

Chapter Seven

RESNET Standards

700 RESNET NATIONAL STANDARD FOR HOME ENERGY AUDITS

701 GENERAL PROVISIONS

701.1 Purpose

The provisions of this standard are intended to define a framework for a home energy audit process. A certified auditor, an accredited Provider and/or a program will apply this standard to improve the energy performance of existing homes through uniform, comprehensive home energy surveys, audits and ratings for existing residential buildings. This standard is intended to encourage investments by building owners that produce the following outcomes:

- Increase the energy efficiency of homes;
- Increase the comfort of homes;
- Increase the durability of homes;
- Reduce the risk that energy improvement recommendations will contribute to health, safety, or building durability problems;
- Reduce waste and pollution, protecting the environment; and
 - Ensure that the recommendations are within the community standards (e.g. historic districts, flood zones, subdivision covenance).

And to ensure that throughout the process, energy improvement recommendations are portrayed with reasonable and consistent projections of energy savings.

701.2 National Standard for Home Energy Audits.

There are 3 categories of home performance assessments defined in this standard, listed in order of increasing accuracy and completeness:

1. Home Energy Survey (HES)
 - a. On-Line Home Energy Survey
 - b. Professional Home Energy Survey
2. Building Performance Audit (BPA)
3. Comprehensive HERS Rating (CHER)

Visual examination and measurement of the home as built are the first steps for any audit process; BPA and CHER exceed HES since they require performance testing. All steps produce a list of recommended improvements, but BPA and CHER include a formalized work scope. A CHER exceeds a BPA only in that a CHER also includes a formal Home Energy Rating.

701.3 Relationship to Other Standards

This Chapter is a companion Chapter to the 2006 RESNET Mortgage Industry National Home Energy Rating System Standard as promulgated and maintained by the Residential Energy Services Network (RESNET) and recognized by the mortgage industry and programs promoting the improved energy performance of buildings.

701.4 Relationship to State Law

This standard specifically recognizes that some state laws or regulations have additional requirements to those specified in this document. To the extent that such state laws or regulations differ from these Standards, state law or regulation shall govern.

701.5 Scope

This Home Energy Audit Standard will address RESNET Providers for each area of home inspection, applicable procedures, types of home inspections, certifications of the inspectors, summary of requirements for each type of inspection, and the reports to accompany each type of inspection.

701.5.1 Application of Standards

This standard applies to existing site-constructed or manufactured, single- or multi-family, residential buildings three stories or less in height.

702 DEFINITIONS AND ACRONYMS

See Appendix- Glossary of Terms

703 HOME ENERGY AUDIT PROVIDER ACCREDITATION CRITERIA

703.1 Minimum Standards for Home Energy Audit (HEA) Provider Accreditation

Home Energy Audit Providers shall be accredited in accordance with the Accreditation Process specified in Chapter 9 of these Standards. An HEA Provider shall specifically meet the following minimum standards for Accreditation.

703.1.1 Home Energy Survey Professional and Building Performance Auditor Certification Standard. Home Energy Survey Professionals (HESPs) and Building Performance Auditors (BPAs) shall be certified (and recertified) by RESNET-accredited HEA Providers, who shall abide by the following provisions:

703.1.1.1 HEA Providers shall provide documentation that the HESPs and/or BPAs under their Providership meet the following certification requirements:

703.1.1.1.1 Performance Evaluation. HESPs and BPAs shall pass a performance evaluation of their ability to perform accurate Home Energy Surveys and/or Building Performance Audits in accordance with sections 704 and 705. Each HESP and BPA shall complete a probationary period where close supervision is provided by the HEA Provider's QA Designee (as defined in Chapter 9 of these Standards). The probationary period covers a minimum of three Home Energy Surveys and/or Building Performance Audits (as applicable) after which the QA Designee shall determine if additional training is needed.

703.1.1.1.2 Professional Development for HESPs and BPAs. HESPs and BPAs shall complete one of the below three options:

703.1.1.1.2.1 Complete 18 hours of professional development every three years. The 18 hours shall include completion of 18 hours of refresher course(s) offered by a RESNET Accredited HEA Training Provider; or

703.1.1.1.2.2 Documentation of 18 hours of attendance at a RESNET Conference every three (3) years; or

703.1.1.1.2.3 Pass the HESP online test every three years.

703.1.1.1.3 Testing. All certified HESPs shall pass the national Home Energy Survey Professional (HESP) online test administered by RESNET with a score of at least 75 percent. Each certified BPA shall pass the national Building Performance Auditor (BPA) online test administered by RESNET with a score of at least 80 percent, and pass any additional field evaluations to determine competency to perform building air leakage and duct pressurization tests, and combustion safety procedures as required in Chapter Eight of these Standards.

