

OPERATIONS MANUAL

AIR-COOLED WATER-CHILLING PACKAGES USING THE VAPOR COMPRESSION CYCLE



AHRI ACCL OM – JANUARY 2017

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PREFACE

The following manual outlines the procedures and policies of the AHRI Air-Cooled Water-Chilling Packages Using Vapor Compression Cycle (ACCL) 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. It also shall be used in conjunction with the latest effective editions of AHRI Standards 550/590 (I-P) and 551/591 (SI).

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

The ACCL Certification Program by AHRI provides for independent verification of the performance of the ACCL manufacturer's 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 ACCL Certification Mark hereinafter referred to as the "Mark". The Mark is the Participant's public representation that the ratings of randomly selected units have been verified by an independent laboratory in accordance with test procedures prescribed by this operations manual. A License 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.

Note:

This manual supersedes the AHRI Air-Cooled Water-Chilling Packages Using Vapor Compression Cycle Certification Program Operations Manual, April 2016 and is effective as of January 1, 2017.

CERTIFICATION OPERATIONS MANUAL FOR
AIR-COOLED WATER-CHILLING PACKAGES USING VAPOR COMPRESSION CYCLE

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Documents Referenced which are only Available Online (www.ahrinet.org)

- ACCL-DS1 - Data Submittal Form
- ACCL-DS2 - Data Submittal for Selections Form
- ACCL-FA1 - Application for Test Stand Approval
- ACCL-FA2 - Personnel Experience Questionnaire
- ACCL-FA3 - Test Stand and Equipment Questionnaire
- ACCL-FA4 - Calibration Summary
- ACCL-PC1 - Witness Test Procedure and Checklist
- ACCL-PC2 - In-House Test Procedure and Checklist
- ACCL-PC3 - Air Distribution Procedure and Checklist
- ACCL-PC4 - Test Stand Approval Procedure and Checklist
- ACCL-PC5 - Third-Party Laboratory Procedure and Checklist for Witness Testing
- ACCL-PC6 - Third-Party Laboratory Procedure and Checklist for In-house Testing
- ACCL-PC7 - Test Stand Approval Procedure and Checklist of Third-Party Laboratory
- AHRI Standard 550/590 & 551/591 System Calibration Worksheet
- ACCL Minimum Requirement Catalog Template

1. Program Overview

1.1 Applicable Rating Standards. It is mandatory for program Participants to comply with the provisions of the latest effective edition of either AHRI Standard 550/590 (I-P), *Performance Rating of Water-Chilling and Heat Pump Water-Heating Packages Using the Vapor Compression Cycle* (Standard), and AHRI Standard 551/591 (SI), *Performance Rating of Water-Chilling and Heat Pump Water-Heating Packages Using the Vapor Compression Cycle* (Standard). All references to the Standard refer to the latest effective edition which is available for download from the AHRI website, www.ahrinet.org.

1.2 Definitions.

1.2.1 Air-Cooled Water-Chilling Package. A factory-made and prefabricated assembly (not necessarily shipped as one package) of one (1) or more compressors, condensers and evaporators, with interconnections and accessories including controls, designed for the purpose of cooling water. It is a machine specifically designed to make use of a vapor compression refrigeration cycle to transfer heat from a cold water fluid circulating system to the air.

1.2.2 Custom Unit. A unit that is not specifically listed in a publicly available sales brochure, magazine advertisement, website posting or Catalog / Selection Rating Application that is a single instance product which contains components or additions that change the performance such that ratings can no longer be obtained by utilizing the Participant's Catalog / Selection Rating Application. All published performance for a Custom Unit is subject to the requirements of Section 3.8.6.2.

Custom Units shall not be certified and shall not be listed in the AHRI Directory of Certified Product Performance (Directory).

1.2.2.1 Field Trial Unit. A unit that is produced and provided to a customer, for the purpose of gathering data on potential new products. These units are intended to transition into regular production should the field trial be successful. Field Trial Units are subject to the requirements of Custom Units.

Field Trial Units shall not be certified and shall not be listed in the Directory.

1.2.3 New Product Introduction. A new product is one that falls under the Program scope that is available to be marketed, but is not available for standard production and is not listed in the Directory. Prior to advertising a New Product Introduction Unit, the Participant must obtain approval from AHRI by providing the following:

- Documentation describing the pre-released product.
- Capacity and efficiency at AHRI Standard Rating Conditions for a representative sample of the pre-released product.
- An updated ACCL-DS1 form.

Within nine (9) months after AHRI has approved the New Product Introduction Unit, the Participant shall add the New Product Introduction Units to the Directory in accordance with Section 9.2, or else be in violation of AHRI's Certify-All Policy. AHRI reserves the right to modify annual testing selections to include new product introduction.

New Product Introduction listings shall be shown on the ACCL Certification Program website, <http://www.ahrinet.org/ACCL.aspx> until they are added to the Directory.

All published performance for a New Product Introduction is subject to the requirements of Section 3.8.6.3.

1.2.4 Modular Chiller Array. A combination of individual certified chillers that may or may not include, from the factory, all required piping, wiring and controls to make the modular chiller array complete. The Modular Chiller Array is not certified, per Section 3.8.8, similar to when other certified chillers are piped and controlled together in the field.

1.2.5 Unit Listing Type. With respect to rated capacity as defined in Section 1.3, each unit listed in the AHRI Directory shall be classified as either a Packaged Unit or a Configurable Unit as follows:

1.2.5.1 Packaged Unit. A Packaged Unit is within the scope of the certification program if its full-load rated capacity at AHRI Standard 550/590 (I-P) Standard Rating Conditions is within the program scope limitations. Note that the capacity as per AHRI Standard 550/590 (I-P) shall be used to determine compliance and not the capacity determined when rating per AHRI Standard 551/591 (SI).

1.2.5.2 Configurable Unit. A Configurable Unit is within the scope of the certification program if its full-load rated capacity at application rating conditions is within the scope limitations.

1.2.6 Catalog / Selection Rating Application. A catalog or selection rating application that allows for selection of any certified product at any published application rating condition per the latest effective edition of the Standard, and shall be in one of the following forms:

1.2.6.1 Catalog. Any published material capable of displaying previously generated (i.e. static) performance data.

- Paper Catalog – a printed display of product performance
- Electronic Catalog or Spreadsheet – an electronic display of product performance
- Mobile Catalog – a downloadable program capable of displaying performance on one or more mobile device

1.2.6.2 Selection Rating Application. Any application capable of generating (i.e. calculating) performance data.

- PC based Selection Rating Software - either a personal computer (PC) based, run on MS Windows® based platform;
- Web based Application - all the applications that communicate with the user via HTTP; and
- Mobile Application – a downloadable program capable of generating performance on one or more mobile device.

