



ENERGY TRUST OF OREGON

HOME RETROFIT

2019

QUALITY
MANAGEMENT
POLICY

energytrust.org

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2019 QUALITY MANAGEMENT POLICY

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I. DEFINITIONS

Home Retrofit uses the following definitions for the Quality Management Policy. Establishing clear definitions and a common language around quality management facilitates communication and clarity of expectations among parties involved. The following terms represent the foundational elements of the Home Retrofit quality management process.

Quality: Doing work to agreed-upon standards and requirements.

- Must meet all desired outcomes and objectives and result in products and services that meet what customers and funders want, need, expect and are willing to pay for
- Home Retrofit standards and requirements are documented in the Specifications Manual and other applicable program documents, such as incentive applications and program information sheets.

Quality Assurance (QA): A process that provides confidence that standards and requirements have been fulfilled to the extent that customers' wants, needs and expectations are being met.

- Accomplished after all tasks, productions and services have been completed
- Performed by someone other than the person completing the task
- Can include site inspections, data analysis and document review, among others
- See also: Work Quality Verification

Quality Control (QC): A process for maintaining standards and requirements of quality that prevents and corrects variance so that the output meets customers' wants, needs and expectations.

- Accomplished before and during all tasks, productions and services
- Performed by the trade ally, sub-contractor or contractor before, during and after measure(s) are installed

Quality Management: Continual management, planning and improvement of Quality Assurance and Quality Control from a whole-systems approach to ensure consistency with pertinent program components and involved parties.

- Emphasizes means for achievement, as well as quality of products, services and service delivery
- Includes aspects of statistical analyses, auditing and program/risk management
- Stakeholder involvement may include Home Retrofit, trade allies, contractors and other affiliated groups or individuals

Quality Plan: A set of interconnected processes managed by the trade ally, sub-contractor or contractor that functions to achieve the program requirements and the company's quality goals.

Work Quality Verification: The act of program staff ensuring trade ally or contractor compliance with the Specifications Manual and/or program requirements; identifying opportunities for improvement and feedback for trade allies, contractors and homeowners, if necessary; and providing a quantitative metric to measure installation quality. This can be performed via onsite examination of: installed work, data analysis and/or document review, also commonly referred to as QA. Work quality verification results are assessed in the following categories of work compliance:

Pass: Work was satisfactorily installed and completed as submitted on the incentive application and is in program compliance. No corrective actions are necessary.

Corrective Action: A result from work quality verification wherein a lack of compliance with the Home Retrofit Specifications Manual and/or program requirements is specified. Corrective actions are necessary and communicated to the trade ally or contractor. Procedures for jobs requiring corrective action are defined in Section V. There are two types of corrective actions:

Minor Corrective Action: Work is unsatisfactory, with minor problems associated with energy savings, health and safety, building durability, or overall installation quality, and/or does not comply with program requirements. Examples:

- Energy savings: missing or improperly installed weather stripping around interior attic access hatch (attic insulation)
- Health and safety: downdraft exhaust ducts are not properly vented to outside (underfloor insulation)
- Building durability: missing or improperly installed baffles on eave vents (attic insulation)

Major Corrective Action: Work is unsatisfactory, with potentially significant or serious problems related to energy savings, health and safety, building durability, or overall installation quality, and is substantially noncompliant with program requirements. Examples:

- Energy savings: misrepresentation of existing R-Value of an assembly. Pre-condition of insulation is reported on the incentive application as having an R-Value of 11. Work quality verification identifies the correct beginning R-Value as R-19 (attic insulation).
- Energy savings: three or more corrective actions per project. Insulation is not secured to attic hatch (attic insulation). Water pipes are not properly insulated (floor insulation). Missing voids in walls (wall insulation).
- Health and safety: missing CO monitor (when measure eligibility criteria apply)

See Appendix A for definitions of corrective actions based on the Specifications Manual.

Does Not Qualify (DNQ): Work does not qualify for the listed incentive on the application. A DNQ can be considered a major corrective action violation, and the trade ally or contractor shall reimburse participants for any expected incentive that is denied because of a DNQ. Examples:

- Energy savings: 150 sq. ft. of total window area was applied for. Work quality verification identifies a 3' x 5' window installed on an exterior wall of an unconditioned attached garage. 15 sq. ft. of windows is considered DNQ (windows).
- Energy savings: 250 sq. ft. of insulation was installed above unconditioned space, and 750 sq. ft. of insulation was installed above conditioned space. Incentive application shows 1,000 sq. ft. was applied for. 250 sq. ft. of insulation is considered DNQ (attic insulation).

II. QUALITY STANDARDS

The Home Retrofit Quality Management Policy is in addition to all applicable application materials, participation agreements, terms and conditions, and Energy Trust probation, suspension and termination policies. Nothing in these policies and procedures shall be construed to confer any expressed or implied contract rights. These policies pertain to trade allies and non-trade ally contractors, where applicable.

All new trade allies are considered provisional upon enrollment approval. They may or may not be listed on Energy Trust's "Find a Contractor" web pages at Energy Trust's discretion, and they may be required to pass a background check and/or a minimum number of work quality verifications prior to achieving active status. Newly enrolled provisional trade allies who pass the minimum number of required project verifications without significant quality issues and meet any program-specific enrollment or training requirements will be placed in active status and receive a website listing and all applicable program benefits.