703.1.1.1.4 Recertification of individuals by the HEA Provider shall occur every three (3) years.

703.1.1.1.5 Agreements. As a condition of certification, each HEA Provider shall ensure that each certified individual enters into a written agreement with the Provider to provide the applicable field verification services in compliance with these Standards. An unexecuted copy of the written agreement shall be provided to RESNET with the Provider's accreditation application, and again within 60 days of making changes to the agreement. The written agreement shall, at a minimum require Auditors to:

703.1.1.1.5.1 Provide audit verification services in compliance with these Standards;

703.1.1.1.5.2 Provide accurate and fair Professional Surveys or Audits; and

703.1.1.1.5.3 Comply with the RESNET Code of Ethics. The RESNET Code of Ethics shall be attached to the written agreement.

703.1.2 Minimum Standards for HEA Provider Operation Policies and Procedures shall be submitted in written form to RESNET for approval, and shall at a minimum provide for the following:

703.1.2.1 Written conflict of interest provisions that prohibit undisclosed conflicts of interest, but may allow waiver with advanced disclosure. The "Standard Disclosure" form adopted by the RESNET Board of Directors shall be completed for each home that receives a Home Energy Survey or Building Performance Audit and shall be provided to the client and made available to the homeowner. Each form shall accurately reflect the proper disclosure for the home that it represents. For the purpose of completing this disclosure, "Auditor's employer" includes any affiliate entities. Recognizing that a number of different relationships may exist among the auditor or the auditor's employer, other contractors that

may complete work on the home, and the survey client and/or homeowner, the HEA Provider shall ensure that all disclosures are adequately addressed by the Provider's quality assurance plan, in accordance with the relevant quality assurance provisions of these Standards.

703.1.2.2 Written Auditor discipline procedures that include progressive discipline for probation, suspension, and decertification.

703.1.2.3 In accordance with the minimum requirements set forth in Chapter 9 for quality assurance, a written audit Quality Assurance Plan and designation of a Quality Assurance Designee.

703.1.2.4 Auditor Registry. The HEA Provider shall maintain a registry of all of its certified Auditors. The specified Provider shall also keep on file the names and contact information for all certified Auditors, including company name, mailing address, voice phone number, fax number, and email address. Upon request, the HEA Provider shall provide to RESNET its registry of certified Auditors.

703.1.2.5 Complaint Response Process. Each HEA Provider shall have a publicly accessible system for receiving complaints. HEA Providers shall ensure that Auditors inform clients about the complaint process by publicizing the web address of the complaint resolution process. Each HEA Provider shall retain records of complaints received and responses to complaints for a minimum of three (3) years after the date of the complaint.

703.1.3 Additional HEA Provider Duties Related to Oversight of Building Performance Auditors (BPAs)

703.1.3.1 Certification of Performance Testing Proficiency. The HEA Provider is responsible for certifying that each BPA has successfully completed the following:

703.1.3.1.1 Passing the RESNET BPA online exam in accordance with Section 703.1.1.1.3.

703.1.3.1.1.1 BPA candidates who have NOT previously passed the 50 question RESNET HESP exam shall pass the 50 question BPA exam with a minimum score of 80%.

703.1.3.1.1.2 BPA candidates who have previously taken and passed the 50 question RESNET HESP online exam with a minimum score of 75%, shall pass an abbreviated 25 question BPA exam and pass with a minimum score of 80%.

703.1.3.1.2 BPA candidates shall complete a combined total of twenty (20) hours of RESNET approved training in Pressure Diagnostics, Combustion Appliance Zone (CAZ) Testing and Work Scope Requirements which includes field training and a field proficiency demonstration as defined in the *RESNET Guidelines for Combustion Appliance*

Testing and Writing Work Scopes (hereinafter “RESNET interim guidelines”) and chapter 8 of these Standards.

