed in the Directory. Except as noted below, the Participant shall follow the steps outlined in Section 11 of the AHRI General Operations Manual.

5.1 *Publication of Certified Ratings in Certified Directory.* The following information pertaining to each model certified shall be published in the Directory:

- Manufacturer
- Address of the Manufacturer, including the location of the Participants' facilities
- Certified Refrigerants

5.2 *Data Forms.* Each Participant shall submit its list of refrigerants via the Directory.

6. Assessment and Payment of Certification Fees

Except as noted below, the assessment and payment of certification fees shall proceed according to the AHRI General Operations Manual, Section 12.

6.1 *Equipment Delivery/Disposal Fees.* Following the completion of the test, the Laboratory shall return the test cylinder(s), with remaining contents, to the Participant. The Laboratory shall invoice the Participant for the cost of shipment.

6.2 *Universal Monetary Penalty.* When the refrigerant loses certification (following a 2nd sample failure), the Participant shall have to pay a fixed monetary penalty of \$2,500.

7. Issuance of Violations and/or Termination

Refer to Section 14 of the AHRI General Operations Manual.

8. Program Hierarchy, Complaints, and the Appeals Process

Refer to Section 15 of the AHRI General Operations Manual.

9. Proper Use of the AHRI Certification Mark and Claims to Certification

Refer to the AHRI Brand Usage Guide.