



Setting the Standards for Home Energy Efficiency

## Amendment Chapter: Chapter Two: RESNET NATIONAL STANDRD FOR INSTRUCTION, ASSESSMENT AND CERTIFICATION

### Proponent:

RESNET Instruction, Assessment and Certification Standards Development Committee

### Applies to:

Mortgage Industry National Home Energy Rating System Standards (2013) Addendum Chapter Two

# Chapter Two RESNET Standards

RESNET Standards

National Standard for Instruction, Assessment ~~Training~~ and Certification

## 200 PURPOSE AND SCOPE

These standards define the requirements of Accredited Training Providers, Certified Rater ~~Trainers~~Instructors, and Certification Candidates. RESNET shall confirm that the requirements defined in this standard have been met when accrediting Ttraining ~~P~~providers and certifying ~~R~~ater ~~trainers~~ Instructors. Accredited Rating Quality Assurance Providers shall confirm that the requirements defined in this standard have been met when certifying individuals. This enhances the goal of producing a nationally recognized and uniform program.

## 201 GENERAL PROVISIONS

### 201.1 Definitions and Acronyms

See Appendix B.

### ~~201.2 Training and Education Committee~~

#### ~~201.2.1 Committee Responsibilities~~

~~The Training and Education Committee considers, reviews, and approves the following items:~~

~~201.2.1.1 Core competency examination questions, categories, time limits, and passing scores;~~

~~201.2.1.2 Subject categories that may be approved for Professional Development (PD) requirements for RESNET certified individuals.~~

~~— 201.2.2 Committee Chair~~

~~— A member of the Board of Directors chairs the Training and Education Committee. RESNET Staff and the Board Chairperson nominate individuals to be the committee chair. Appointment of the committee chair requires majority approval of the Board.~~

~~— 201.2.3 Committee Members~~

~~— The Committee Chair appoints individuals for committee membership. The RESNET Board of Directors retains the right to revoke individual committee membership.~~

~~— 201.2.4 Sub-Committees~~

~~— Sub-committees may be formed to complete specific tasks. The chair of the Training and Education Committee appoints the sub-committee chairs. Sub-committee chairs and members need not be members of the Committee.~~

202

ACCREDITED TRAINING PROVIDERS

202.1 Achieving Accreditation

Training Providers are accredited in accordance with the Accreditation Process specified in Section 910.2 - Provider Accreditation Process. Training Providers shall ~~demonstrate through completion of~~ complete the RESNET Rater Training Provider Accreditation Application... ~~shall demonstrate what? the following documentation that their training meets the criteria established through this Standard.~~

Training curriculum, materials, and manuals:

~~— 202.1.1 Examination materials.~~

~~— 202.1.2 Facilities description.~~

~~— 202.1.3 Organization description.~~

~~— 202.1.4 Principals and staff qualifications (detailed resumes).~~

~~— 202.1.5 The names of certified Rater Trainers it intends to teach classes.~~

202.2 Maintaining Accreditation

In order to maintain their accreditation in good standing, all Training Providers shall fully discharge the following duties and responsibilities. Failure to properly discharge any of these duties and responsibilities constitutes grounds for disciplinary action in accordance with *Section 912.1 - Probation, Suspension, and Revocation of Accreditation.*

202.2.1 Renew their accreditation in accordance with the renewal process found in Section 910.3 - Accreditation Renewal Process.

202.2.2 Maintain certified Rater Instructors ~~rater trainers~~. Only RESNET certified Rater Instructors ~~Trainers~~ can offer rater training through a RESNET accredited Rater Training Provider.

202.2.3 Hold the exam questions administered by RESNET in strictest confidence.

**202.2.4** Maintain records for three years of all training materials and trainee data, training schedules, curricula, attendance records, examinations and individual examination results. This information shall be made available to RESNET upon request by RESNET.

**202.2.5** Provide candidates with a certificate or letter of completion, which accurately includes the candidate's legal name and completion dates of any items required for the candidate's certification.

**202.2.6** Maintain curricula that align with the most up-to-date RESNET standards.

**202.2.7** Provide for training facilities and equipment appropriate to the training being delivered.

**202.2.8** Only RESNET accredited Training Providers can offer Rater Training using certified RESNET ~~certified~~ Rater ~~Instructors~~ ~~Trainers~~.

### **202.3 Privileges and rights**

Accredited Training Providers in good standing have the following privileges and rights:

**202.3.1** The privilege to make and use any materials trademarked, copyrighted, or otherwise restricted by RESNET (other than the tests developed by RESNET) for marketing Training Courses or Training Providers or for recruiting Rater trainees, instructors or trainers.

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

### **202.4 Revocation of Accreditation**

See *Chapter 9 – RESNET National Standard for Quality Assurance*.

## **203**

### **INSTRUCTORS**

### **CERTIFIED TRAINERS- CERTIFICATION OF RATER**

#### **203.1 Achieving Certification**

Individuals shall meet the following requirements to be certified as RESNET Rater Instructor trainer. Only RESNET certified Rater Instructors trainers can conduct rater instruction training under the auspices of a RESNET accredited Training Provider.