704 NATIONAL HOME ENERGY AUDIT PROCEDURES

704.1 Home Energy Survey

The purpose of the Home Energy Survey is to assess the general condition of the home with respect to energy performance. The Home Energy Survey shall include a report that shows a general range of a home’s energy efficiency based on minimum specific criteria (e.g. insulation, equipment age, general condition, energy usage and costs) and a lookup matrix based on regional norms and climate, as approved by RESNET. The Home Energy Survey is not required if the homeowner wishes to directly pursue a Building Performance Audit or a Comprehensive HERS Rating. The Home Energy Survey will take one of two forms: a DOE- or RESNET- approved computerized On-Line Home Energy Survey performed by the owner or occupant, or a Professional Home Energy Survey conducted by a certified Home Energy Survey Professional.

704.1.1 On-Line Home Energy Survey. The On-Line Home Energy Survey shall collect substantially the same data and information and shall be subject to the same limitations as the Professional Home Energy Survey. On-line Home Energy Survey software shall be hosted by a RESNET accredited HEA Provider or another organization approved by RESNET and the on-line program report shall be approved by RESNET.

704.1.2 Professional Home Energy Survey. The Professional Home Energy Survey shall include on-site visual inspection of the energy features of the dwelling unit, and documentation of its general condition, including envelope features and ages; equipment types, characteristics and ages; appliance and lighting characteristics; and likely anticipated remediation issues such as moisture or combustion appliance problems. Where available, the Professional Home Energy Survey shall include a review of utility use and billing history. The Home Energy Survey is a visual inspection only and does not include diagnostic testing. Home Energy Survey Professionals may also use home energy survey and labeling software programs approved by RESNET or the U.S. Department of Energy. A homeowner is not required to have a Professional Home Energy Survey prior to having a Building Performance Audit or Comprehensive HERS Rating.

704.1.2.1 The Home Energy Survey Professional (HESP) shall interview the homeowner regarding energy, comfort problems and related durability issues. The HESP shall review the goals listed in 701.1 of these Standard, and provide an explanation of the home energy audit process and potential availability of incentive programs that maybe accessed by the homeowner. The interview shall include, but is not limited to, the following subject areas:

704.1.2.1.1 Comfort complaints, including areas of the home that are too hot or too cold.

704.1.2.1.2 Energy billing concerns.

704.1.2.1.3 Durability issues, including water intrusion, ice damming, etc.

704.1.2.1.4 The potential for the homeowner to follow up with a Building Performance Audit or Comprehensive HERS Rating.

704.1.2.1.5 Interest in potential home energy performance improvements.

704.1.2.2 The HESP shall inform the homeowner of low cost/no cost improvements that can be implemented by the homeowner.

704.1.2.3 The HESP shall request copies of utility bills and/or written permission to obtain past energy use information from the utility supplier(s), for the purpose of estimating generalized end-use consumption (base, heating, and cooling). If the customer declines, the HESP shall explain the reason for the request and the potential effect on the home energy survey.

704.1.2.4 The HESP shall advise the homeowner on where to locate qualified individuals (including the RESNET website) to conduct a Building Performance Audit, a Comprehensive HERS Rating, and/or RESNET Qualified Contractors to complete the work on the home.

704.1.2.5. Minimum Procedures for a Professional Home Energy Survey:

704.1.2.5.1 The Home Energy Survey Professional (HESP) shall complete a RESNET-approved survey form. The survey form will require the HESP to visually review the home to determine, measure or estimate the following features:

704.1.2.5.1.1 R-values and location of wall/ceiling/floor insulation;

704.1.2.5.1.2 Square footage and approximate age of home;

704.1.2.5.1.3 Glazing type(s), frame material(s), and permanently installed shading devices such as screens or applied films;

704.1.2.5.1.4 Type, model number, efficiency (if available), and location of heating/cooling system(s);

704.1.2.5.1.5 Type of ductwork, location and R-value of duct insulation, visual assessment of obvious duct leakage, and any indications of previous duct sealing;

704.1.2.5.1.6 Type of foundation is crawl space, basement, or slab, along with venting and insulation locations;

704.1.2.5.1.7 Type of attic, approximate age, type and color of roofing material and presence and type of venting.

704.1.2.5.1.8 Checklist of common air-leakage sites; indicating likely opportunities for leakage reduction;

704.1.2.5.1.9 Estimated age and efficiency (if available), condition, number and location of major appliances such as dishwashers, refrigerators, freezers and washing machines;

704.1.2.5.1.10 Number, type, and controls of indoor and outdoor light fixtures and portable lamps that are suitable for energy efficient re-lamping;

