

Draft for Review

PTCS Provider Standards

Submitted by: Conservation Services Group, Oregon Department of Energy, Delta T, Climate Crafters

1.0 Background

The following minimum qualifications and standard procedures for accrediting PTCS Duct trainers, Registering of PTCS contractors and data collection, certifying of PTCS Duct technicians and homes, and Quality Assurance have been compiled for the Northwest Power Planning Councils, Regional Technical Forum (RTF). The “Program” is being offered to the Regional Technical Forum, (RTF) as basis for approval of an RTF sanctioned standard by which all current and future trainers, registrars, certification grantors, and quality assurance providers of PTCS will be held accountable. No current protocol exists that allows the RTF to compare one prospective PTCS organization against another. The goal of this proposal will allow the RTF to accurately and fairly judge prospective organization and grant such organization all or some PTCS responsibilities. The PTCS Program has been broken down into 4 categories of which an organization may be approved to provide. Prospective PTCS providers may be approved for all or one of these individual categories.

2.0 Purpose

2.A. The purpose of the **Trainer Qualifications and Duct Training Program** that follows is to ensure that well informed and highly skilled trainers deliver accurate, thorough training programs to the technicians of PTCS Duct Systems for the Northwest. The HVAC industry has been targeted by various utility officials and energy professionals in the Northwest as a strong candidate for achieving energy savings and increased end user comfort. PTCS Duct Systems are a cost effective measure by which to achieve savings and increase industry standards. This Trainer Qualification and PTCS Duct System training program has been developed to satisfy these purposes.

2.B. The **Registry** portion of the program will require a data base system which houses an up to date list of all certified PTCS Technicians, all homes with a PTCS Certified Duct System. The data required and format are shown in Appendix B. This data will be made available to the Quality Assurance entity as well as the RTF in a timely fashion upon request. Registry keepers will make available a current PTCS Certified Contractors list to any program or person wishing to access a PTCS contractor. This will include the development of a web link that will be made available to programs involved with PTCS Duct Systems.

2.C. **Documentation and Issuance of Certification** will be required by any entity claiming PTCS standards have been met by a PTCS technician for each specific home the technician completes. Technicians shall be required to submit test results to certifying organization in approved format detailed in PTCS training procedures. All technicians claiming PTCS Duct system performance levels have been met, must have up to date PTCS certification. Any organization certifying PTCS systems must make available all test data and arrange the implementation of a Quality Assurance program through an RTF approved Quality Assurance organization.

2.D. **PTCS Quality Assurance** will be required by the RTF on all programs claiming they have met the PTCS standards. The Quality Assurance must be completed by an independent third party and must report their findings to a designated official at the RTF..

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3.0 Scope:

This document sets out the qualifications for the certification of:

3.A. **Trainers of PTCS Duct Systems**, so that the RTF will be confident that a minimum level of expertise will be displayed by all Trainers for PTCS Duct Systems, and so that Duct technicians will be trained in a manner that is acceptable and consistent within the energy efficiency industry.

3.B. **The Duct Training Program and testing Procedures** have been developed based on the expertise and experience of a collective group of industry professionals, as well as, from generally accepted practice in the building science and building performance industries. Step-by-step procedures for testing procedures, training curriculum, and certification process must be submitted with proposals.

3.C. **Registry and Data Maintenance** for homes and technicians so that information is up to date and readily available to organizations and individuals inquiring about technicians or previously certified homes. **[no need to repeat this language. Section 9 is ok for the detail]**

3.D. **Quality Assurance** by third party of PTCS programs and **Quality Control** by certifying organization of PTCS technicians. All proposals shall contain a step-by-step description of the specific procedures that will be followed to assure that PTCS specification are being met.

4.0 Trainer Qualifications

Trainers of PTCS Duct Systems shall at a minimum meet the following standards. Proposals shall include resumes for all individuals intending to conduct trainings. Certification of new trainers shall be through a training process, which shall include the following provisions:

4.A. Minimum Trainer Standards:

1. Minimum two (2) years full time experience (or demonstrated equivalent) in duct system testing and remediation and combustion zone depressurization testing, or conducting quality assurance inspections for duct tightness programs using these tests, and
2. Minimum two (2) years experience teaching building science concepts.
 - a. Alternate: the prospective trainer completes an observed training to the satisfaction of an existing PTCS certified Trainer.