1.2.7 Published Ratings. All published ratings of certified products which fall within the scope of the Program shall match the ratings generated using the Participant's Primary Catalog / Selection Rating Application listed in the AHRI Directory at the time of publication.

1.2.7.1 Primary Published Ratings. Ratings published using the Participant's Primary Catalog / Selection Rating Application listed in the AHRI Directory at the time of publication.

1.2.7.2 Secondary Published Ratings. Ratings published using media other than the Participant's Primary Catalog / Selection Rating Application listed in the AHRI Directory at the time of publication. All Secondary Published Ratings shall be generated using the Participant's Primary Catalog / Selection Rating Application listed in the AHRI Directory at the time of publication.

Secondary Published Ratings shown in a Catalog / Selection Rating Application shall reference the Primary Catalog / Selection Rating Application used to generate the certified performance which includes:

- Primary Catalog / Application name; and
- Primary Catalog / Application Issue Date/Code.

1.3 Program Scope. This program applies to Air-Cooled Water-Chilling Packages, as defined in Section 1.2, for the intended market as defined in Table 1, and as follows.

1.3.1 Optional Certification. If Participants certify units within the optional certification scope of the program as defined in Table 1, the following requirements apply:

1.3.1.1 Optional Certification by Country of Origin. Optional certification of a basic model group may be decided based on country of origin as indicated in the Directory.

1.3.1.2 Optional Certification by BMG. All units within the same basic model group for each country of origin listed in the Directory shall be certified.

1.4 Basic Model Groups (BMGs). A BMG is defined as a family of chillers using the same compressor model family or combination of same compressors from the same compressor model family. A Participant may choose to further subdivide its products into additional BMGs.

Table 1. Program Scope ^c							
Intended Market	Electrical Connection		Refrigeration Capacity ^a , tons [kW] ^b	Heat Rejection Capacity ^a , Btu/h [kW] ^b	Compressor Type	Full-Load Application Rating Conditions ^d	Drive Type
	(Hz)	(V)					
Air-Cooled Water-Chilling Packages							
Sold for use outside of the U.S. and Canada	50	≤600	>0 and ≤600 [2,110]	Heating Performance	All compressor types	Within the range of full-load application rating conditions as per the Standard	Electric motor driven
	60						
Sold for use inside the U.S. and Canada	50						
	60						
Heat Pump Water-Heating Packages							
Sold for use anywhere in the world	50	≤600	>0 and ≤600 [2,110]	Heating Performance	All compressor types	Within the range of full-load application rating conditions as per the Standard	Electric motor driven
	60						
Heat Recovery Water-Heating Packages							
Sold for use anywhere in the world	50	≤600	>0 and ≤600 [2,110]	Heating Performance	All compressor types	Within the range of full-load application rating conditions as per the Standard	Electric motor driven
	60						
Custom Units							
Condenserless Chillers							
Evaporatively-cooled chillers							
Chillers with motors not supplied with the unit by the Participant							
Units with evaporators or condensers that use fluid other than fresh water except as in note c.							
Notes: a. Refrigeration Capacity refers to the net refrigeration capacity of Packaged Units rated at full-load AHRI Standard 550/590 (I-P) Standard Rating Conditions and the net refrigeration capacity of Configurable Units rated at application full-load operating conditions provided these conditions are within the scope of AHRI Standard 550/590 (I-P). b. kW conversions provided for reference only. c. Units containing freeze protection fluids in the condenser or in the evaporator with a leaving chilled fluid temperature above 32°F [0°C] are certified when rated per the Standard with water. d. Applicable for Published Ratings only.					Legend:		
					Required for Participants to Certify	Optional for Participants to Certify	Excluded from the Program Scope

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 Certified Sales Volume Form noted in the AHRI General Operations Manual, Section 4, STEP 1, Applicants shall submit the following documentation to AHRI:

- Form ACCL-DS1, Data Submittal Form (found online at www.ahrinet.org);
- One test report for each BMG;
- Copy of Applicant's Primary Catalog / Selection Rating Application (refer to Section 3.8); and
- If the Applicant chooses to conduct witness testing at its AHRI Approved Test Stand (Test Stand), all required forms per Section 3.4.1 of this manual for Test Stand Approval shall also be submitted.

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 License Fee Invoice. Payment of the Participation and License 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 is required beyond that listed in Section 4, STEP 4.2 of the AHRI General Operations Manual.

STEP 2.1.3 Selection and Acquisition of Test Sample. Refer to Section 3 for requirements of selection and acquisition of test samples.

STEP 2.1.4 Qualification Testing. AHRI shall supply the Laboratory with the Published Ratings. The Laboratory shall conduct the testing of the samples in accordance with the Standard, against the Published Ratings.

The Applicant may prepare the equipment for test in the Laboratory or their approved Test Stand, validate the setup for the operation of the equipment prior to conducting the test(s), and witness the testing. The Applicant may not interfere with the equipment once testing has begun.

STEP 2.1.4.1 Successful Completion of All Qualification Tests. If all qualification tests pass proceed to STEP 2.1.5.

STEP 2.1.4.2 First Sample Qualification Test Failure. An Applicant is required to pass at least 80% of the first sample qualification tests. Should the pass rate be less than 80%:

- The Applicant shall test additional BMGs until the pass rate of the first sample qualification tests is at least 80%, or until all BMGs are tested; or
- The Applicant may choose to re-rate all models within untested BMGs per Section 3.11.4. (for all 5th Point test failures with the exception of Water Pressure Drop refer to Section 3.11.3);

Except as noted below, refer to Section 4, STEP 4.4.2 of the AHRI General Operations Manual for details regarding the first sample qualification failure options.

- Test a second sample from the same BMG (sample must be available for witness testing or ship to the Laboratory for testing within 90 calendar days following notification of failure).

STEP 2.1.4.3 *Second Sample Qualification Test Failure*. Refer to Section 4, STEP 4.4.3 of the AHRI General Operations Manual for details regarding the second sample qualification failure options.

STEP 2.1.5 *Welcome to the Program*. No further action required beyond that listed in Section 4, STEP 4.5 in the AHRI General Operations Manual.