Work quality verification assesses the standards and associated components and materials for the energy-saving measures indicated on a specified incentive application. No warranties of any kind are implied by the Quality Management Policy. Energy Trust and Home Retrofit reserve the right to make reasonable adjustments to any and all of the timeframes and processes set forth in the Quality Management Policy.

If the trade ally or contractor sub-contracts work, it is the responsibility of the primary trade ally or contractor—the Construction Contractors Board (CCB)-licensed signatory on the incentive application materials—to ensure compliance with program standards and guidelines, which include, but are not limited to, the Specifications Manual, program participation agreements, incentive information sheets and incentive applications.

Trade allies and contractors are encouraged to implement an internal quality control process to ensure each project's success. Trade allies can contact the trade ally team at **residentialta@energytrust.org** or **1.866.365.3526 (option 3)** for assistance in understanding program requirements in support of quality plan development.

Home Retrofit quality management standards are based upon assuring the delivery of work that meet the following goals:

Effective work: Defect-free work that meets all standards and requirements and will produce project success and customer satisfaction.

- Achieves the customer's desire for comfort, durability, energy savings, health or environmental impact

Efficient work: Work that ensures a customer's investment will yield an expected return.

- The expected return can be expressed in terms of energy savings and increased home value, among others.

Home Retrofit projects selected for work quality verification will be assessed as "pass," "minor corrective action," "major corrective action" or "does not qualify."

Unusual Conditions

Pre-approval waivers are available for unusual conditions and situations that prevent complete compliance with specifications. The purpose of the waiver is to identify unusual conditions and obtain pre-approval before work begins. To request a waiver, contact **residentialta@energytrust.org** or call **1.866.365.3526 (option 3)**.

III. WORK QUALITY VERIFICATION SELECTION

Home Retrofit will complete work quality verifications on a percentage of submitted incentive applications. In some cases, 100 percent of submitted incentive applications may receive work quality verifications. Projects are selected for work quality verification based on Home Retrofit program requirements, risk management strategies and program goals.

Home Retrofit reserves the right to select incentive applications for work quality verification at any stage during processing. If corrective actions are identified, the trade ally or contractor shall make improvements according to the Specifications Manual and/or program requirements to bring the project into compliance.

Selection rates may differ based on the specific program or participation agreements and may change at any time at the discretion of Home Retrofit. Selection rates may be elevated based on factors that may indicate increased risk of poor workmanship or suspected fraudulent activity. Elevated selection may be triggered by:

- Sudden increases in incentive applications from a trade ally or contractor
- Misrepresentation of measure eligibility criteria
- Questionable or incorrect representation of house/site information
- Customer service complaints
- Frequent and consistent minor corrective action results
- Ongoing failure to comply with Home Retrofit program guidelines
- Self-installed measures

Trade allies may request a work quality verification by contacting the trade ally team at **residentialta@energytrust.org** or **1.866.365.3526 (option 3)**.

Requests for work quality verification are subject to availability of program resources, with a maximum of three within a 12-month period.

Self-Install Projects

Incentive applications for self-installed measures may be selected at a higher rate for work quality verifications than contractor-installed measures.

IV. WORK QUALITY VERIFICATION PROCEDURES

When an incentive application is selected for work quality verification, Home Retrofit will make contact within one week of selection to schedule an appointment.

- The program specialist may visit the participant's home, perform data analysis, review and request additional materials such as photo documentation, and conduct work quality verification according to program requirements on measures for which the participant is claiming an incentive. Work quality verifications shall use the Corrective Actions Defined chart (Appendix A) to guide determinations.
- The program informs the participant whether the work passes, requires major corrective action, requires minor corrective action and/or does not qualify.

IN THE RESULT OF A PASS:

- The participant and trade ally or contractor are notified that the job passed QA.

IN THE RESULT OF A MAJOR OR MINOR CORRECTIVE ACTION:

- The participant is notified that the project requires corrective action, and the project may require a follow-up work quality verification.
- The trade ally or contractor is notified that the project will require corrective action.
- If the measure is self-installed, the participant is (re)directed to the Specifications Manual for proper installation methods.
- The trade ally or contractor receives written (electronic or mail) notice regarding the corrective action(s) necessary to comply with the Specifications Manual and relevant program requirements.

IN THE RESULT OF A DNQ:

- The participant is notified that the project or measure does not meet the eligibility criteria to receive an incentive.
- The trade ally or contractor is notified that the project or measure does not meet the eligibility criteria to receive an incentive and shall reimburse participants for any expected incentives that are denied because of a DNQ.
- Home Retrofit will not process or release incentive payment for projects or measures that do not meet the eligibility criteria.
- If a failed project is not remediated according to the procedures outlined below, or is a DNQ, contractors participating in trade ally paid programs may have their incentives deducted by the program.
- Home Retrofit may retroactively recover incentives paid for heat pump measures installed in non-qualifying gas-heated homes.

V. PROCEDURES FOR JOBS REQUIRING CORRECTIVE ACTION

Corrective action requirements for trade allies and contractors performing work submitted for Energy Trust incentives:

1. The trade ally or contractor must perform all corrective actions at no additional cost to the participant.
2. The trade ally or contractor must schedule remediation work with the participant within five business days of receiving written notice that the job requires corrective action.
3. The trade ally or contractor must complete remediation within 30 calendar days of receiving written notice that a job requires corrective action and notify Home Retrofit of completion at **quality@energytrust.org**.
4. The trade ally or contractor is strongly encouraged to submit photos of remediation along with specific descriptions of corrections. Upon notification of work being corrected, Home Retrofit may schedule a follow-up work quality verification visit to confirm improvement.
5. If additional work quality verification results in corrective action, the trade ally or contractor may be held accountable for costs of additional work quality verifications and/or be escalated to probationary status.