**203.1.1** Demonstrate ability to effectively communicate with adults in a training environment. This ability is demonstrated through completion of a minimum sixteen (16) hour RESNET approved adult education program.

**203.1.2** Demonstrate mastery of the Home Energy Rating System knowledge and ability sets provided in Section 207 - Knowledge and Abilities. Mastery is demonstrated by passing the following RESNET Tests:

**203.1.2.1** National Rater ~~Training~~ Competency Test with a minimum score ~~of~~ 90% determined by RESNET.

203.1.2.2 RESNET Combustion Appliance Test with a minimum score determined by RESNET

203.1.2.3 RESNET Rater Simulation Practical Test with a minimum score determined by RESNET

~~203.1.3— Demonstrate mastery of the Home Energy Rating System knowledge and ability sets provided in *Section 207—Knowledge and Abilities*. Mastery is demonstrated by passing the following three exams with a minimum score of 90%: The RESNET National Rater Training Competency Test, the RESNET Combustion Appliance Test, and The Work Scope Development Tests including the simulation exam.~~

~~203.1.4— Have an understanding of the purposes and benefits of home energy surveys, home energy ratings, and the ability to communicate these benefits to students.~~

~~203.1.5— Have a basic understanding of energy efficient mortgages, energy improvement mortgages and related products, and the ability to communicate these to students.~~

~~203.1.6— Beginning on January 1, 2015, as a certified Home Energy Rater, complete a minimum of twenty five (25) Home Energy Ratings. These 25 Ratings shall have met the minimum quality assurance processes defined in Section 904.4. Trainers who were certified prior to the adoption of this amendment will have until January 1, 2017 to complete the required number of certified ratings.~~

## **203.2 Professional Development (PD)**

Annually RESNET Certified ~~Instructors Trainers~~ shall complete a two-hour annual RESNET roundtable on current information and also attend a RESNET conference once every two years. complete at least one of the following items:

~~203.2.1— Document twelve (12) hours per year of attendance at RESNET conferences, or RESNET approved Professional Development courses delivered by accredited RESNET Training Providers, or RESNET sessions at Affordable Comfort Institute conferences, EEBA conferences, or other events and venues as approved by RESNET.~~

~~203.2.2 Instruct a minimum of thirty six (36) hours of RESNET Certification or Professional Development per year, documented by an Accredited Training Provider in accordance with section 202.2—Maintaining Accreditation.~~

An individual that is both a Certified Rater Instructor Trainer and Quality Assurance Designee shall complete both the two-hour RESNET roundtable for Rater Instructors Trainers and the two-hour roundtable for Quality Assurance Designees. Individuals selecting the additional PD option need only comply with the requirement one time. i.e. 24 hours is not required.

## **203.3 Revocation**

The following items are grounds for revocation of certified ~~Rater Instructor~~ trainer designation.

**203.3.1** Compromising the security or integrity of any RESNET certification ~~test exam~~.

**203.3.2** Intentionally misrepresenting their ~~training~~ Training Providership ~~provider~~ by training to curricula that differ from that submitted on the Provider's ~~provider's~~ Training ~~training~~ Provider ~~provider~~ application.

**203.3.3** Violation of RESNET defined test-proctoring procedures.

**203.3.4** Non-payment of RESNET provider accreditation fees.

## **204. CERTIFICATION OF CANDIDATE FIELD ASSESSORS**

### **204.1 ———Achieving Certification**

Individuals shall meet the following requirements to be certified as a RESNET Candidate Field Assessor.

#### **204.1.1 Certified HERS Rater in good standing, and**

203.1.2 As a certified Home Energy Rater, complete confirmed ratings on a minimum of twenty-five (25) homes. These 25 Ratings shall have met the minimum quality assurance processes defined in Section 904.4.

## **204 CERTIFICATION CANDIDATES**

### **204.1 General Provisions**

#### **204.1.1 ~~Training~~ Rater Instruction**

All Rater Candidates are required to complete Rater instruction delivered by a RESNET Accredited Rater Training Provider. ~~is not required. Rater candidates who did not attend HERS rater training shall pass all required exams and complete probationary ratings.~~

#### **204.1.2 Examinations**

Examinations allow a candidate to demonstrate the knowledge required appropriate to their desired certification. RESNET online examinations are time-limited and open-book allowing any reference materials but excluding any form of communication with other individuals during the examination session. ~~Rater Written~~ examinations are administered by RESNET, and set up ~~overseen~~ by a RESNET accredited Rater Training Provider, ~~certified trainer and overseen by a RESNET approved~~ or their designated proctor. Approved proctors include BPI exam proctors, faculty and staff of libraries, trade schools, colleges, independent testing institutions, or others as approved by RESNET. Approved proctors shall adhere to RESNET's defined test proctoring procedures.