704.1.2.5.1.11 Durability issues such as visual indications of common moisture problems, including condensation, roof leaks, foundation leaks, ground-water intrusion, ice damming, and plumbing leaks, as well as signs of mold, mildew, insect damage, efflorescence, and stains;

704.1.2.5.1.12 Presence, size, and location of exhaust fans, and determination of whether they are vented to the outdoors;

704.1.2.5.1.13 Number, type, and flow rate of water fixtures (e.g. faucets, showerheads), presence and control of hot water recirculation loop/pump;

704.1.2.5.1.14 Presence and type(s) of combustion equipment; visually identifiable evidence of flame rollout, blocked chimney, rust and corrosion; missing or damaged vent connectors;

704.1.2.5.1.15 Mechanical systems that are likely to cause or contribute to excess infiltration or pressure imbalances, such as attic fans or bedrooms with no return air or transfer grilles.

704.1.2.5.1.16 Any identified potential combustion appliance safety hazards related to energy retrofit work.

704.1.2.5.2 The following elements are outside the scope of a Professional Home Energy Survey:

704.1.2.5.2.1 The use of blower doors, duct leakage test equipment or an infrared camera.

704.1.2.5.2.2 Any other diagnostic testing of the home

704.1.2.5.2.3 Quantification of any levels of air tightness, duct tightness, or ventilation amounts.

704.1.2.5.2.4 Combustion Appliance Zone (CAZ) testing

704.1.2.5.3 Energy savings estimates will only be generalized and presented along with the qualification that a Building Performance Audit or Comprehensive HERS Rating shall be obtained to calculate more detailed energy savings estimates.

704.1.2.6 Minimum Professional Home Energy Survey Report Documentation

704.1.2.6.1 At the completion of the Professional Home Energy Survey the Home Energy Survey Professional shall provide the homeowner a standardized report using a format approved by RESNET, signed and dated by the HESP. The report at a minimum shall provide information to the homeowner that addresses:

704.1.2.6.1.1 All data collected in accordance with Section 704.1.2.5.1, above;

704.1.2.6.1.2 Whole-house solutions overview of how the home works as a system and how to prioritize actions;

704.1.2.6.1.3 The quality of installation of HVAC equipment including general information on proper sizing of equipment, duct sealing, insulation and general condition of the ductwork, and the importance of proper refrigerant charge and air flow;

704.1.2.6.1.4 The quality of the building envelope air sealing and proper levels of insulation;

704.1.2.6.1.5 An overview of potentially appropriate ENERGY STAR or better products and appliances;

704.1.2.6.1.6 Information regarding access to a Building Performance Audit or Comprehensive HERS Rating;

704.1.2.6.1.7 Potential non-energy benefits of improving the energy efficiency of the home including reduction of carbon emissions, improved comfort and air quality;

704.1.2.6.1.8 General statement regarding opportunities to improve the thermal envelope, mechanical equipment, lighting and appliances in the home;

704.1.2.6.1.9 General discussion of observations and concerns regarding combustion appliance operation;

704.1.2.6.1.10 A safety notification form adopted by RESNET that is filled out and presented to the homeowner identifying potential hazards such as lead paint, asbestos, mold, and radon that are outside the scope of the Home Energy Survey. ;

704.1.2.6.1.11. Information on available rebate, financing, and/or tax incentive programs that will help the homeowner

704.1.2.7 Limitations.

Unless certified by RESNET as a Building Performance Auditor or Comprehensive HERS Rater, (or another certification that is recognized by RESNET as equivalent), the Home Energy Survey Professional shall not produce a detailed written work scope for improvements as part of a Professional Home Energy Survey.

704.2 Building Performance Audit

The purpose of the Building Performance Audit is to identify building performance deficiencies and provide a work scope sufficient for improvements to be made to the audited home. The Building Performance Audit includes an evaluation, performance testing, computer software analysis using software that is accredited by RESNET or approved by DOE for this purpose, and reporting of proposed treatments for improvement of an existing home. The evaluation shall include a review of the data collected from any previous energy audit or survey, any further required measurement and performance testing, and combustion appliance testing. The Auditor shall determine the appropriate work scope for the home. A homeowner may elect to go through this process with or without a prior Professional Home Energy Survey. A Building Performance Audit includes all of the provisions of the Professional Home Energy Survey (Section 704.1.2.5), plus the performance of diagnostic testing and reporting requirements as follows:

704.2.1. Evaluate building shell air leakage in CFM50

At a minimum, a single point (50 Pa) blower door depressurization test shall be performed in accordance with the envelope testing protocols contained in chapter 8 of these Standards and the results thereof shall be included in the audit report.