The trade ally or contractor may request assistance from the trade ally team in working to remedy problems. Contact the trade ally team at residentialta@energytrust.org or **1.866.365.3526 (option 3)** for support.

If, within five business days of receiving written notice, a trade ally or contractor fails to contact the customer to schedule an appointment and remedy problems with a Home Retrofit project requiring corrective action, Home Retrofit may disqualify the incentive and inform the participant directly.

If, within 30 calendar days of receiving written notice, remediation is not completed, Home Retrofit may disqualify the incentive and inform the participant directly.

Home Retrofit requires trade allies and contractors to reimburse contracted incentive amounts to participants upon disqualification.

If, within 30 calendar days of receiving written notice, work is remediated, the trade ally or contractor may resubmit the incentive application for payment.

If Home Retrofit receives multiple customer complaints, Home Retrofit may notify customers to communicate with the licensing agency that regulates contractor businesses (the CCB in Oregon, and the Department of Labor and Industries in Washington) regarding trade ally or contractor performance.

Corrective action requirements for self-installed work being submitted for Energy Trust incentives:

1. The self-installer must complete remediation within 60 calendar days and notify Home Retrofit in writing upon work completion at quality@energytrust.org.
2. The self-installer may elect to hire a contractor or trade ally to perform corrective actions. In these cases, it is the responsibility of the self-installer to manage corrective work performed by the contractor.
3. Home Retrofit may elect to re-verify the project on site or request photographs of completed work to confirm that remediation meets Home Retrofit specifications.
4. If remediation work is not completed within 60 days, or if the project does not pass re-verification, Home Retrofit may elect to disqualify the incentive and inform the self-installer directly.

VI. PROBATION, TERMINATION AND SUSPENSION POLICIES

The probation, termination and suspension policies are designed to protect Energy Trust, its trade allies and its customers from losses due to poor work quality, diminished energy savings, health and safety issues, and building durability risks. It protects against investing limited resources in unproductive projects or companies.

Energy Trust will monitor the activities of trade allies and contractors on a regular basis to ensure they provide value to customers and Home Retrofit. Energy Trust will make a determination and may move trade allies into disciplinary probationary status or terminate them from the network, and may suspend activities for non-trade ally contractors or prevent them from enrolling in the Trade Ally Network.

In accordance with all application terms and conditions, Energy Trust may place a trade ally on disciplinary probation or terminate a trade ally at any time. Affected contractors may be given support and opportunities for improvement and may return to active status, as outlined below. At Energy Trust's discretion, trade ally and non-trade ally contractors may be required to pursue quality control process consultation and work quality verification from third-party quality control providers, at their own expense, prior to readmission to the program.

TRADE ALLY DISCIPLINARY PROBATION

Trade allies may be placed on disciplinary probation at Energy Trust's discretion. They will be notified in writing of the change in status. The notification will include an explanation for the status change and the steps they must take to correct problems that led to their disciplinary probation status. Failure to remediate performance issues may result in termination from Energy Trust's Trade Ally Network.

Disciplinary probation will begin if work quality or customer service issues arise through multiple corrective actions or customer complaints. When a trade ally is placed on disciplinary probation, Home Retrofit may issue a cease-and-desist letter to stop all work until corrective actions are implemented. Home Retrofit may request that a responsible managing individual draft and sign a performance improvement plan and memorandum of understanding before accepting additional incentive applications. Home Retrofit reserves the right to communicate health, safety and customer service issues to participants.

Probationary trade allies will be given seven days from the date on the notification to respond to a disciplinary probationary letter, unless otherwise specified in the letter. Failure to respond may result in termination from Energy Trust's Trade Ally Network.

Actions resulting in disciplinary probation may include, but are not limited to:

- Work quality verifications resulting in four major corrective actions, nine minor corrective actions, a similar combination of nine total corrective actions, or corrective actions on 25 percent of measures submitted within a calendar-year quarter. Trade ally project volume, time involved in the program and historical pass rates will be taken into consideration.
- Failure to remediate corrective actions identified during work quality verification within 30 calendar days of written notice.
- Failure to follow a required program process.
- Abusive or vulgar behavior, physically or verbally, toward customers or Energy Trust staff.
- Failure to attend required Energy Trust trainings.
- Allowing insurance, licenses or other required certifications to lapse.
- Failure to resolve any reasonable participant complaint regarding the trade ally's work on Energy Trust projects.
- Repeatedly giving participants inaccurate information on current Energy Trust requirements, including, but not limited to, incentive levels and/or incentive eligibility.
- Misrepresenting the trade ally company's relationship with Energy Trust, such as:
 - Stating they are paid or employed by Energy Trust, if they are not.
 - Stating they offer services on behalf of Energy Trust that they are not under agreement to deliver.
 - Making inaccurate statements about Energy Trust's funding sources, incentive amounts, application deadlines or requirements.
- Misrepresenting Energy Trust's installation specifications as substandard or requirements as too burdensome when speaking with customers.
- Unethical business or sales practices, including coercion and/or overly aggressive sales tactics, as determined by Energy Trust.