2.2 *Private Brand Marketer (PBM) Applicants*. With the additions noted below, the PBM qualification process shall proceed according to the AHRI General Operations Manual, Section 5.

PBM Applicants are not required to undergo witness Test Stand inspection or initial qualification testing. PBM product certification is contingent upon the certification of the associated OEM product. PBM Published Ratings must directly correlate to OEM Published Ratings. If the Published Ratings have variations, the PBM must register and test as an OEM.

STEP 2.2.1 *Certification Application Package*. In addition to the Application for AHRI Certification noted in the AHRI General Operations Manual, Section 5, STEP 1, Applicants shall submit the following:

- Form ACCL-DS1, Data Submittal Form (found online at www.ahrinet.org) which shows the correlation between PBM Applicant samples and OEM Participant samples. These spreadsheets must be correctly completed in their entirety, and returned to AHRI, for the qualification process to continue;
- Copy of Applicant's Catalog / Selection Rating Application (refer to Section 3.8);

STEP 2.2.2 *Processing Application Package*.

STEP 2.2.2.1 *Performance Certification Agreement for Private Brand Marketer (PBM Agreement)*. No further action required beyond that listed in Section 5, STEP 5.2.1 of the AHRI General Operations Manual.

STEP 2.2.2.2 *OEM Agreement on Behalf of the PBM Applicant*. No further action required beyond that listed in Section 5, STEP 5.2.2 of the AHRI General Operations Manual.

STEP 2.2.2.3 *Licensing Fee Invoice*. Payment of the Licensing Fee is due within 30 calendar days of the invoice issue date.

STEP 2.2.3 *Welcome to the Program*. No further action required beyond that listed in Section 5, STEP 5.3 of the AHRI General Operations Manual.

3. Equipment Selection and Testing

3.1 Annual Testing Requirement. 20% of a Participant's BMG shall be tested, with a minimum of one (1) test per country of manufacture. Fractional models shall be rounded to the nearest whole number using traditional rounding methods. The minimum number tests shall be two (2) tests; however, the only exception to this rule is if the Participant has only one (1) BMG. In such a case, only one (1) sample per country of manufacture shall be tested. Countries where samples are only reassembled shall not be considered as a location of manufacture.

3.2 Testing Standard. The Participant shall notify AHRI via the ACCL-DS2, Data Submittal for Selections Form (found online at www.ahrinet.org) whether to test to AHRI Standard 550/590 (I-P) or AHRI Standard 551/591 (SI). If a Participant fails to select a testing Standard within seven (7) calendar days from the date of the selection letter, testing will be conducted in accordance with the Standard which AHRI selects.

Each test shall be conducted in accordance with one (1) Standard (i.e. either AHRI Standard 550/590 (I-P) or AHRI Standard 551/591 (SI)). Testing to one (1) Standard satisfies the testing requirements of this Program which certifies the performance of products in accordance with both Standards (i.e. both AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI)).

3.3 Location of Tests. The Participant shall elect to conduct testing at the Laboratory or at a Test Stand. If the sample is to be tested at the Laboratory, then the sample shall be installed in accordance with the Participant's published installation instructions in printed or electronic format. If the sample is to be tested at the Test Stand, the test must be approved by AHRI prior to it being conducted. Testing shall continue to be conducted at the Test Stand, contingent upon it remaining AHRI-approved, or until the Participant notifies AHRI in writing of its desire to change location of test. All tests, regardless of location, must be conducted or witnessed by the Laboratory's Representative (Representative).

3.4 Witness Testing and Test Stand Approval Procedures. The AHRI ACCL Certification Program allows for witness testing; where Participant personnel, witnessed by the Representative, conduct testing at an AHRI approved Test Stand. Witness testing requirements are covered in the AHRI General Operations Manual, Section 9 and as specified below.

For approval of a Test Stand for conducting witness testing, the chiller's capacity that is used to determine the maximum approved capacity of the Test Stand shall be at least 85% of the AHRI stated capacity for the Test Stand. If the Test Stand Inspection is not conducted in conjunction with an AHRI Certification Test, then the chiller must be run at 100% and 25% (or lowest available capacity step) test points and data must be collected to verify Test Stand capabilities

3.4.1 Test Stand Approval Application Package. A Participant shall submit the following to AHRI:

- Test Stand Approval (FA) Forms (found online at www.ahrinet.org);
- A completed AHRI Standard 550/590 & 551/591 System Calibration Worksheet (found online at www.ahrinet.org) with a copy of each calibration report showing date of last calibration;
- A schematic drawing of the area of the Test Stand in which AHRI certification testing shall be performed;
- Drawings of Air Sampling Tree (see Figure E1 of AHRI Standard 550/590 (I-P) or AHRI Standard 551/591 (SI), for an example);
- Schematic drawing or photographs of placement of Air Sampling Trees for each condenser coil configuration to be tested, with consideration to the range of sizes to be tested; and

- Photographs of the Test Stand in which AHRI certification testing will take place (which shall include sufficient views to show the location and connection of each instrument as well as the location and connection of the ports to be used by the Laboratory during witness testing).

3.4.1.1 Acknowledgement of Request. AHRI shall acknowledge receipt of the Participant's application to conduct Test Stand approval. AHRI shall review the material and shall inform the Participant if additional information and/or changes are required for the Participant's Test Stand to meet the Standard.

3.4.2 Inspection of Witness Test Stand. Following review and approval of submitted data, AHRI shall forward the application package to the Representative. The Representative shall then complete applicable portions of Form ACCL-PC4, Test Stand Approval Procedure and Checklist to determine whether the Test Stand shall be granted preliminary approval (PC forms may be found online at www.ahrinet.org).

Once the Test Stand has been granted preliminary approval, the Representative shall make arrangements for the Test Stand Inspection to verify compliance of the data submitted to the certification program and complete the remaining sections of Form ACCL-PC4. A chiller must be running in the Test Stand for the inspection to be completed. The Representative shall complete applicable portions of Form ACCL-FA3 (FA and PC forms may be found online at www.ahrinet.org).

3.4.2.1 Non-Compliant Inspection Results. If the results of the inspection indicate that a Participant's Test Stand is non-compliant with the Standard or the certification program, all discrepancies must be resolved and resubmitted to AHRI before approval may be granted to proceed with certified rating tests.