704.2.2. Evaluate duct leakage.

704.2.2.1 The Auditor shall perform a duct leakage test in accordance with the protocols in chapter 8 of these Standards, and/or specify a duct leakage test in accordance with RESNET standards prior to beginning any duct-sealing work.

704.2.3 Conduct CAZ Depressurization, Spillage and CO testing

704.2.3.1 The auditor must perform a worst-case depressurization, spillage, and CO test in accordance with the RESNET interim guidelines.

704.2.4 Prepare a Detailed Retrofit Work Scope

A BPA Report shall include a retrofit work scope in accordance with the RESNET interim guidelines.

704.2.4.1 The work scopes for recommended improvements shall be determined by the Auditor based upon the findings of the assessment and the client's budget and objectives. The recommendations shall be presented to the homeowner in order of priority based on cost effectiveness and priorities for remediation of combustion appliance deficiencies. At a minimum, five (5) of the most cost-effective measures must be recommended regardless of the client's budget.

704.3 Minimum Building Performance Audit Report Documentation

704.3.1 Upon completion of the audit, provide the client with a written record (physical or electronic) of the audit and resulting recommendations within five (5) business days. It shall include:

704.3.1.1 General findings of audit as defined in Section 704.1.2.6

704.3.1.2 General recommendations for improvements

704.3.1.3 The results of the combustion appliance testing.

704.3.1.4 Work scopes for suggested improvements

704.3.1.5 Cost-effectiveness estimates based on analysis

704.3.1.6 Information on where to locate qualified individuals (including the RESNET website) to conduct a Comprehensive HERS Rating and/or RESNET Qualified Contractors or other contractors suitable to complete the work on the home.

704.4 Comprehensive HERS Rating

The Comprehensive HERS Rating is the most in-depth performance audit. It includes evaluation, performance testing, reporting of the proposed work scope for improvement of an existing home in accordance with section 704.2, and a HERS Rating in accordance with Chapter 3 of these Standards. A homeowner is not required to have a Professional Home Energy Survey or Building Performance Audit prior to having a Comprehensive HERS Rating.

705 REQUIRED SKILLS FOR CERTIFICATION

705.1 Minimum skills and knowledge base required to conduct a Professional Home Energy Survey

705.1.1 Basics of heat transfer concepts

705.1.2 Basics of building performance testing

705.1.3 Basics of air distribution leakage

705.1.4 Calculating gross and net areas

705.1.5 Definitions/energy terminology

705.1.6 Basic combustion appliance concerns

705.1.7 Basics of envelope leakage, thermal bypass, thermal bridging

705.1.8 Determining envelope insulation

705.1.8.1 Presence/absence of insulation and when observable, the quality of its installation

705.1.8.2 Recommended levels of insulation by climate zone

705.1.9 HVAC – determining equipment efficiencies from model numbers or default tables

705.1.9.1 HVAC pros/cons, drivers and sensitivities of major system types

705.1.10 Household appliances – estimate efficiency from model numbers or vintage

705.1.11 Energy, power, moisture, heat-conductivity/resistance, and temperature units and key conversion factors

705.1.12 Measuring building dimensions

705.1.13 Identification and documentation of energy survey inspected features of the home

705.1.14 Basics of specifications

705.1.15 Determining window and door efficiency

705.1.16 Determining building orientation and shading characteristics

705.1.17 Defining the thermal boundary, and appropriate recommendations for changing the thermal boundary

705.1.18 Basics of measure interaction, expected life, and bundling for optimal performance considering the house as a system and the emerging need for deep savings.

705.2 Minimum skills and knowledge base required for an individual to conduct a Building Performance Audit

705.2.1 The skills and knowledge required for an individual to conduct a Home Energy Survey in accordance with section 705.1 of these Standards.

705.2.2 Ability to perform building envelope leakage testing in accordance with the envelope testing protocols in chapter 8 of these Standards.

705.2.3 Ability to perform duct leakage testing in accordance with the duct testing protocols contained in chapter 8 of these Standards.

705.2.4 Ability to perform CAZ, spillage, and CO testing in accordance with Worst-Case Depressurization and Combustion Appliance Testing protocols contained in the RESNET interim guidelines.