EFFECTS OF DISCIPLINARY PROBATION

During disciplinary probation, a trade ally will not appear in Energy Trust's Find A Contractor list. They will be subject to a higher level of scrutiny or restrictions than trade allies in good standing, which may include, but is not limited to:

- Higher level of work quality verification selection; up to 100 percent work quality verification of projects as determined by Home Retrofit.
 - Trade ally may be required to pay for approved third-party work quality verification.
- Prohibition from submitting new incentive applications and return of new applications to trade ally and customers.
- Customer notification of the trade ally's probationary status.
- Suspension from access to business development funds and other Energy Trust resources.
- Revoked use of Energy Trust trade ally logo.

- Development of, and adherence to, a written performance improvement plan and/or memorandum of understanding detailing requirements to maintain trade ally status.
 - Trade ally will be responsible for drafting the performance improvement plan according to the direction of and in cooperation with Home Retrofit.
 - Performance improvement plan will detail specific deliverables and timelines.
- Attending additional training required, selected or provided by Home Retrofit.
 - Trade ally may be required to pay for additional trainings.
- Probation or termination from program tracks like Savings Within Reach, Home Performance with ENERGY STAR®, Existing Manufactured Homes and other initiatives or pilots.
- Reporting of probationary status to other organizations and utilities, such as Energize Corvallis, Enhabit, Bonneville Power Administration and the Weatherization Assistance Programs of Oregon, Idaho and Washington.

Trade allies who continue to violate policies described in this document, or in specific program documents, will be terminated from Energy Trust’s Trade Ally Network (see: Trade Ally Termination, below).

DURATION OF DISCIPLINARY PROBATIONARY PERIOD

The duration of disciplinary probationary periods will vary depending on the nature of the issues that resulted in disciplinary probationary status. Trade ally project volume and time involved in the program will be taken into consideration. The written notification of disciplinary probationary status and/or the performance improvement plan will define the length of the probationary period and requirements for the trade ally to return to full active status. Examples of potential probationary periods are:

- 60 days when accumulating more than two unresolved customer complaints during a 12-month period.
- 60 days in cases of demonstrated misrepresentations of trade ally status, incentives or requirements.
- 90 days and adherence to a written improvement plan in cases of demonstrated work quality issues.

REINSTATEMENT AND APPROVAL OF ACTIVE TRADE ALLIES

Home Retrofit may remove disciplinary probationary status and fully approve or reinstate trade allies to active status at any time, at its sole discretion.

Home Retrofit will review disciplinary probationary trade allies for return to active status provided they satisfy requirements and/or timelines outlined in their disciplinary probation notification letter and/or performance improvement plan. Home Retrofit will notify disciplinary probation trade allies of the decision in writing.

SUSPENSION OF NON-TRADE ALLIES

Unless specified otherwise in Energy Trust program requirements, customers may work with a licensed contractor, even if that contractor is not part of Energy Trust’s Trade Ally Network. Energy Trust encourages non-trade allies to enroll in its network.

Non-trade ally contractors are subject to consequences for failure to comply with program-specific policies and for the same concerns and/or failure rates outlined in the Trade Ally Disciplinary Probation section. If such concerns are identified, a non-trade ally contractor may be put on suspension. Once placed on suspension, Energy Trust, at its discretion, may determine that installations and/or services performed by a non-trade ally contractor are ineligible for Energy Trust incentives.

If a suspension determination is made, an announcement may be posted to Energy Trust’s website regarding the non-trade ally’s ineligibility to provide incentives. Energy Trust will determine a cutoff date to accept new incentive applications from any such contractor’s customers and inform customers of the contractor’s ineligibility. Customers will be instructed to contact the contractor for reimbursement of any promised incentives or to correct remaining issues, at the contractor’s expense.

In these cases, the contractor may correct noted deficiencies and should notify Energy Trust when projects are corrected. Energy Trust may re-verify any such projects or practices. If a non-trade ally fails three or more re-verifications during any 90-day period, Energy Trust may continue suspension for new activity with that contractor. Costs for re-verification of projects will be charged to the non-trade ally at the current hourly rate for Energy Trust's field staff. At Energy Trust's discretion, non-trade ally contractors may be required to pursue quality control verification and work quality verification from third-party quality assurance providers at the contractor's expense.

ADDITIONAL TRIGGERS AND PROCEDURES FOR SUSPENSION

In addition to the concerns and requirements listed above, non-trade ally contractors may be put on suspension for other triggering events. Energy Trust's trade ally team will coordinate a review of the situation, engage other programs or Energy Trust staff as needed, and determine which Energy Trust or Home Retrofit staff should take further actions.

Energy Trust's trade ally team will document communications, steps taken and results, and maintain records in the non-trade ally contractor's file. The customer service manager will be notified and involved in these efforts, when appropriate.

Triggering events include, but are not limited to:

- Receipt of five or more projects in one week from a contractor who is new to our territory or has no quality assurance history with Energy Trust.
- Notification from any utility, state organization or similar entity of issues with a specific contractor, particularly if Energy Trust has no experience with that contractor.
- Repeated customer calls asking to verify advertising claims or status of any contractor.
- Any customer report of predatory/overly aggressive sales practices combined with Energy Trust incentives or branding.
- Any customer report of misrepresented incentives, requirements, trade ally status or contractor relationship with Energy Trust.
- Reports of illegal activity from any source.
- Any specific customer complaint about a contractor.
- QA failure rate, or other violations, that would place a contractor on disciplinary probationary status.