3.4.2.2 Final Approval of Witness Test Stand. Upon acceptable results of the inspection, AHRI shall notify the Participant in writing, of final acceptance and approval to proceed with certified rating tests. Testing may be scheduled in conjunction with Test Stand inspection; however, should the Test Stand fail inspection, the testing shall be delayed until the Test Stand is brought into compliance. AHRI shall provide the Participant with a certificate that shall be displayed in the approved Test Stand, approving the specific witness Test Stand for use for AHRI ACCL certification testing.

3.4.3 Scheduled Witness Test Stand Re-approval. The Test Stand shall remain approved for no more than two (2) years. At which time, re-approval shall be required, including submittal of the documents outlined in Section 3.4.1 and inspection outlined in Section 3.4.2.

3.4.4 Unscheduled Test Stand Re-approval. Any changes that may affect a Test Stand's ability to function per the certification program requirements shall be required to be re-approved by the Laboratory personnel prior to the conducting of any witness testing. At this time, re-approval shall be required; including submittal of the documents outlined in Section 3.4.1 and inspection as outlined in Section 3.4.2.

3.4.5 Witness Test Operations at Participant's Test Stand.

3.4.5.1 Advance Setup of Sample in the AHRI Approved Test Stand. A Participant may set up the test sample in the Test Stand prior to the arrival of the Representative. The Representative shall complete Form ACCL-PC1, Witness Test Procedure and Checklist and Form ACCL-PC3, ACCL Air Distribution Procedure and Checklist in conjunction with conducting the witness test. Prior to test commencement, the Representative shall verify that the sample is the model selected by AHRI for testing and that the sample has been set up in the Test Stand in accordance with the Participant's published installation instructions in printed or electronic format and referenced method of test (PC forms may be found online at www.ahrinet.org).

3.4.5.2 Duty Assignments of Representative. Sample testing, data acquisition, and data reduction shall be performed by the Participant and assisted and witnessed by the Representative. Participant or Test Stand personnel shall be on-hand to assist the Representative as requested and are permitted to be present, but are not permitted to tamper or adjust samples during tests, unless specifically requested by the Representative responsible for the test.

Verification of instrument application (in accordance with the procedures defined in the Standard) and verification of calibrations shall be performed by the Representative.

3.4.5.3 Use of Laboratory Instrumentation. The Representative shall use primary test instruments belonging to the Laboratory in line with those provided by the Participant to measure power input, water pressure drop, and air and water temperatures in accordance with the Standard. Readings shall be taken from both devices. The test results from the Participant data acquisition system shall be used provided that:

- The Participant equipment is under current calibration;
- All data acquisition is in accordance with the Standard.
- Power input does not differ by more than 2%;
- Water temperature at each location does not differ by more than 0.2°F (0.11°C);
- Water temperature difference across the evaporator as determined by the average of the two sets of Participant instrumentation does not differ by more than 0.2°F (0.11°C);
- Air temperature entering the condenser does not differ by more than 0.3°F (0.17°C);
- Water pressure drop does not differ by more than 0.5 ft H₂O (1.5 kPa); and
- Barometric pressure does not differ by more than 1.0%.

The Representative shall verify that the Test Stand average test conditions remain within the allowable tolerances for the duration of the test time period within 30 seconds of test start and stop, by comparing the Representative's test results with the Participant's test results.

Should any of these criteria not be met, steps should be taken to ensure that the discrepancy is resolved. In cases where the discrepancy cannot be resolved and no damage is apparent, the Laboratory instrumentation data for that parameter shall be used. If the instrument is part of a pair to calculate a difference (e.g. temperature or pressure) or part of an instrument set to calculate an average (e.g. ambient air temperature or power) then the Laboratory instrumentation data shall be used for both instruments in the pair or all instruments in the instrument set.

3.4.5.4 Access Required for Laboratory Instrumentation. Selected measurements require redundant instrumentation due to the fact that a heat balance cannot be obtained. Refer to Table 2 for instrumentation requirements.

Table 2: Instrumentation Requirements			
Measurement	Test Stand Instrument Requirements	Additional Accommodations for Laboratory Instrumentation	Additional Verifications
Water Flow	two flow meters	(none)	zero out prior to test
Water Pressure Drop	one gauge or transducer	one additional pair of 1/8 inch NPT ports that connect to the same static pressure ports used by the Test Stand	zero out prior to test
Water Temperature	two temperature sensors at each temperature location	additional thermowell at each temperature location to accept a 1/4 inch probe with immersion depth of 1/3 to 1/2 the diameter of the pipe	(none)
Air Temperature	one temperature sensor in each Aspirating Psychrometer	additional temperature port in each Aspirating Psychrometer (see Appendix E of the Standard)	(none)
Air Temperature (secondary)	one thermopile grid per air sampling tree	(none)	all thermopiles to be within range of 0.50°F [0.28°C] at ambient, prior to test
Electrical Power	two electrical power measurement devices	location to clamp on current measurement device and taps for voltage measurement	(none)
Note: All instruments shall be under current calibration that is traceable to NIST or equivalent laboratories that participate in inter-laboratory audits.			

3.4.5.5 Air Temperature Measurement. Participant's Test Stand shall utilize sampling tube assembly(s) to ensure air mixing and avoidance of stratification. Refer to Appendix E of the Standard.

3.4.5.6 Sample Start-Up and Operation. Start-up and operation of the sample shall be in accordance with the Participant's published installation instructions in printed or electronic format.

3.5 Selection of Test Samples. AHRI shall make a Scheduled Production Model Selection based on data contained in the Participant's most up to date Primary Catalog / Selection Rating Application version as listed in the Directory. Participants shall submit product availability when requested by AHRI to ensure certification testing is completed within the calendar year. If a BMG is not available for selection for three (3) consecutive years, the BMG shall be removed from the Directory and classified as Custom Units.

The Participant's AHRI approved Primary Catalog / Selection Rating Application shall be used to select a sample to operate within the limits of rating conditions per the Standard. Refer to Section 9 of the AHRI General Operations Manual.

3.6 Method for Acquiring Test Samples. Selected samples must be shipped to the Laboratory accompanied by the Participant's published installation instructions in printed or electronic format or be available for Witness Testing at the Test Stand.

3.7 Sample Acquisition Timeframe. Upon notification of selections by AHRI, the Participant shall have seven (7) calendar days to:

- Notify AHRI if any of the selected units cannot be made available within ninety (90) calendar days;
- For Laboratory testing: Notify AHRI if the Participant is interested in having a representative present during the setup, startup and testing of the sample(s). If notification is not received within the specified time frame, the Participant will not be permitted to observe the setup, startup or testing of the sample(s); and
- Complete an ACCL-DS2 – Data Submittal for Selections Form (found online at: www.ahrinet.org).