### 204.1.3 Simulated Practical Examinations

Simulated practical examinations allow a candidate to demonstrate their ability to perform certain tasks appropriate to their desired certification. Rater practical examinations shall be administered ~~by through the~~ RESNET ~~and will include: Rater Simulation Practical Examination.~~

#### 204.1.3.1 Rater Simulation Practical Test

204.1.3.1.1 ~~For new Candidates t~~The effective date for ~~the~~ RESNET Rater Simulation Practical Test is January 1, 2016. Raters who were certified prior to January 1, 2016 shall pass the RESNET Rater Simulation Practical Test ~~prior to on~~ January 1, 2017.

## 204.2 Certification

Prior to issuing a candidate's certification, a RESNET ~~a~~Accredited Rating Quality Assurance Provider shall confirm that the candidate has completed at a minimum, all of the following tasks appropriate to their desired certification within a 12-month period. Only RESNET ~~a~~Accredited ~~Rating Quality Assurance~~ Providers may certify candidates for the certifications . Rating Providers may require additional training instruction beyond these requirements as needed to address their specific program, climate, software, or administrative requirements.

### 204.2.1 Home Energy Survey Professional (HESP)

204.2.1.1 Pass the national HESP Exam with a minimum score as determined by RESNET~~of at least 75%.~~

### 204.2.2 Rating Field Inspector (RFI)

204.2.2.1 ~~Pass the RESNET graded field evaluation using the following RESNET JobWerks RFI Tool Tests:~~

204.2.2.1.1. ~~The RESNET Combustion Appliance Simulation Test exam. RFI candidates will not be required to complete the multiple choice portion of the Combustion Appliance Test~~

204.2.2.2 ~~At least three mentored rating field inspections observed by a certified HERS Rater or a RESNET Candidate Field Assessor using the RESNET JobWerks RFI Mentoring Tool to document results.~~

204.2.2.3.1 ~~The RESNET JobWerks RFI Assessment graded field evaluation shall be performed under the observation of a certified trainer, Quality Assurance Designee Candidate Field Assessor, or QAD Delegate.~~

204.2.2.3.1 ~~Complete at least five probationary Rating Field Inspections observed by a certified HERS rater or a quality assurance designee. The certified HERS Rater or QAD shall use the RESNET JobWerks RFI Tool to document the~~

~~results of probationary inspections.~~ The mentored and assessed probationary  
rRating fField inspections shall comprise at a minimum the following tasks.

**204.2.2.32.1** Use pressure differential diagnostics to identify intermediate buffer zones including (but not limited to) attics, garages, or crawlspaces.

**204.2.2.32.2** Identify insulation defects and account for them in energy analysis tool inputs.

**204.2.2.32.3** Identify insulation types, thickness, and alignment with air barriers.

**204.2.2.32.4** Measure pressure differences across the building envelope imposed by the operation of the home's equipment.

**204.2.2.32.5** Perform envelope leakage testing in accordance with the airtightness testing protocols contained in Chapter 8 – Performance Testing and Work Scope.

**204.2.2.32.6** Perform duct leakage testing in accordance with the duct testing protocols contained in Chapter 8 – Performance Testing and Work Scope and interpret results.

**204.2.2.32.7** Identify room and zone pressure imbalances caused by lack of ducted return air or pressure relief mechanisms such as transfer grilles or jumper ducts.

**204.2.2.32.8** Perform CAZ, spillage, and CO testing in accordance with Carbon Monoxide (CO) Test and Depressurization Test for the Combustion Appliance Zone (CAZ) protocols contained in ANSI/ACCA 12 QH, Appendix A, Sections A4 and A5.

~~**204.2.2.2.9** The effective date for item 204.2.2.2.8 is Jan 1, 2014. Rating Field Inspectors who were certified prior to Jan 1, 2014 shall pass the RESNET Combustion Appliance Test, and The Work Scope Development Tests before January 1, 2015.~~

**204.2.2.3** RFI's shall not complete independent field testing and inspections until they have satisfactorily completed the requisite three five mentored probationary R  
rating field Inspections per 204.2.2.2 204.1.5.2 and pass the RESNET JobWerks RFI  
Assessment graded field evaluation.

**204.2.2.4** After successfully completing the probationary-mentored rRating fField  
inspections and passing the RESNET JobWerks RFI Assessment Graded Field  
Evaluation, RFI's may be permitted to conduct all rating tasks contained under

Appendix A: “On-Site Inspections Procedures for Minimum Rated Features without having a certified Rater on site.”