When notified of a triggering event, Energy Trust's trade ally team will place the non-trade ally contractor involved on a tracking list and notify other programs and/or Energy Trust staff as needed. The tracking list will be used to determine next steps and timelines for the contractors involved. Home Retrofit may determine when contractors are placed on suspension.

TRADE ALLY TERMINATION

In addition to any other termination provisions set forth in Energy Trust's trade ally agreements, certain actions may result in immediate termination from the Trade Ally Network. Energy Trust will notify the contractor in writing if they are terminated from the Trade Ally Network. Actions resulting in immediate termination of trade ally status may include, but are not limited to:

- Failure to resolve any action that resulted in disciplinary probation, including failure to comply with the probationary notification letter and/or plan of improvement.
- Repeated violations of program rules or requirements.
- Passing or attempting to pass any required re-verification and/or corrective action costs on to a customer.
- Violation of license laws or cases of fraud.
- Repeated misrepresentation of contractor's relationship with Energy Trust, or of Energy Trust's incentives, requirements, funding sources or specifications, to customers.
- Failure to pass the full value of the Energy Trust incentive on to the customer in cases where the incentive payment is issued to the trade ally.
- Failure to keep license, insurance or required certification information up to date with Energy Trust.

- Accumulation of more than three unresolved customer complaints that Energy Trust determines to be reasonable within a 12-month period.
- Ongoing quality assurance failures not resolved through a written improvement plan during a probation period.
- Quality assurance failures at 25 percent or more of projects selected within any 12-month period.
- Drugs and/or alcohol reported at a project site.
- Unsafe working conditions reported at a project site.

EFFECT OF TERMINATION

Trade allies will be notified by written mail and email of a decision to terminate them from the Trade Ally Network. The termination notice will include an explanation of the decision and the remaining steps the contractor is required to take. Energy Trust may refuse to accept new incentive applications from customers of the terminated contractor at its sole discretion and will provide a cutoff date to accept new applications for projects completed prior to the contractor's termination. The notice will also indicate whether the contractor may reapply for trade ally status at a future date.

Energy Trust will notify current customers of a terminated trade ally of the contractor's change in status. The notification will provide steps the customer can take to resolve complaints and/or receive incentive payments. As part of the next steps included in customer notifications, Energy Trust may provide contact information for licensing bodies or other consumer protection opportunities and/or instruct customers to contact the terminated contractor directly to resolve quality or incentive payment complaints. Energy Trust will notify customers of any potential health and safety concerns related to projects installed by terminated contractors.

Energy Trust may, at its sole discretion, allow a terminated contractor to reapply for trade ally status at a later date, not sooner than six months from the time of termination. However, Energy Trust may require additional documentation and proof from the contractor that they have taken appropriate actions to prevent further violations.

Trade allies or contractors with severe and repeated quality, customer service, legal, or health and safety concerns may be listed in customer-facing sections of Energy Trust's website with a warning that incentive applications will not be accepted from that contractor or their affiliates.

ON-RAMP FOR PARTICIPATION

Non-trade allies placed on suspension may have the suspension removed by following the procedure described in the Reinstatement and Approval of Active Trade Allies section. Depending on the reasons and severity of actions that lead to suspension, Energy Trust and Home Retrofit may place additional requirements on non-trade allies in order to protect the best interests of Energy Trust and their customers. Failure to comply with the terms for reinstatement will lead to the non-trade ally being prohibited from participating in Energy Trust programs.

Energy Trust may lift the suspension and fully approve suspended non-trade allies at any time, at its sole discretion. Energy Trust's trade ally staff will review applications on a case-by-case basis for return to active status, provided they satisfy requirements and/or timelines outlined in their suspension notification letter and plan of improvement, if applicable. Energy Trust will notify suspended contractors of the decision in writing.

APPENDIX A: CORRECTIVE ACTIONS DEFINED

Corrective Actions Defined					
INTRODUCTION (all applicable measures)	Example(s)			Corrective Action Type	Corrective Action Category
IN 1.0 - Program Goals and Eligibility	Non-qualifying utility	Work performed in conditioned space	Extremely poor or lack of workmanship	Major	Energy Savings
IN 1.1 - Code Compliance, National and Regional Standards	May vary according to jurisdictional guidelines			Major	Health and Safety
IN 1.2 - Carbon Monoxide Alarms	CO monitor(s) not installed for heat pump water heaters, air sealing or duct insulation when a CO appliance is present in home, attached garage or other attached space		CO monitor(s) not installed on every floor with a bedroom	Major	Health and Safety
IN 1.3 - Knob and Tube Wiring	Active knob and tube wiring is in contact with insulation without required written approval			Major	Health and Safety
IN 1.4 - Materials	Materials used do not meet state, federal or local regulations			Major	Health and Safety
IN 1.5 - Foam Insulation	Foam insulation is not compliant with manufacturer specifications or thermal/ignition barrier requirements for foam plastics			Major	Health and Safety
IN 1.6 - Work Quality Verification Process	Not applicable			N/A	N/A
IN 1.7 - Preapproval Waiver for Unusual Conditions	Not applicable			N/A	N/A
IN 1.8 - Illustrations	Refers to specific illustration or table			N/A	N/A
IN 1.9 - Human Contact Areas	Fibrous insulation is not covered with a vapor-permeable air barrier			Major	Health and Safety
IN 1.10 - Permits and Remodeling Projects	New home addition	Newly conditioned space	Building code requires permitted upgrade	Major	Energy Savings
IN 1.11 - Equipment Maintenance	Not applicable			N/A	N/A