Upon notification of selections by AHRI, the Participant shall have ninety (90) calendar days to ship the samples to, or conduct witness testing at, an AHRI approved Test Stand. The Participant shall work with AHRI to determine a mutually agreed upon test date which may require the Participant to accelerate product production. Extended transit times must be approved by AHRI staff prior to selection. Prior to test, Participants must demonstrate that the performance indicated in the completed ACCL-DS2 – Data Submittal for Selections Form can be obtained from the Participants Primary Catalog / Selection Rating Application.

3.8 Primary Catalog / Selection Rating Application Requirements. A Participant shall provide AHRI with the most up to date version of its Primary Catalog(s) (if applicable) or Primary Selection Rating Application(s) (including all necessary instructions and passwords required for access and updates), which complies with the following requirements:

If the Participant has more than one (1) Primary Catalog / Selection Rating Application available to users, each shall be provided to AHRI for review and approval per Section 3.8.2.

3.8.1 Primary Selection Rating Application Output Reports. Primary Selection Rating Application Output Reports may be printed or electronic from PC based applications or screen captures from mobile applications and shall include the minimum information required by Section 6.2 of the Standard to allow AHRI to generate identical certified performance in addition to the following:

- Manufacturer name;
- Certified performance (Refer to Section 3.10);
- Proper claims to AHRI Certification (Refer to Section 3.8.4); and
- Each page shall contain the following:
 - Application name and version;
 - Reference page number (example: 1 of 2); and
 - Date each output sheet is generated.

3.8.2 Primary Catalogs Provided in Lieu of Selection Rating Applications. Primary Catalogs provided in lieu of Selection Rating Applications shall include the minimum information required by Section 6.2 of the Standard in addition to the following:

- Manufacturer name;
- Certified performance (Refer to Section 3.10);
- Proper claims to AHRI Certification (Refer to Section 3.8.4); and
- Each page shall contain the following:
 - Catalog name and version; and
 - Date catalog was created.

3.8.3 Primary Catalog / Selection Rating Applications Approval. Per the AHRI General Operational Manual, Section 9, AHRI shall have an updated copy of any Primary Catalog / Selection Rating Application being used in the field to produce Primary Published Ratings.

3.8.3.1 *Initial Approval.* If the participant is using a Catalog, PC based Selection Rating Software, or Mobile Application, AHRI shall provide the Participant with a login/password to a personalized Virtual Machine (VM) to install their Primary Catalog / Selection Rating Application. For Web based Applications, the Participant shall provide AHRI with access.

3.8.3.2 *Update Approval.* Any updates shall promptly be provided to AHRI via installation to the Participant's VM or notification of Web based Application updates.

Once the Participant notifies AHRI that the Selection Rating Application is ready for review, AHRI shall grant approval of updates to the Primary Catalog / Selection Rating Application within seven (7) calendar days.

3.8.4 *Minimum Certified Data Required in Primary Catalog / Selection Rating Application.* All published AHRI Certified Data must be included in a Participant's Primary Catalog / Selection Rating Application. Publishing additional Certified Data not included in a Participant's Selection Rating Application will result in a Program Violation. An ACCL Minimum Requirement Catalog Template may be found online at www.ahrinet.org.

3.8.5 *Statements Regarding Certification – Certified Selections.* All Primary Catalogs and Primary Selection Rating Application output reports for certified selections which reference AHRI shall include one (1) of the statements shown in Sections 3.8.5.1 through 3.8.5.3. Refer to Section 3.8.5.4 for Selection Rating Application outputs which include performance which is rated or certified by an organization other than AHRI.

The Mark shall be included on all certified performance Primary Catalog and Selection Rating Application Reports, other than those which include rated or certified performance by an organization other than AHRI.

Regardless of reference to AHRI, all units remain subject to the scope requirements of the Program, and all AHRI Certified Performance shall be accessible from an approved Selection Rating Application on an output sheet which references AHRI.

3.8.5.1 *Selections of Units in which Statements 3.8.5.2 and 3.8.5.3 Do Not Apply.* "Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org"

3.8.5.2 *Selections of Heat Pump Water-Heating Units Operating in Cooling.* "Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Heat Pump Water-Heating unit is certified when operating in cooling. Certified units may be found in the AHRI Directory at www.ahridirectory.org."

3.8.5.3 *Selections of Heat Reclaim Units with Heat Reclaim Off.* "Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Heat Reclaim unit is certified when operating with heat reclaim off. Certified units may be found in the AHRI Directory at www.ahridirectory.org."

3.8.5.4 *Alternate Certification.* If AHRI certified performance is presented in accordance with another standard or certification program (i.e. certified by an organization other than AHRI) the following statement may be included: "Within the scope of AHRI Air-Cooled Water-Chilling Packages Certification Program. AHRI Certified performance may be obtained from the manufacturer's representative."

3.8.6 Statements Regarding Certification – Non-Certified Selections. All Primary Catalogs and Primary Selection Rating Application outputs for non-certified selections which reference AHRI shall include one (1) of the statements shown in Sections 3.8.6.1 through 3.8.6.4. Refer to Section 3.8.6.4 for Primary Catalogs and Primary Selection Rating Application outputs which include performance which is rated or certified by an organization other than AHRI.

The Mark shall not be included on non-certified Primary Catalogs and Primary Selection Rating Application outputs.

3.8.6.1 Selections of Units in which Statements 3.8.6.2 and 3.8.6.3 Do Not Apply. “Outside the scope of AHRI Air-Cooled Water-Chilling Packages Certification Program, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).”

3.8.6.2 Selections of Custom or Field Trial Units. “Custom Unit which is not certified in accordance with AHRI Air-Cooled Water-Chilling Packages Certification Program, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).”

3.8.6.3 Selections from a Non-Current Catalog or Selection Rating Application Version. “Non-Current Selection which is not certified in accordance with AHRI Air-Cooled Water-Chilling Packages Certification Program, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).”

3.8.6.4 Selections of New Product Introduction Units. “New Product Introduction which is not certified in accordance with AHRI Air-Cooled Water-Chilling Packages Certification Program, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). New Product Introduction Units may be found at www.ahrinet.org/ACCL.aspx.”