### 204.2.3 Home Energy Rater (HERS Rater)

204.2.3.1 Pass the following national RESNET HERS Rater tests:

204.2.3.1.1 National HERS Rater Test with a minimum score as determined by RESNET

204.2.3.1.2 RESNET Combustion Appliance Simulation Test with a minimum score as determined by RESNET

204.2.3.1.3 RESNET Rater Simulation Practical Test with a minimum score determined by RESNET

~~the RESNET Combustion Appliance Simulation Test with a score of at least 85, the Work Scope Development Test with a score of at least 80 and the RESNET Rater Simulation Practical Test with a score of at least 80% on each exam.~~

~~204.2.3.2 Demonstrate competency at certain tasks mentored by a Certified Trainer by completing two training ratings. These ratings shall not contain any errors identified by RESNET approved rating software. Both ratings shall have a reasonably acceptable level of accuracy when compared to the trainer’s independent ratings of the same houses or building plans. The Trainer may choose these tasks to be performed in a hands-on environment, from house plans, or through RESNET approved computer simulations. However at least one of the two training ratings shall be a confirmed rating conducted in-person with a certified trainer on a real house. The candidate shall perform the following procedures during the confirmed training rating.~~

~~204.2.3.2.1 Use pressure differential diagnostics to identify intermediate buffer zones including (but not limited to) attics, garages, or crawlspaces.~~

~~204.2.3.2.2 Identify insulation defects and account for them in energy analysis tool inputs.~~

~~204.2.3.2.3 Identify insulation types, thickness, and alignment with air barriers.~~

~~204.2.3.2.4 Measure pressure differences across the building envelope imposed by the operation of the home's equipment.~~

~~204.2.3.2.5 Perform building envelope leakage testing in accordance with the airtightness testing protocols contained in Chapter 8—Performance Testing and Work Scope.~~

~~204.2.3.2.6 Perform duct leakage testing in accordance with the duct testing protocols contained in Chapter 8—Performance Testing and Work Scope and interpret results.~~



~~204.2.3.2.7~~ Identify room and zone pressure imbalances caused by lack of ducted return air or pressure relief mechanisms such as transfer grilles or jumper ducts.

~~204.2.3.2.8~~ Identify gas leaks using combustible gas sensing equipment. If a leak is found, recommend that a certified technician repair the leak.

~~204.2.3.2.9~~ Perform CAZ, spillage, and CO testing in accordance with Carbon Monoxide (CO) Test and Depressurization Test for the Combustion Appliance Zone (CAZ) protocols contained in ANSI/ACCA 12-QH, Appendix A, Sections A4 and A5.

~~204.2.3.2.3~~ After passing the all of the RESNET tests exam and completing the two training ratings, but prior to being certified, the candidate shall complete five three probationary ratings with a Rating Quality Assurance Provider overseen by a RESNET certified Candidate Field Assessor. At least three ~~wo~~ of the five three probationary ratings shall be confirmed ratings.

## 205

### RECERTIFICATION

~~205.1~~ RESNET To renew certification Home Energy Survey Professionals, Rating Field Inspectors, and HERS Raters, shall renew their certification every three years. Renewal requires the following: at least one of the following requirements every three years:

#### 205.1.1 Home Energy Survey Professionals.

Pass the national RESNET Home Energy Survey Test test appropriate to their certification once in a three year period.

205.1.2 Rating Field Inspectors. Document 18 hours of attendance at RESNET conferences, or RESNET approved Professional Development courses delivered by accredited RESNET Training Providers, or RESNET sessions at Affordable Comfort Institute conferences, EEBA conferences, or other events and venues as approved by RESNET. PD completed by RESNET certified individuals prior to achieving a higher certification will be applied toward the PD requirements of their new certification Pass the RESNET JobWerks RFI Assessment overseen by a RESNET certified Candidate Field Assessor once in a three year period.

#### 205.1.3 Certified Home Energy Raters

205.1.3.1 Pass the RESNET JobWerks HERS Rater Assessment overseen by a RESNET certified Candidate Field Assessor once in a three year period

; and:

205.1.3.2 Attend a RESNET conference once in a three year period

## 206 CAPABILITIES

Certified individuals shall have certain capabilities to perform the work required under their certification. The categories listed in this section are contained in *Chapter 3 – National Energy Ratings Technical Standards*, *Chapter 8 -Performance Testing and Work Scope*, and *Appendix A On-Site Inspection Procedures*. Certification candidates shall demonstrate proficiency at these capabilities through successful completion of certification requirements specified in *Section 204 - Certification Candidates*. Training providers should ensure that their curricula effectively cover these items.

## **206.1 Home Energy Survey Professional (HESP)**

Home Energy Surveys are primarily conducted on existing homes. HESPs do not perform any performance, diagnostic, or destructive testing. All capabilities listed here are limited to visually accessible items in the home unless otherwise noted.

### **206.1.1 General**

**206.1.1.1** Have a basic understanding of building performance evaluation.

**206.1.1.2** Complete a RESNET approved Home Energy Survey form.

**206.1.1.3** Demonstrate customer communication skills, ethics, and privacy.

### **206.1.2 Basics of specifications**

**206.1.2.1** Have a basic understanding of energy improvement measure interactions, expected life, and bundling for optimal performance considering the house-as-a-system and the emerging need for deep energy savings.

### **206.1.3 Health and Safety**

**206.1.3.1** Identify moisture issues such as condensation, leaks through building components, signs of mold or mildew, insect damage, efflorescence and stains.

**206.1.3.2** Identify potential combustion appliance safety hazards related to previous retrofit work.

**206.1.3.3** Identify evidence in combustion equipment of flame rollout, blocked chimneys, rust and corrosion, and missing or damaged vent connectors.