IN 1.12 - Combustion Appliance Safety	Not applicable			N/A	N/A
IN 1.13 - Determination of Existing R-Values	Misrepresentation of existing and/or ending R-Value	Failure to comply with Appendix A or B	Failure to comply with applicable insulation sections	Major	Energy Savings
IN 1.14 - Requirements for All Mechanical System Installations	Installation does not comply with manufacturer's specifications	Unit does not have a clearly visible, permanent label with serial number, make and model	Installation compromises structural integrity of the area in which the unit is installed	Major	Health and Safety
IN 1.15 - Additional Requirements for Gas Appliance	Gas appliance is installed in a hazardous location	Not installed with adequate clearance near combustible material	Gas line is leaking between meter and home	Major	Health and Safety
IN 1.16 - Additional Requirements for Heating System Condensation Drains	Condensate drains are not running to a suitable termination point			Minor	Building Durability

ATTIC INSULATION	Example(s)			Corrective Action Type	Corrective Action Category
AT 1.0 - Introduction	Existing and/or ending R-Value does not meet program criteria	Failure to comply with Appendix A or B	Failure to follow illustrations in AT 1.0	Major	Energy Savings
AT 1.1 - Attic Air Sealing	Refer to Appendix D for best practice guidelines			N/A	N/A
AT 1.2 - Passive Attic Ventilation: Sizing and Distribution	Refer to Appendix D for best practice guidelines				
AT 1.3 - Baffles for Passive Attic Vents	Eave and soffit vent(s) not baffled and/or dammed correctly	Baffling materials not moisture-resistant, rigid and impervious to wind	Failure to follow Illustration AT 1.3	Minor	Building Durability

AT 1.4 - Dams	Dam(s) not installed properly around mechanical equipment to provide access for maintenance, and where final levels of loose-fill insulation differ	Dam(s) not properly durable, rigid, complete, above 4" of insulation, mechanically securely fastened	Failure to follow Illustration AT 1.4	Minor	Energy Savings
AT 1.5 - Baffles for Chimneys, Flues and Other Heat Sources	Baffle(s) not installed next to heat-producing fixtures	Baffle(s) not installed with appropriate clearances per Illustration AT 1.5	Baffle(s) or fasteners not compliant with applicable standards on Table 1.5	Major	Health and Safety
AT 1.6 - Bath and Exhaust Fans	Bath and exhaust fan(s) not properly vented and secured to exterior	No functioning damper present in each system	Failure to comply with Illustration AT 1.6	Minor	Building Durability
AT 1.7 - Kitchen Fans	Kitchen exhaust fan(s) not properly vented and secured to exterior	No functioning damper present in each system	Duct tape used to seal or support exhaust system	Minor	Building Durability
AT 1.8 - Dryer Exhaust Fans	Failure to comply with AT 1.6 or UN 2.6 for dryer exhaust venting/ventilation specifications			Major	Health and Safety
AT 1.9 - Water Pipes in Attics	Failure to comply with UN 2.3			Major	Building Durability
AT 1.10 - Interior Attic Access Doors	Interior attic access door(s) not properly insulated, weatherstripped or dammed; including knee wall access(es)	Attic access opening not framed with proper materials, permanently attached or 4" above insulation	Operable access(es) no longer operable after installation, and no new operable access is created	Minor	Energy Savings
AT 1.11 - Pull-Down Stairs	Pull-down stairs not properly weatherstripped or insulated		Must not prevent easy operation of stairs	Minor	Energy Savings
AT 1.12 - Exterior Attic Access Doors	Outside access(es) not properly weatherstripped and vermin-proof		Outside access(es) not easily opened to permit QA verification	Minor	Energy Savings

AT 1.13 - Vertical Walls in Attic Spaces	Vertical wall(s) not reasonably constructed, air sealed, insulated to fill cavity and properly secured with a vapor-permeable air barrier		Failure to comply with AT 2.6 and Illustration AT 1.13	Minor	Energy Savings
AT 2.0 - General Attic Insulation Requirements	Improper vapor retarder placement/installation			Minor	Energy Savings
AT 2.1 - Installing Loose-Fill Insulation	Loose-fill insulation not level and smooth with a uniform R-Value	Loose-fill insulation not installed up to roof decking toward the eaves, where a sloping roof prevents program minimum insulation	Refer to AT 1.3-1.5 for baffling and damming requirements	Minor	Energy Savings
AT 2.2 - Installing Batt-Type Insulation	Batts not cut to fit and placed tightly together with no gaps, except those required for clearance around heat-producing fixtures			Minor	Energy Savings
AT 2.3 - Floored Attics	Cavities below decked storage areas not insulated to practical maximum	Attic deck > 5% of surface area and included in incentive area when final insulation is < program minimum	Failure to dam decked storage areas per AT 1.4	Minor	Energy Savings
AT 2.4 - Vented Vaulted Ceilings	Vented vaulted ceiling does not have a 1" air space above the insulation		All cavities do not have an upper and lower vent	Minor	Building Durability
AT 2.5 - Unvented Vaulted Ceilings	Unvented vaulted ceiling is not filled with tightly packed insulation			Minor	Energy Savings
AT 2.6 - Insulating Rake and Crown Attics	Rake and crown attic(s) does not have a continuous thermal barrier, including plugs	Rake and crown attic(s) does not comply with Method A or Method B	Failure to comply with Illustration AT 2.6	Minor	Energy Savings
AT 2.7 - Interior Roof Insulation	Interior roof insulation does not meet requirements			Major	Health and Safety
AT 2.8 - Low-Sloped and Flat Roofs	Low-sloped and flat roof insulation does not meet requirements			Minor	Energy Savings