3.8.6.5 Alternate Certification. If AHRI certified performance is presented in accordance with another standard or certification program (i.e. certified by an organization other than AHRI) the following statement may be included: “Outside the scope of AHRI Air-Cooled Water-Chilling Packages Certification Program, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).”

3.8.7 Statements Regarding Certification – Non-Standard Tolerances. Performance presented with Non-Standard Tolerances (i.e. tolerances that are more stringent than those specified in AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI)) shall be presented with the following statement in addition to statements shown in Sections 3.8.5 and 3.8.6: “Performance presented with Non-Standard Tolerances”.

3.8.8 Statements Regarding Certification – Combined Units or Modular Chiller Array System Selections. For performance presented as a combined system units or Modular Chiller Array the following statement shall be provided: “Combined units or modular chiller array rating is outside of the scope of the AHRI Air-Cooled Water-Chilling Packages Certification Program. Individual unit ratings are subject to the governing documents of the AHRI Certification Program.”

3.8.9 Statements Regarding Certification – Units with an Evaporator which Contains Fluid for Freeze Protection. For performance presented of units with an evaporator which contains fluid for freeze protection, the following statement shall be presented in addition to statements shown in Sections 3.8.5: “Unit contains freeze protection fluids in the evaporator with a leaving chilled fluid temperature above 32°F [0°C] and is certified when rated per the Standard with water.”

3.9 Break-in Operation and Start-Up of Test Samples. A Participant may instruct the Laboratory to operate the equipment for a Participant-specified number of “break-in” hours, not to exceed 16 hours prior to testing. The Participant is required to pay all break-in costs directly to the Laboratory.

3.10 Tested and Certified Ratings. This Program tests and certifies Air-Cooled Water-Chilling Packages Ratings as defined in this Section.

3.10.1 Water-Chilling Packages Tested Ratings. In accordance with the Standard, the following certified ratings are verified by test, at full and part-load performance no less than 25% of the rated full-load capacity:

3.10.1.1 Standard Rating Conditions – Packaged Units. Each AHRI selected Packaged Unit test sample shall be tested at the Standard Rating Conditions defined in Table 1 and Table 3 of the Standard. Testing tolerances apply to full-load and IPLV performance, not individual part-load test points (25%, 50%, and 75%) used to calculate IPLV.

3.10.1.2 Application Rating Conditions – Configurable Units. Each AHRI selected Configurable Unit test sample shall be tested at the Application Rating Conditions at which it was designed to operate.

3.10.1.3 Selection of Random Operation Point. In addition to the specific Standard and Application Rating Conditions noted above, AHRI shall select a random full-load capacity point within the rating conditions, and the limits of Section 5 of the Standard, for verification. This random operating point (5th point) shall be selected to allow AHRI to certify the full-load published operating map conditions at which the chiller can be run.

3.10.2 Water-Chilling Packages Certified Ratings. In accordance with the Standard, the following ratings are certified at full and part-load performance no less than 25% of the rated full-load capacity:

3.10.2.1 Operating Map Conditions. AHRI certifies the entire published operating map of the following ratings:

- Full-load capacity, ton [kW];
- Full-load cooling energy efficiency; and
 - EER, Btu/W·h;
 - COP, kW/kW; or
 - kW/ton.
- Full-load evaporator and condenser water pressure drop, ft H₂O [kPa].

3.10.2.2 Part-Load Values. AHRI certifies the following Part-Load Values:

- Integrated Part-load Value (IPLV)
 - EER, Btu/W·h;
 - COP, kW/kW; or
 - kW/ton.

IPLV is not certified for units which are not able to operate at Standard Rating Conditions. NPLV is not a certified metric and not subject to the requirements of this Program.

3.11 Test Failures. Test failures shall be determined in accordance with the Standard, Table 10.

3.11.1 Options Following First Sample Failure. When the Participant is notified of a first sample certified rating failure, the Participant has seven (7) calendar days to select one (1) of the following options:

- Re-rate all models within the failed sample's BMG per Section 3.11.4.
 - For all 5th Point test failures refer to Section 3.11.3. The Participant may elect not to conduct any additional testing because the entire operating map will be re-rated if the re-rate option is chosen.
 - Water Pressure Drop re-rates shall be across the entire operating map.
 - Only certified ratings (e.g. capacity, efficiency, water pressure drop, or IPLV) that fail the original test are required to be re-rated. Refer to Section 9 of the AHRI General Operations Manual.
- Test second sample from the same BMG (sample must be available for witness testing or ship to the Laboratory for testing within 90 calendar days following notification of decision to AHRI via Manufacturer's Decision form [MDF]; or
- Obsolete the model, which also obsoletes the corresponding BMG.

3.11.2 Options Following Second Sample Failure. When the Participant is notified of a second sample certified rating failure, the Participant has seven (7) calendar days to select one of the following options:

- Re-rate all models within the failed sample's BMG, per Section 3.11.4. (for all 5th Point test failures with the exception of Water Pressure Drop refer to Section 3.11.3); or
- Obsolete the model, which also obsoletes the corresponding BMG.

3.11.3 5th Point Failure Re-rate Procedure. This is performed immediately after the failure and before the MDF is issued. The Participant is responsible for all additional fees associated with this procedure.

- For test failures including all Certified Ratings, two (2) additional tests of the failed certified rating(s) shall be conducted at Participant defined higher and lower lift conditions relative to the failed test point condition. Of the initial selection of two (2) additional test points, if one or more are failing, testing shall be conducted in an expanding search window until two (2) test points are passing per certified ratings and allowable tolerances in the region surrounding the original failed test point condition. In the event that the failed point is at or close to an operating boundary limit (maximum lift capability), one (1) point may be used in lieu of two (2) points. Certified ratings that passed the original test are not retested.
- Published Ratings shall be re-rated proportionally from the original failed test point condition to the surrounding two (2) passing test point conditions with no adjustment for testing tolerances (i.e. re-rated performance must be equal to or worse than tested performance), or the 1 passing test point in the case of operation near a boundary limit. (Participant must use the actual test result at the failed point condition.
- At any time during this procedure, a Participant may elect to choose a different Sample Failure Option (refer to Sections 3.11.1 and 3.11.2).

3.11.4 Re-rate Requirements for Water-Chilling Packages. In addition to completing the Actions required by Section 8.2 of the AHRI General OM, the Participant shall provide the following to AHRI within 60 calendar days of test failure notification.

- A written description of the changes made to performance prediction calculations which explain the magnitude and range of revised performance.
- Performance generated from the Primary Catalog / Selection Rating Application before and after the re-rate which shows the magnitude and range of revised performance for a representative sample of models within the failed sample BMG.