### **206.1.4 Building Science Concepts**

**206.1.4.1** Use appropriate energy terminology and definitions in home energy survey reports.

**206.1.4.2** Identify areas of potential envelope leakage, thermal bypasses, and thermal bridging.

## **206.1.5** Determining Conditioned Space

**206.1.5.1** Identify spaces as directly conditioned, indirectly conditioned, or unconditioned.

**206.1.5.2** Define the home's thermal boundary and make appropriate recommendations for changing the thermal boundary.

## **206.1.6** Building Components

**206.1.6.1** Identify exterior building components.

**206.1.6.2** Determine building orientation and shading characteristics.

**206.1.6.3** Measure building dimensions and use them to calculate gross and net areas.

**206.1.6.4** Estimate approximate age of building.

## **206.1.7** Insulation

**206.1.7.1** Identify the presence or absence of insulation and the quality of its installation when visually accessible.

**206.1.7.2** Determine thickness, R-value, and location of insulation.

**206.1.7.3** Recommend levels of insulation by climate zone.

## **206.1.8** Building Foundations

**206.1.8.1** Identify foundation type as crawl space, basement, or slab-on-grade.

**206.1.8.2** Identify foundation ventilation system types if present.

**206.1.8.3** Identify location, type, and approximate R-value of foundation insulation systems.

## **206.1.9** Framed Floors

**206.1.9.1** Identify location and type of floor system, its insulation type, thickness, and approximate R-value.

## **206.1.10** Above Grade Walls

**206.1.10.1** Determine wall types, insulation thickness, and approximate R-value.

**206.1.10.2** Identify signs of building additions.

**206.1.11** Windows, doors, and skylights

**206.1.11.1** Identify window and skylight types, frame materials, and permanently installed shading devices.

**206.1.11.2** Determine window, door, and skylight efficiencies and performance factors.

**206.1.12** Rim or Band Joist

**206.1.12.1** Determine insulation type, thickness, and approximate R-value.

**206.1.13** Ceilings

**206.1.13.1** Determine ceiling type, insulation thickness, and approximate R-value.

**206.1.14** Attic

**206.1.14.1** Identify type of attic and location of attic venting.

**206.1.15** Roof

**206.1.15.1** Identify approximate age, type, and color of roofing materials.

**206.1.15.2** Determine approximate R-value if insulated.

**206.1.16** HVAC Systems

**206.1.16.1** Identify types, model numbers, and location of systems.

**206.1.16.2** Determine equipment efficiencies from equipment labels, model numbers or default tables.

**206.1.16.3** Identify HVAC pros/cons, drivers and sensitivities for major system types.

**206.1.16.4** Identify basic combustion appliance concerns.

**206.1.17** Domestic Hot Water Systems

**206.1.17.1** Identify system types and efficiency factors from equipment labels, model numbers, or default tables.

**206.1.18** Air Leakage

**206.1.18.1** Identify common air-leakage sites and indicate likely opportunities for leakage reduction.

**206.1.18.2** Identify mechanical systems likely to cause air-leakage or pressure imbalances.

**206.1.19** Duct Leakage

**206.1.19.1** Determine duct type, location, and R-value.

**206.1.19.2** Identify obvious leakage locations and indications of previous sealing.

**206.1.20** Ventilation Systems

**206.1.20.1** Identify presence and type of exhaust fans and determine whether they vent to outdoors.

**206.1.21** Appliances and Lighting

**206.1.21.1** Estimate efficiency from model numbers or vintage.

**206.1.21.2** Identify potential lighting upgrades.

**206.2 Rating Field Inspector (RFI)**

A Rating Field Inspector is permitted to conduct all tasks contained within Appendix A. A Certified Rating Field Inspector shall have proficiency at the capabilities of a HESP in addition to the following items.

**206.2.1** General

**206.2.1.1** Use field inspection forms to identify and document the minimum rated features of the Reference Home and Rated Home in accordance with the requirements of Section 303.4 – HERS Reference Home and Rated Home Configuration and Appendix A – On-Site Inspection Procedures.

**206.2.1.2** Identify potential problems with the building such as health and safety concerns, building durability issues, potential comfort problems, and possible elevated energy use.

**206.2.1.3** Identify basic home construction types and the ramifications of these for energy usage.

**206.2.2** Determining Conditioned Space

**206.2.2.1** Use pressure differential diagnostics to identify intermediate buffer zones including (but not limited to) attics, garages, or crawlspaces.

**206.2.2.2** Determine conditioned space as defined in Appendix A.

### **206.2.3 Health and Safety**

**206.2.3.1** Identify problems related to poor indoor air quality (IAQ), building durability, and human comfort.

**206.2.3.2** Identify potential presence of mold and potential causes.

### **206.2.4 Moisture Principles and Properties**

**206.2.4.1** Identify potential or existing moisture issues (bulk water intrusion, capillary action, air transport, vapor diffusion).

### **206.2.5 Measuring Building Components**

**206.2.5.1** Use construction documents such as building drawings and specification sheets, or actual measured building dimensions to produce a scaled and dimensioned sketch of a home.