UNDERFLOOR INSULATION	Example(s)				Corrective Action Type	Corrective Action Category
UN 1.0 - Introduction	Existing and/or final R-Value does not meet program criteria	Entire cavity depth and/or joist framing not filled	Failure to follow illustrations in UN 1.0		Major	Energy Savings
UN 1.1 - Underfloor Preparation and Debris	Degradable and absorbent scrap materials not removed from crawlspace				Minor	Building Durability
UN 1.2 - Ventilation	Ventilation inadequate in exterior foundation walls	Vent openings not reasonably secure from the entry of vermin or other animals	Vents do not comply with wire mesh requirements		Major	Building Durability
UN 1.3 - Ground Covers	Ground cover is not 6-mil black poly (minimum), continuous with no rips, tears or gaps		Seams not lapped at 12" (minimum)		Minor	Building Durability
UN 1.4 - Sealing Floor Penetrations	All underfloor penetrations not sealed with caulk, foam or other compatible sealants (see also heat-producing fixtures)		Failure to comply with Illustration UN 1.4		Minor	Energy Savings
UN 1.5 - Floors Above Other Unconditioned Areas	Refer to Section UN				N/A	Energy Savings
UN 1.6 - Rim Joist Insulation	Refer to UN 2.9				N/A	N/A
UN 2.0 - General Installation Requirements	Insulation not in continuous contact with bottom of subfloor	Failure to comply with Table UN 2.0 and UN 2.0 illustrations	Improper vapor retarder placement/ installation	Insulation not pulled free from temporary stapling	Minor	Energy Savings
UN 2.1 - Floor Insulation Support Materials	Insulation not properly supported with wood lath, twine or wire		Failure to comply with Illustration UN 2.1		Minor	Energy Savings
UN 2.2 - Spacing Requirements for Support Systems	Insulation supports not properly spaced for joist spans		Failure to comply with Table UN 2.2 and Illustration UN 2.2		Minor	Energy Savings
UN 2.3 - Water Pipe Insulation	All water pipes not properly insulated continuously		All water pipe insulation not secured/spaced with proper materials		Minor	Energy Savings
UN 2.4 - Inside Access Doors for Underfloors	Inside access doors not properly insulated, weather stripped or fastened		Failure to comply with Illustration UN 2.4		Minor	Energy Savings
UN 2.5 - Outside Access Doors for Underfloors	Outside access(es) not properly weatherstripped and vermin-proof		Outside access(es) not easily opened to permit QA verification		Minor	Energy Savings
UN 2.6 - Dryer Exhaust	Dryer exhaust ducts not properly vented to the exterior		New dryer exhaust ducts not rigid metal, or not properly fastened and supported		Minor	Energy Savings

UN 2.7 - Downdraft Exhaust Ducts	Downdraft exhaust ducts are not properly vented to the exterior			Minor	Health and Safety
UN 2.8 - Vertical Walls in Underfloor Spaces	Vertical wall(s) not reasonably constructed, air sealed, insulated and properly secured with a vapor-permeable air barrier			Minor	Energy Savings
UN 2.9 - Rim Joist Insulation (optional measure)	Not in direct contact with wooden perimeter band or rim joist	Sill plates and joist bays not air sealed	Insulation not tight or securely fastened	Minor	Energy Savings
UN 2.10 - Installing Foam Insulation	Assembly does not meet requirements (refer to IN 1.5 for further requirements for foam insulation)			N/A	N/A
UN 2.11 - Miscellaneous Underfloor Specifications	Insulation not properly protected from wind exposure	Standing water in crawlspace not properly drained		Minor	Building Durability

WALL INSULATION	Example(s)			Corrective Action Type	Corrective Action Category
WA 1.0 - Introduction	Existing and/or final R-Value does not meet program criteria		All cavities in all exterior walls not properly insulated	Major	Energy Savings
WA 1.1 - Knob and Tube Wiring	Knob and tube walls have more than 10% of total exterior wall area not properly insulated			Major	Energy Savings
WA 1.2 - Insulating Closed Walls	Insulation is improperly installed in cavities with wall-mounted heaters or fuse/breaker boxes			Major	Health and Safety
WA 1.3 - Plugs and Finish Work	Plugs not properly sealed, weather-proofed or ready to paint			Minor	Building Durability
WA 1.4 - Removing and Replacing Siding	Siding installation materials and technique not acceptable			Minor	Building Durability
WA 1.5 - Open Wall	Open walls not properly air sealed or insulated			Major	Energy Savings
WA 1.6 - Interior Installations	Not applicable			N/A	N/A

WINDOWS AND SLIDING GLASS DOORS	Example(s)			Corrective Action Type	Corrective Action Category
WI 1.0 - Introduction	Windows do not operate smoothly and safely	Windows were not reasonably sealed to prevent air infiltration	Windows installed in unconditioned space	Major	Energy Savings