5.0 Training Curriculum

The training curriculum is shown as Attachment A. A training program must be submitted with full training schedule, protocol and requirements. At a minimum, the agenda in Attachment A will be required topics of any training program. At a minimum, trainings shall be 2 days for new construction certification and 3 days for retrofit certification, and include on-site real time applications. The RTF will determine if a program meets the minimum curriculum requirements based on the modules shown in Appendix A.

6.0 Recertification of duct technicians

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Previously certified technicians who have been inactive for 12 consecutive months will be de-listed in the registry. They may be re-certified after subsequently passing the written and performance tests, and having three subsequent installations pass the QC inspection review.

7.0 Technician Certification

Technicians will be designated PTCS Certified when they have:

- Completed PTCS duct system training
- Proven competency in PTCS performance tests in the field
- Passed the competency test with a minimum score of 70%
- Submitted a minimum of 3 certified systems that pass the Quality Control inspections review. **For retrofit certification, the 3 systems can not be ones installed by a single contractor in largely identical homes, as in a tract home development.** In program areas operating in widely dispersed rural areas, an alternative approach for initial certification may be submitted for conditional approval.

8.0 Technician Certification Tests

8.A. Field Demonstrated

Technician shall perform accurate measurements, adhere to PTCS protocols, accurately record measurements on accepted forms, and evaluate whether PTCS specifications have been met in a field location for the following PTCS tests:

- Total duct leakage
- Duct leakage to outside
- Combustion appliance zone (CAZ) depressurization test

8.B. Written exam:

Technician shall score at least 70% on a written test, given after demonstration of competency in the field (see section 8A), that covers the following:

- Basic understanding of air leaks and air pressure dynamics
- PTCS test standards
- PTCS materials and installation standards
- Combustion safety
- PTCS quality assurance program
- Proper reporting requirements
- Exam question pool will be held by RTF. Training providers will be held responsible for the security of exam questions.

8.C. Technician De-certification

Technicians will be decertified for any of the following:

- Quality doesn't improve after receiving notice or after completion of re-training (Proposal shall include procedures)

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- Technician falsifies reported data

9.0 Registration of Technicians and Certification of Individual Systems

Registration:

- Certified Technician lists must be made available for any individual or program inquiring about services or technician status.
- Homes/Systems that have been certified must be cataloged in the RTF-approved format shown in Appendix B and be accessible to the RTF and Quality Assurance entity(s).
- Certain information on individual homes with PTCS systems is private in nature, and should in no way be distributed publicly or for any other reason to any organization, except to the RTF or for Quality Assurance and customer follow up. Certified Technician and PTCS-capable Contractors lists must be made available for any individual or program inquiring about services or technician status. The RTF, in conjunction with utilities using the PTCS system, shall approve all methods for data collection and access.

10.0 Quality Systems

Home and Technicians Quality Control Processes include:

- Timely file/data review, for complete, accurate and internally consistent information.
- Site audits to confirm performance test results, and inspect sealing materials/techniques.
- Action plan must be submitted for technicians failing to comply with program standards.
- On going field support must be available to technicians. It is the responsibility of the training/certification program to ensure follow-up technical support is available to technicians operating in the field.

Program Quality Assurance

- Quality Assurance will be performed by a third party entity. This means at no time can a QA provider stand to gain financially or otherwise as a result of passing or failing a subject of the QA process. In practice, this also means that the QA function may not be subcontracted and paid for by the entity responsible for operating the program and its QC function. Utilities with contractual recourse for corrective action/remediation may act as QA providers for programs provided by third parties by receiving an exemption from these requirements from the RTF. (see Appendix C for the requirements for this exemption). The QA provider shall have the authority to fail any duct system that it finds does not meet PTCS specifications, and shall have the authority to initiate the technician de-certification process and/or corrective actions required to bring substandard duct systems up to spec. Any sample of homes to be tested by QA entity will be on a random sample basis and not in any way be influenced by the program contractor being evaluated. Until changed by the RTF, the random sample must be at a minimum of 10% of the level of activity of the program, or an appropriately aggregated group of programs, *or* at a level deemed statistically valid for a 90% confidence level.

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ATTACHMENT A

PTCS Minimum Duct Training Agenda

Training schedule

Curriculum shall address:

- Building science basics on air flow and pressure measurement
- Tools and equipment operation
- Duct pressures and combustion safety
- Energy impacts of duct problems
- PTCS Specifications and QC program
- Duct testing and sealing methods
- Field duct testing
- Certification tests, written and performance

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