### **206.2.6 Collecting Field Data (including photo documentation)**

**206.2.6.1** Determine building orientation.

**206.2.6.2** Measure window overhang lengths, heights, and distances from top and bottom of windows.

**206.2.6.3** Determine roof slopes, gable heights, etc.

**206.2.6.4** Calculate gross and net areas and volumes.

### **206.2.7 Insulation**

**206.2.7.1** Identify insulation types, thickness measurements, common usage locations, and alignment with air barriers.

**206.2.7.2** Identify insulation defects, and grading (I, II, III).

### **206.2.8 Building Foundations**

**206.2.8.1** Identify type as crawl space, basement, or slab.

**206.2.8.2** Identify ventilation system types.

**206.2.8.3** Identify location, type, and R-value of insulation systems.

### **206.2.9 Framed Floors**

**206.2.9.1** Determine if framed floors are exposed to unconditioned, interstitial, or the outdoors.

**206.2.9.2** Determine floor system type and frequency of framing members.

**206.2.9.3** Determine insulation thickness, type, and grade (I, II, or III).

**206.2.10** Slab-on-Grade

**206.2.10.1** Identify slab as covered or exposed.

**206.2.11** Above Grade Walls

**206.2.11.1** Determine if walls are exposed to interstitial, unconditioned, or the outdoors.

**206.2.11.2** Determine construction type, thickness, and exterior color.

**206.2.12** Windows and Doors

**206.2.12.1** Identify window labels, framing types and materials, U-factors, reflective and low-e films and coatings, shading and overhangs, and orientation.

**206.2.12.2** Identify exterior door types, insulation, and orientation.

**206.2.12.3** Identify glass-area of exterior doors and windows.

**206.2.13** Heating and Cooling Systems

**206.2.13.1** Determine equipment efficiencies using equipment data (make, model, nameplate data), AHRI or other current accepted guides, or age-based defaults.

**206.2.13.2** Identify space-conditioning systems as active or passive.

**206.2.13.3** Identify heating system properties: fuel type, burner type, venting type, distribution type, and efficiency.

**206.2.13.4** Identify ~~g~~Ground-source heat pumps, air-source heat pumps, and air conditioning ~~—~~systems.

**206.2.13.5** Identify ductless systems (hydronic, steam, electric).

**206.2.13.6** Identify combo systems.

**206.2.13.7** Identify solar thermal systems.

**206.2.13.8** Identify control types (standard thermostats, programmable thermostats, multi-zone controls).

**206.2.13.9** Identify sizing and design issues, control types, and their impacts on energy use and humidity control.

**206.2.13.10** Identify summer and winter design temperatures.

**206.2.13.11** Identify cooling and heating system design trade-offs.

**206.2.14** Gas Leakage Testing

**206.2.14.1** Identify gas leaks using combustion gas sensing equipment.

**206.2.15** CAZ Testing

**206.2.15.1** Perform CAZ, spillage, and CO testing in accordance with Carbon Monoxide (CO) Test and Depressurization Test for the Combustion Appliance Zone (CAZ) protocols contained in ANSI/ACCA 12 QH, Appendix A, Sections A4 and A5. Perform CAZ depressurization, spillage, and CO testing.

**206.2.15.2** Identify room and zone pressure imbalances caused by lack of ducted return air or pressure relief mechanisms such as transfer grilles or jumper ducts. Identify CAZ depressurization issues caused by duct return leaks in the CAZ zone, supply leaks outside the house pressure boundary, zonal pressure imbalances, and/or exhaust appliances including other combustion equipment.

**206.2.15.3** Identify gas leaks using combustible gas sensing equipment. If a leak is found, recommend that a certified technician repair the leak.

**206.2.16** Air Leakage

**206.2.16.1** Identify air leakage mechanisms and drivers, energy and comfort implications, and health and safety issues.

**206.2.16.2** Perform single-point and multi-point building envelope leakage testing in accordance with the airtightness testing protocols contained in Chapter 8 – Performance Testing and Work Scope.

**206.2.16.3** Identify potential air sealing using zonal pressure differentials and measurement techniques

**206.2.16.4** Measure pressure differences across the building envelope imposed by the operation of the home's equipment.

**206.2.17** Conditioned Air Distribution Systems



**206.2.17.1** Identify impacts of designed and imposed flaws (closed interior doors, blocked registers and grilles, air handler filters).

**206.2.17.2** Identify duct supply and return types (flexible, rigid metal, building chase, insulated panels) and locations with respect to thermal and air barriers.

**206.2.17.3** Identify room and zone pressure imbalances caused by lack of ducted return air or pressure relief mechanisms such as transfer grilles or jumper ducts.

**206.2.17.4** Perform duct leakage testing in accordance with the duct testing protocols contained in Chapter 8 – Performance Testing and Work Scope and recommend sealing as needed based on test results.

**206.2.17.5** Determine need for duct insulation in unconditioned spaces and specify thickness of retrofit insulation if needed.