705.2.5 Understanding of pressure influences and remediation of the following conditions

705.2.5.1 Room and zone pressure imbalances caused by lack of ducted return air or pressure relief mechanisms such as transfer grilles or jumper ducts.

705.2.5.2 CAZ depressurization or combustion appliance spillage caused by return leaks in the CAZ zone, supply leaks outside the house pressure boundary, zonal pressure imbalances, and/or exhaust appliances including other combustion equipment.

705.2.5.3 Pressure differential diagnostics in intermediate buffer zones including (but not limited to) attics, garages, or crawlspaces.

705.2.6 Ability to prepare a detailed work scope in accordance with protocols contained in the RESNET interim guidelines.

705.2.7 Familiarity with local climate conditions, housing stock, and climate specific practices.

705.3 Minimum skills and knowledge base required for an individual to conduct a Comprehensive HERS Rating

705.3.1 The skills and knowledge required for an individual to conduct a Building Performance Audit in accordance with section 705.1 and 705.2 of these Standards;

705.3.2 The Home Energy Rating Knowledge Base and Skills Set found in section 205.1 of these Standards and the Minimum Rater Competencies found in section 206.1.2 of these Standards.

705.3.3 Ability to conduct building simulation and performance analysis and provide HERS Ratings in accordance with the requirements in Chapter 3 and Chapter 8 of these Standards.

706 GENERAL LIMITATIONS AND EXCLUSIONS

706.1 Limitations

706.1.1 The energy use information contained in reports resulting from Professional Home Energy Surveys, Building Performance Audits or Comprehensive HERS Ratings do not constitute any warranty of energy cost or savings.

706.1.2 Surveys, Audits and Ratings that are performed in accordance with these standards:

706.1.2.1 Are not technically exhaustive.

706.1.2.2 Will not identify concealed conditions or latent defects.

706.1.3 Neither the Building Performance Audit nor the Comprehensive HERS Rating is intended to be an inspection of the structural soundness of the home or any other attributes of the home other than the home's energy features and safety issues related directly to proposed work scopes.

706.1.4 The Professional Home Energy Survey is not applicable to building design and construction features except those listed in section 704.1.2.5.

707 HOME ENERGY AUDIT TRAINING PROVIDER ACCREDITATION

707.1 Requirements for Accredited HEA-Training Providers

707.1.1 Duties and Responsibilities. In order to maintain their accreditation in good standing for providing HESP and/or BPA training courses, all HEA-Training Providers shall fully discharge the following duties and responsibilities.

707.1.1.1 Hold the national core competency questions of the national HESP and BPA test administered by RESNET in the strictest confidence.

707.1.1.2 Submit to RESNET for approval, copies of the HESP and BPA course presentation materials, training manuals, user manuals, course handouts and any other training materials used for training purposes,

707.1.1.3 Submit for approval, copies of all policies, standards, guidelines and procedures to be used by the HEA-Training Provider.

707.1.1.4 Maintain a record, for a period of three years, of all training materials and trainee data, including:

707.1.1.4.1 Historical records of all training schedules and curricula,

707.1.1.4.2 Historical records of all training attendance records,

707.1.1.4.3 Historical records of all examinations and individual examination results,

707.1.1.4.4 Historical records of all certifications issued to any individuals,

707.1.1.4.5 Copies of all current policies, standards, guidelines and procedures in use by the HEA-Training Provider.

707.1.1.5 Maintain acceptable accounting practices, suitable to satisfy the requirements of independent audit procedures.

707.1.1.6 Maintain up-to-date training materials and provide adequate training facilities.

707.1.1.7 Only utilize RESNET Certified BPA Trainers who have at a minimum been certified by RESNET as having passed the 100-question BPA Trainer's Exam with a minimum score of 90%.

707.1.2 Privileges and rights. All accredited HEA-Training Providers in good standing shall have certain privileges and rights, as follows:

707.1.2.1 The privilege to display the accreditation seal of RESNET on any publications, displays, presentations or marketing materials published, authorized for publication or otherwise issued by the HEA-Training Provider.

707.1.2.2 The privilege to make and use RESNET designated trademarked, copyrighted or otherwise restricted materials for marketing both HESP and BPA Training Courses.

707.1.2.3 The right to present evidence, arguments and a vigorous defense in any action brought under these standards by any party against a HEA-Training Provider.