AHRI will have the option to confirm the re-rated performance at any time following a re-rate.

3.11.4.1 Involuntary Re-rate Confirmation. Participants shall be subject to a Penalty Test in addition to the requirements of Section 3.12, in the year following an involuntary re-rate of a model selected from the previous year's re-rated BMG. Participants who are subject to an involuntary re-rate in the same BMG for two consecutive years, shall enter Penalty Mode.

3.12 Consequences for Improper Ratings.

3.12.1 Double Selection Mode Requirements. Except as noted below, the Double Selection Mode Requirements shall proceed according to Section 9 of the AHRI General Operations Manual.

3.12.1.1 Witness Testing at the Test Stand and Samples Tested at the Laboratory. Upon notification of selection from AHRI, the Participant shall provide one (1) sample of each model. If the first sample fails and the Participant chooses to test a second sample, a sample shall be available within 90 calendar days following notification of decision to AHRI via Manufacturer's Decision Form (MDF).

3.12.2 Probation Mode Requirements. Except as noted below, the Probation Mode Requirements shall proceed according to Section 9 of the AHRI General Operations Manual.

3.12.2.1 Witness Testing at the Test Stand and Samples Tested at the Laboratory. Upon notification of selection from AHRI, the Participant shall provide one (1) sample of each model. If the first sample fails and the Participant chooses to test a second sample, a sample must be available for witness testing or ready to ship to the Laboratory for testing within 90 calendar days following notification of decision to AHRI via Manufacturer's Decision Form (MDF).

3.12.3 Penalty Mode Requirements. Except as noted below, the Probation Mode Requirements shall proceed according to Section 9 of the AHRI General Operations Manual.

3.12.3.1 Witness Testing at the Test Stand and Samples Tested at the Laboratory. Upon notification of selection from AHRI, the Participant shall provide one (1) sample of each model. If the first sample fails and the Participant chooses to test a second sample, a sample must be available for witness testing or ready to ship to the Laboratory for testing within 90 calendar days following notification of decision to AHRI via Manufacturer's Decision Form (MDF).

4. Challenge Tests

Challenge Test process shall proceed according to the AHRI General Operations Manual, Section 10.

5. AHRI Directory of Certified Product Performance

All certified products shall be listed in the Directory, www.ahridirectory.org. Certification shall not be implied nor claimed for any product 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 Directory.* The following information pertaining to each model certified shall be published in the Directory as defined in Table 3:

Table 3. Publication of Certified Ratings in Directory		
Information	Listing Type	
	Public ^a	Private ^b
AHRI Certified Reference Number ^d	X	
Model Status	X	
Manufacturer	X	
Trade/Brand Name	X	
Model Designation	X	
Refrigerant Used per ASHRAE 34 ^d	X	
Compressor Model Series Information	X	
Compressor Type ^d (Reciprocating, Scroll, Centrifugal or Screw)	X	
Primary Catalog or Selection Rating Application Name	X	
Primary Catalog or Selection Rating Application Version	X	
Hertz ^d (50 or 60 Hz)	X	
Country of Origin ^d	X	
Manufacturing Location, City ^d		X
Nominal Cooling Capacity Range ^c (kW or tons)	X	
Unit Type ^d (Packaged or Configurable)		X
Variable Speed Compressor Control Available (Yes or No) ^d		X
Basic Model Group Number ^d		X
<p>Notes:</p> <p>a. Public Listing Information may be viewed in the public portion of the Directory at www.ahridirectory.org.</p> <p>b. Private Listing Information for each Participant's listings may only be viewed by Participants who's company corresponds to that listing.</p> <p>c. Nominal Capacity refers to the named capacity of Packaged Units rated at full-load AHRI Standard 550/590 (I-P) Standard Rating Conditions and the named capacity of Configurable Units rated at application full-load operating conditions provided these conditions are within the scope of AHRI Standard 550/590 (I-P). This value is not AHRI Certified and intended only for general categorization of Basic Model Groups.</p> <p>d. Information is linked between OEM and PBM listings.</p>		

5.2 *Data Forms.* Each OEM and PBM Participant shall list its certified model listings on the Data Submittal Form ACCL-DS1 and online via the Directory. AHRI shall be notified any time changes or additions are made to model listings.

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. The Participant is responsible for the delivery and expenses associated with shipping test samples to and from the Laboratory or another AHRI approved Test Stand. Following the completion of the test, the Participant shall provide instruction to the Laboratory regarding the disposal/shipment of the sample(s). The Laboratory shall invoice the Participant for expenses associated with the disposal/shipment of sample from the Laboratory to a location designated by the Participant.

7. Issuance of Violations and/or Terminations

Except as noted below, the Issuance of Violations and/or Termination shall proceed according to the AHRI General Operations Manual, Section 14.

7.1 Program Violation. When a Participant breaches any term(s) of the Governing Documents, they shall receive a program violation. Each instance of program violation will remain on the Participant's record for three (3) consecutive years from the violation letter date.

7.1.1 Program Violation Letter. AHRI will send a program violation letter via certified mail providing:

- the specific term(s) of the Governing Documents breached;
- the assigned Violation Level Type per Table 4;
- required corrective action and, in some cases, a request for evidence of corrective action; and
- Instructions for appealing the violation.

Table 4. Program Violation Level Types and Examples	
Level 1: Performance Based Violations	<ul style="list-style-type: none"> • Misrepresentation of AHRI Certified Data within the defined Operating Map of the latest effective edition of AHRI Standards 550/590 (I-P) and 551/591 (SI) • Violations of Certify-All Policy; • Failure to issue corrections to marketing materials and Published Ratings for a re-rate due to test failure; • Failure to correct a program violation; or • Improper or unauthorized claims to AHRI Certification from an AHRI approved Catalog / Selection Rating Application.
Level 2: Administrative Based Violations	<ul style="list-style-type: none"> • Failure to maintain accurate product data in AHRI Directory; • Misleading marketing using the AHRI name or AHRI Certification Mark; • Misleading marketing material with improper or unauthorized claims to AHRI Certification; • Failure to provide AHRI with most recent version(s) of Primary Catalog / Selection Rating Applications(s); • Failure to submit product-specific data submittal forms for new model listings prior to listing in the AHRI Directory; or • Failure to provide test samples for selection and testing within required timeframe.
<p><i>Note: The examples in this table are not exhaustive. For violations not covered in this example, AHRI will assign a Program Violation Level in accordance with the severity of the Governing Document breach.</i></p>	