### **206.2.18** Ventilation

**206.2.18.1** Identify fresh air ventilation from supply, exhaust and balanced flow systems.

**206.2.18.2** Identify heat-recovery ventilation (HRV) and energy-recovery ventilation (ERV) systems.

**206.2.18.3** Determine HRV or ERV efficiency, fan power and duty cycle characteristics.

## **206.3 Home Energy Rating System Rater (HERS Rater)**

A Certified Home Energy Rater shall have proficiency at the knowledge and abilities of a HESP and a Rating Field Inspector in addition to the following.

### **206.3.1** General

**206.3.1.1** Understand and be familiar with local climate conditions, housing stock, and climate-specific practices.

**206.3.1.2** Understand local utility pricing structures (flat vs. tiered rates, net-metering regulations) and sources for reliable utility information.

**206.3.1.3** Prepare a detailed work scope.

**206.3.1.4** Develop field inspection forms.

**206.3.1.5** Identify major U.S. climate zones and energy consumption impacts of local climate zone.

## **206.3.2** RESNET Rating System

**206.3.2.1** Communicate the business aspects of being a RESNET HERS Rater.

**206.3.2.2** Maintain current knowledge of the HERS Rating method using the Reference Home as defined in 304.3 of the National Home Energy Rating Technical Guidelines.

**206.3.2.3** Conduct both projected and confirmed building simulation and performance analysis to provide HERS Ratings in accordance with the requirements in Chapter 3 – National Energy Rating Technical Standards and Chapter 8 – Performance Testing and Work Scope.

**206.3.2.4** Use RESNET approved energy analysis software capable of producing a HERS Index, data entry procedures, reporting, and analysis of results.

**206.3.2.5** Calculate HERS Score computation using the Normalized Modified Loads Rating Method.

**206.3.2.6** Communicate the benefits of the Home Energy Rating System to homeowners, builders, finance and real estate agents and cultivate partnerships between those individuals.

**206.3.2.7** Assist and educate customers and builders with:

**206.3.2.7.1** Home Energy Surveys and Home Energy Ratings.

**206.3.2.7.2** Cost effectiveness of energy efficient building design.

**206.3.2.7.3** Quality assurance.

**206.3.2.7.4** Marketing of HERS Rated Homes.

**206.3.2.7.5** Qualifications for programs such as ENERGY STAR®.

**206.3.2.7.6** Real estate financing, economic terminology, and energy code compliance.

**206.3.2.7.7** Financing advantages of Energy Efficient Mortgages (EEM) and Energy Improvement Mortgages (EIM).

**206.3.2.7.8** Adding appraisal value through energy improvements.

**206.3.2.8** Provide excellent customer service in an ethical and fully disclosed manner.

**206.3.2.9** Produce reports which meet minimum reporting requirements and improvement analysis.

**206.3.2.10** Maintain standard operating procedures and office administration.

**206.3.2.11** Maintain knowledge of current technical guidelines.

## 207 RECIPROCIITY

Nationally accredited Home Energy Rating Providers shall accept certified training provided by an accredited Training Provider as meeting the core competencies for a Home Energy Rater. Accredited Home Energy Rating Providers may add additional training requirements needed to address their specific program, climate, software or administrative requirements.

# Appendix B

## GLOSSARY OF TERMS

***Accredited Rater Training Provider or Training Provider*** - A Rater Training Provider accredited by RESNET in accordance with Chapters 2 and 9 of RESNET Standards to ~~train~~ instruct individuals to become Raters certified by Accredited Rating Quality Assurance Providers. Only RESNET Accredited Rater Training Providers can offer rater ~~training instruction~~ and set up the national rater tests.

***Approved Rating Quality Assurance Provider*** – Shall mean a RESNET-accredited RESNET Quality Assurance Provider who is listed in good standing in the National RESNET Registry.

~~***Comprehensive Home Energy Audit*** – A level of the RESNET Home Energy Audit process defined by this standard to include the evaluation, diagnosis and proposed treatment of an existing home. The Comprehensive Home Energy Audit may be based on a Home Performance Assessment (“Comprehensive Home Performance Energy Audit”) or Home Energy Rating (“Comprehensive HERS Audit”), in accordance with the criteria established by this Standard. A homeowner may elect to go through this process with or without a prior Home Energy Survey or Diagnostic Home Energy Survey.~~

***Examination*** - Test developed by RESNET and administered by an accredited Rater Training Provider ~~from questions developed by Training and Education Committee.~~

***Home Energy Rater, or HERS Rater or Rater*** – An individual meeting the minimum training requirements for Raters set forth in Chapter 2 of these Standards, documented by an Accredited RESNET Training Provider, and certified by an Accredited Rating Quality Assurance Provider

to inspect a home to evaluate the minimum rated features and complete Home Energy Ratings (see also Rating Field Inspector ~~and Senior Certified Rater~~).