WI 1.1 - General Requirements for Glazing	U-Value assigned to window by NFRC does not meet ETO criteria			Major	Energy Savings
WI 1.2 - General Requirements for External Sealants	Sealant does not meet ASTM C920 Class 12.5 for elasticity	Sealant not selected for good adherence to connected building materials	Sealant not properly shaped over backing material, or adheres to backing material	Minor	Building Durability
WI 1.3 - Insert Windows	Voids over $\frac{3}{8}$ " were not filled with backer rod	Drip cap not installed or does not extend behind existing siding	Insert window not supported within 4" of each side corner and 12" on center thereafter	Major	Building Durability
WI 1.4 - Surface-Mounted Windows	Surface-mounted windows installed on a wood-sided home			Major	Building Durability
WI 1.5 - Flanged Windows	Drip cap not installed or does not extend behind existing siding	Drip cap does not have downward-bending lip	Filler/trim pieces not properly caulked	Major	Building Durability
WI 1.6 - Exposed to the Elements	Refer to WI 1.5			N/A	Building Durability
WI 1.7 - Stucco-Mounted Windows	Gaps exceed $\frac{1}{4}$ " and are not filled with backer rod or chinking/caulking	Gaps not sealed with permanent trim	Weep holes not operable or blocked	Major	Building Durability
WI 1.8 - Miscellaneous Requirements	Wood touching ground/cement not pressure-treated		Patio door bottom rail not supported within $\frac{1}{2}$ " of exterior frame edge	Minor	Building Durability
WI 1.9 - Health and Safety Requirements	Failure to comply with WI 1.8-WI 1.12		Refer to manual	Major	Health and Safety
WI 1.10 - General Safety Glazing Requirements	Refer to WI 1.9			N/A	Health and Safety
WI 1.11 - Emergency Egress Openings	Refer to WI 1.9			N/A	Health and Safety

MECHANICAL SYSTEMS	Example(s)		Corrective Action Type	Corrective Action Category
FP 1.0 - Gas Fireplaces	Gas fireplace installation does not comply with IN 1.2, 1.3, 1.14 and 1.15		Major	Health and Safety
FP 1.1 - Combustion Intakes	Combustion air intake obstructed		Major	Health and Safety
FP 1.2 - Exhaust Venting	Exhaust venting obstructed		Major	Health and Safety
FP 1.3 - Serviceability	Access panels or service areas obstructed by permanent physical barrier		Minor	N/A
GF 1.0 - Gas Furnaces Introduction	Gas furnace Installation does not comply with IN 1.2, IN 1.3, and IN 1.14-1.16		Major	Health and Safety
GF 1.1 - Safety	Orphaned water heater does not meet WH 2.1		Major	Health and Safety
GF 1.2 - Intake Air	Intake air for sealed combustion gas furnace does not come from outside the conditioned space		Major	Health and Safety
GF 1.3 - Manufactured Homes	Gas furnace installed in manufactured home is not HUD approved		Major	Energy Savings
HP 1.0 - Heat Pumps Introduction	Heat pump installation does not comply with IN 1.2, IN 1.3, and IN 1.14-1.16	Evaporator and condensing unit not compatible according to AHRI specifications	Minor	Energy Savings
HP 1.1 - Thermostat	Programmable thermostat does not have a temperature setback capability or setback temperature > 3° F		Major	Energy Savings
HP 1.2 - Line Set Requirements	Line set penetrations through building shell not sealed	Outdoor portions of line set not covered by mechanically fastened resistant covering or, where impractical, securely fastened UV-resistant covering	Minor	Building Durability
HP 1.3 - Outdoor Unit Installation	Outdoor unit not installed on a permanent, stable or level pad	Outdoor unit covered by debris or installed near obstacles that restrict airflow	Major	Health and Safety
HP 1.4 - Additional Requirements for Ductless Heat Pumps	Indoor or outdoor unit mounted incorrectly	Incorrect tubing flares used	Minor	Health and Safety
HC 1.0 - Heat Pump Controls	Advanced control not installed in accordance with program guidelines and requirements set in program incentive sheet PI320i		Major	Energy Savings
HC 1.1 - Lockout Temperature	Refer to HC 1.0		N/A	N/A

WH 1.0 - Water Heaters Introduction	Water heater not installed in compliance with IN 1.2, IN 1.3, IN 1.14 and IN 1.15	Water heater not strapped to resist horizontal displacement from seismic activity, straps not installed in lower or upper third of appliance	Water heater temperature set > 120° F	Major	Health and Safety
WH 2.0 - Gas Tank Water Heaters	Vent connections not secured with screws		Gas water heater ignition source not elevated 18" above a garage floor	Major	Health and Safety
WH 2.1 - Additional Requirements for Natural Draft Gas Tank Water Heaters	Exhaust flue installed without ¼" rise per foot of length or without 1" of vent diameter for every 18" of horizontal run	Water heater displays signs of combustion gas leaving the draft hood at steady state, or displays flame rollout under any circumstance	Vent connectors not sealed to chimney entrance point	Major	Health and Safety
WH 3.0 - Heat Pump Water Heater	Heat pump condensate drainage system not adequately draining			Major	Health and Safety
WH 4.0 - Gas Tankless Water Heaters	Intake air for all sealed combustion tankless water heater shall come from outside the conditioned space.			Major	Health and Safety