7.1.2 Accumulation of Program Violations. If program violations accumulate, they will have consequence per Table 5.

Table 5. Consequences of Program Violation Accumulation	
Seven (7) Level 1 Violations accumulated within a consecutive three-year period	<ul style="list-style-type: none"> Participant will be terminated from the certification program as per the AHRI General OM;
Five (5) Level 1 Violations accumulated within a consecutive three-year consecutive period	<ul style="list-style-type: none"> Certification participant is listed in the AHRI Directory for one (1) year as having five (5) or more Level 1 Violations in a three-year consecutive period (violation reason will not be listed) Participant will enter certification Probation Mode as per Section 3.12.2 for a minimum of six (6) months or until the point in time when the participant has less than five (5) Level 1 Violations outstanding, whichever occurs later. \$10,000 flat fee to be invested back into AHRI Certification Programs
Three (3) Level 1 Violations accumulated within a consecutive three-year period	<ul style="list-style-type: none"> \$10,000 flat fee to be invested back into AHRI Certification Programs
Two (2) Level 1 Violations or any combination of three (3) Violations (Level 1 and Level 2) accumulated within a one-year period	<ul style="list-style-type: none"> Participant and Company Executive Officer to submit corrective action plan for review and discussion at AHRI's office in Arlington, VA
Three (3) Level 2 Violations within a consecutive three-year period	<ul style="list-style-type: none"> Equivalent to receiving one (1) Level 1 violation
<p>Notes:</p> <p>a. As per Section 12.4, Payment Deadlines, of the AHRI General OM, Failure to make payment shall result in removal of Directory data and Termination for Non-Payment.</p> <p>b. Consequences shown are administered sequentially across the one-year or three-year time period in which the violations are accumulated. For example, a Participant is required to pay a \$10,000 flat fee for the third violation accumulated within a consecutive three-year period, but a Participant is not required to pay a \$10,000 flat fee for the fourth violation accumulated within a consecutive three-year period.</p>	

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

9.1. AHRI Verification and Validation of Published Ratings.

9.1.1 Published Primary Rating Verification. AHRI provides verification of Primary Published Ratings to all legitimate parties. Verifications shall only be made on jobs in which the Primary Catalog / Selection Rating Application implemented by the user matches that of the Primary Catalog / Selection Rating Application shown in the AHRI Directory. All requesters shall provide the following information before verifications are completed:

- Name of the Requester;
- Affiliation of the Requester;
- Contact information of the Requester (email, phone number);
- Original job submittal with the job name;
- Performance provided in accordance with Section 3.8.1.2; and
- If available, the Manufacturer representative that provided the selection.

9.1.2 Published Rating Validation. Primary and Secondary Published Ratings are subject to validation to confirm compliance with the Program requirements at the time of publication.

9.1.3 Responsibility of Participant for Primary Catalog / Selection Rating Application Revisions. Whenever a Participant's Primary Catalog / Selection Rating Application is revised, the Participant shall promptly supply the revised version(s) to AHRI. Version numbers shall comply with the following:

- Version shall be in increasing numerical order so that the revision level can be determined by AHRI;
- Version shall match the number listed on the performance output data sheet generated from the Selection Rating Application and the Directory; and
- Version shall be tied to ratings; if any ratings are changed, a new version of the application shall be issued.

Notification to AHRI of revisions to Secondary Catalog / Selection Rating Application is not required.

Once the Participant notifies AHRI that the Primary Catalog / Selection Rating Application has been successfully installed, AHRI shall grant approval of the Selection Rating Application within seven (7) calendar days.

Upon approval from AHRI, the Participant may release the Primary Catalog / Selection Rating Application to other users. Primary Catalog / Selection Rating Application released to other users prior to obtaining approval from AHRI shall result in a program violation. Participants shall not be allowed to make changes to Primary Catalog / Selection Rating Application version updates until the Participant has obtained approval from AHRI.

9.2 Changes to Directory Listings. AHRI shall be informed of changes to certified products prior to such changes being implemented. The Participant shall submit the following to AHRI for approval:

- An updated ACCL-DS1 form showing the exact changes proposed, indication of any effects on published ratings, and an approximate date on which production of the changed chiller(s) is to begin.
- Updated Primary Catalog / Selection Rating Application that includes the updated performance.

AHRI shall grant approval of the submitted changes within seven (7) calendar days.

10. Test Stand Availability Requirements

10.1 *Purpose.* To promote participation in and the integrity of this Program, Participants shall make available test stands for Participants not having the ability to test products which they wish AHRI to certify.

10.2 *Definitions.*

10.2.1 *Test Stand Provider.* A Participant who is allowing the use of their test facility by another Participant for certification testing.

10.2.2 *Test Stand User.* A Participant who is using another Participant's test facility for certification testing.

10.3 *Requirements.*

10.3.1 *AHRI.* AHRI shall work directly with the Test Stand Provider and Test Stand User to determine the location and date of each test and shall promote the equal distribution of testing among all Program Participant's test facilities by global region (China, Europe, India, Middle East, North America).

10.3.2 *Test Stand Provider.* The Test Stand Provider shall:

- Allow AHRI Certification testing of Test Stand User's units at AHRI approved test facilities within 120 days of notification by AHRI;
- Permit Test Facility Users to witness the testing in accordance with the Program Governing Documents. All data, test results, calculations, reports, information and other documents gathered or prepared by Test Stand Provider become the property of AHRI in accordance with the Program License Agreement and shall be removed (i.e. deleted and destroyed) from the records of the Test Stand Provider immediately after it has been provided to AHRI;
- Operate the Test Stand when conducting testing to be witnessed by the Representative. The Test Stand User shall not be permitted to participate in the operation of the Test Stand during test but may supervise the operation and adjustment of the chiller; and
- Invoice the Test Stand User testing fees which have been approved by the AHRI Liquid Chillers Section for AHRI Certification Program testing.

10.3.3 *Test Stand User.* The Test Stand User shall:

- Schedule AHRI Certification testing at AHRI approved test facilities a minimum of 60 days prior to testing; and
- Provide installation and setup instructions a minimum of 30 days prior to testing; and
- Pay invoiced Test Stand User testing fees.

The Test Stand User may provide personnel to witness the setup, testing, and tear down of the unit. These personnel shall be escorted at all times by the Test Stand Provider.