***Home Energy Rater Candidate, or Rater Candidate*** – An individual who has received instruction from a RESNET Accredited Rater Training Provider and has passed the required RESNET tests. ~~completed two (2) supervised ratings with a RESNET Accredited Training Provider, passed the National Core Rater Test and is in the process of completing three (3) additional probationary ratings necessary for certification by an Accredited Rating Quality Assurance Provider as a Home Energy Rater.~~

***Home Energy Rating Quality Assurance Provider, or HERS QA Provider, or Rating Provider-***  
See Accredited Rating Quality Assurance Provider.

***Home Energy Rating Quality Assurance Provider, or HERS QA Provider, or Rating Provider-***  
See Accredited Rating Quality Assurance Provider.

***Home Energy Survey, Diagnostic*** – ~~A level of the RESNET Home Energy Survey in accordance with this standard, consisting of an In-Home Home Energy Survey and additional diagnostic testing.~~

***National Core HERS Rater Test*** - Computer-based examination developed ~~by the Residential Energy Services Network's (RESNET) Training and Education Committee~~ and administered by RESNET.

***Quality Assurance Committee (QA Committee)*** – ~~A Standing Committee of the RESNET organization that is responsible for the oversight of RESNET's rating quality assurance program, review and ruling on the merits of formal Ethics and Consumer Complaints received by RESNET, and review and rule on the merits of all appeals of non-approval or renewal of an application, probation, suspension, or revocation.~~

***Rater Instructor Trainer, Certified*** - An individual certified by RESNET and designated by an Accredited Rater Training Provider to provide instruction and assistance to candidate trainees. ~~A class instructor who has demonstrated, by means of passing the RESNET National Rater Trainer Competency Test, mastery of the building science and rating system and competency necessary to effectively teach Rater training courses.~~ Only RESNET certified Rater Instructors Trainers can provide rater ~~training~~ instruction under the auspices of a RESNET accredited Rater Training Provider.

***RESNET Candidate Field Assessor*** – An individual certified by RESNET and designated by an accredited RESNET Rating Quality Assurance Provider to conduct probationary and field assessments for candidates.

***RESNET Combustion Appliance Simulation Test or Combustion Appliance Test*** – Simulation based practical test adopted by RESNET used for the assessment of RFI and HERS Rater candidates

*RESNET Rater Simulation Practical Test* – Simulation based practical test adopted by RESNET used for the assessment of HERS Rater candidates.

*RESNET JobWerks RFI Assessment* - Tablet-based software adopted by RESNET, residing in the cloud, used for assessment of RESNET RFI candidates.

*RESNET JobWerks RFI Mentoring Tool*- Tablet-based software adopted by RESNET, residing in the cloud, used for ~~coaching, tracking and assessment~~ mentoring of RESNET RFI Candidates.

*RESNET JobWerks HERS Rater Assessment* – Tablet-based software adopted by RESNET, residing in the cloud, used for assessment of RESNET HERS Raters.

~~*RESNET National Rater Trainer Competency Test*~~—Certification test developed and administered by RESNET to ensure that accredited Rater Training Providers’ trainers have the requisite knowledge and competence to serve as trainers for prospective certified Raters. The test is based on the national core competency exam developed and maintained by RESNET.

~~*Technical Committee*~~—A Standing Committee of the RESNET organization that is responsible for review and oversight of the RESNET Technical Standards (Chapter 3).

~~*Training and Education Committee*~~—A Standing Committee of the RESNET organization that is responsible for overseeing RESNET training, RESNET tests, and education and professional development for RESNET Providers and Raters.

Effective Date: 60 days after adoption by the RESNET Standards Management Board

#### **Justification:**

Across the nation the RESNET HERS Index Score is fast becoming a mainstream in the housing market. Homebuilders are having their homes energy rated and are marketing the HERS Index Score of their homes. Multiple Listing Services (MLS) are incorporating the HERS Index Scores in their listings and code jurisdictions are recognizing a HERS Index Score as a building energy code compliance option. With the increased visibility of the HERS Index Score, RESNET is obligated to ensure that HERS Index Scores are as consistent as possible.

This need has been made more important with the International Code Council adopting an Energy Rating Index option to the 2015 International Energy Conservation Code.

RESNET has embarked on a comprehensive effort to enhance the consistency of HERS Index Scores nationally. This includes the upgrading of its quality assurance standards and procedures.

A key component for ensuring the consistency of the HERS Index is a robust process for the instruction, assessment and certification of HERS Rater and Rating Field Inspector candidates.

RESNET is proposing a set of amendments to its candidate certification process. Major elements of the proposed changes are:

- Redefined and made rational the instruction, assessment, certification and re-certification of Rating Field Inspector (RFI) and HERS Rater candidates.
- Clarified the relationship between instruction and certification of RFI and HERS Rater candidates. This is intended to bridge the current gap in the responsibilities between Rater Training Providers and HERS Quality Assurance Providers on the assessment of HERS Rater candidates.
- Redefined the role of a Rater Trainer to be a Rater Instructor and created a Rater Candidate Field Assessor responsible for oversight of candidate probationary ratings.
- Changed HERS Rater recertification requirements by removing Professional Development and replacing with field testing.