708 MINIMUM HOME ENERGY AUDIT TRAINER COMPETENCIES

708.1 Required HEA Trainer Competencies

708.1.1 To teach either HESP or BPA training curriculum, a HEA-Training Provider shall maintain RESNET Certified HEA Trainer(s) demonstrating the following skills:

708.1.1.1 Mastery of the Home Energy Audit Standards knowledge base and skills set given in this chapter. The trainers shall demonstrate these skills by passing the 100-question RESNET HEA Trainer's Exam with a minimum score of 90%.

708.1.1.2 Ability to communicate effectively the methods, procedures, knowledge and skills to produce accurate and fair Home Energy Audits from building investigation and performance testing and combustion safety in accordance with this Chapter and RESNET interim guidelines.

708.1.1.3 Understanding of the purposes and benefits of home energy surveys and audits and ability to communicate these to students.

708.1.1.4 Understanding the basics of cost-effective energy improvements, preparing a work scope and the ability to communicate these to students.

Appendix Glossary of Terms

Auditor - a generic name for either a Home Energy Survey Professional (HESP) or Building Performance Auditor (BPA) and is distinguished from a certified Home Energy Rater, or Rater, who may be a HERS Rater or a Comprehensive HERS Rater.

Building Performance Audit - A level of the RESNET Home Energy Audit that includes the evaluation, diagnosis and testing of a home's performance and the generation of a prioritized work scope for cost-effective energy saving measures and features.

Building Performance Auditor (BPA) - An individual who is certified by a RESNET accredited Home Energy Audit (HEA) Provider to conduct the evaluation, diagnosis and testing of a home's performance and provide a prioritized work scope for cost-effective energy saving measures and features to the homeowner.

Combustion Appliance Zone (CAZ) - A contiguous air volume within a building that contains a combustion appliance; the zone may include, but is not limited to, a mechanical closet, mechanical room, or the main body of a house, as applicable.

Comprehensive HERS Rater - An individual who is certified by an accredited HERS Provider to inspect, diagnose and test a home in order to evaluate the minimum rated features and prepare a HERS rating according to Chapters One and Three of the RESNET Mortgage Industry National Home Energy Rating Standards; and provide a prioritized work scope for cost-effective energy saving measures and features to the homeowner. (Both Comprehensive HERS Raters and HERS Raters are qualified to perform ratings on both new and existing homes, but a HERS rater cannot perform the Comprehensive HERS Rating until completing additional training as required by RESNET).

Comprehensive HERS Rating - A level of the RESNET Existing Home Energy Audit that includes the evaluation, diagnosis and testing of a home's performance, the generation of a prioritized work scope for cost-effective energy saving measures and features, and the preparation of an energy rating according to Chapters One and Three of these Standards.

Data Collection - The gathering of information on building energy features, energy use history and other relevant building and building operation information.

Diagnostic Testing (also, Performance Testing) - The use of building performance-testing equipment (e.g. blower door, duct blaster, flow hood, infrared camera, CO monitor, etc.) to measure, assess and document specific performance characteristics of the building system.

Energy Saving Measure, or Feature - Any material, component, device, system, construction method, process, or combination thereof that will result in a reduction of energy use.

Evaluation - An analysis of the data collected from a survey or audit, on-site data collection and performance testing, software analysis, and/or available energy usage records to determine normalized energy use and to estimate potential savings from improvements.

HERS Index – A numerical integer value that represents the relative energy use of a Rated Home as compared with the energy use of the HERS Reference Home and where an Index value of 100 represents the energy use of the HERS Reference Home and an Index value of 0 (zero) represents a home that uses approximately zero net purchased energy, in accordance with Chapter 3 of these Standards.

Home – A building with one or more dwelling units that has three or fewer stories above grade, or a single dwelling unit within a building of three or fewer stories above grade.

Home Energy Audit Provider (HEA Provider) – An organization accredited by RESNET in accordance with Chapter 7 and 9 of these Standards to certify individuals to perform Home Energy Surveys and/or Building Performance Audits in compliance with these Standards. The HEA Provider is also tasked with maintaining the quality assurance of the Home Energy Audit process.

Home Energy Audit Trainer (HEA Trainer) – An individual certified by RESNET as competent to teach HESP and BPA course curricula by passing a 100-question BPA Trainer exam, scoring a minimum of 90%. An HEA trainer teaches under the auspices of a RESNET accredited HEA Training Provider.

Home Energy Audit Training Provider (HEA Training Provider) – An organization accredited by RESNET in accordance with Chapter 7 and 9 of these Standards to provide Home Energy Audit (HEA) training courses (including Home Energy Survey Professional (HESP) and/or Building Performance Auditor (BPA) curricula) and proctor HESP and/or BPA exams. An HEA Training Provider cannot provide HERS Rater Training unless also accredited as a RESNET Rater Training Provider.

Home Energy Rater, or HERS Rater – An individual trained by an Accredited Training Provider and certified by an Accredited Home Energy Rating Provider to inspect a home to evaluate the minimum rated features and prepare an energy efficiency rating (see also Rating Field Inspector and Senior Certified Rater).

Home Energy Rating, or Rating - An unbiased indication of a home's relative energy performance based on consistent inspection procedures, operating assumptions, climate data and calculation methods in accordance with the "National Energy Rating Technical Standards" (Chapter 3 of these Standards). See also "Rating, Confirmed" and "Rating, Projected".

Home Energy Rating Provider, or HERS Provider, or Rating Provider - An organization accredited by RESNET in accordance with Chapters 1 and 9 of these Standards that develops, manages, and operates a home energy rating program.

Home Energy Rating System, or HERS® - The procedures, rules and guidelines by which Home Energy Ratings and Rater certification are conducted by accredited Providers (Home Energy Rating, Software, Training, , Sampling,), as specified in these Standards.

Home Energy Survey - The least comprehensive level of the RESNET Home Energy Audit process. The Home Energy Survey (HES) will include one of the following: a computerized “On-Line Home Energy Survey” performed by the owner or occupant, or a “Professional Home Energy Survey” conducted on site by a certified Home Energy Survey Professional.

Home Energy Survey, On-Line - A level of the RESNET Home Energy Survey which is a basic energy review of a home using an internet-based tool or software and performed by the owner or the occupant.

Home Energy Survey Professional (HESP) - An individual certified by an accredited Home Energy Audit Provider to conduct on site Professional Home Energy Surveys.

Home Energy Survey Software (HEA Software) - Computerized procedure approved by RESNET or the U.S. DOE for entering data collected as part of a Professional Home Energy Survey or DOE home energy labeling program and generating a report for the homeowner. Savings information on HES reports will be limited to prioritization of recommended measures.

Home Performance with ENERGY STAR®, or HPwES - A national program developed by the Environmental Protection Agency (EPA) and the Department of Energy (DOE), that offers a comprehensive, whole-house approach to improving energy efficiency and comfort of homes, while maintaining or improving safety.

On-Line Home Energy Survey - A level of the RESNET Home Energy Survey that is a basic energy review of a home using an internet-based tool or software, performed by the owner or occupant of the home.

Performance Testing – See “Diagnostic Testing”.

Performance Software – A computerized procedure that is approved by US DOE, accredited by RESNET or specified by a HPwES sponsor or similar program that is used for conducting an analysis of a home’s energy use, reporting proposed energy savings measures, and developing an appropriate work scope.

Professional Home Energy Survey - A level of the RESNET Home Energy Survey intended to assess both the general energy performance of the home and the level of motivation on the part of the homeowner. The survey will include data collected by a home energy survey professional for the purpose of further analysis and general identification of home performance problems. The intent of the energy survey is to refer homeowners to the next level of audit if it is determined that the home needs further analysis, and the homeowner is motivated to invest in improvements

RESNET Qualified Contractor – A home performance contractor who has been qualified by RESNET to conduct home performance improvement work in concert with a Building

Performance Auditor or Comprehensive HERS Rater and in compliance with work scope requirements defined in the RESNET interim guidelines.

Rating Software - A computerized procedure that is accredited by RESNET for the purpose of conducting home energy ratings and calculating the annual energy consumption, annual energy costs and a HERS Index for a home in accordance with Chapter 3 of these Standards.

RESNET - Residential Energy Services Network

RESNET Home Energy Audit or RESNET Home Energy Assessment - a Home Energy Survey (HES), Building Performance Audit (BPA), or a Comprehensive Home Energy Rating (CHERS). All of these audits include an evaluation of energy features of the home; BPA and CHER require air-leakage performance, combustion safety and other tests. All of these audit variations produce recommendations for improvements, but BPA and CHER also include a formalized “work scope” based on software analysis. The CHER also includes a RESNET Home Energy Rating. The goals these audits are stated in Section 701.1 of these Standards.