RESNET
RESIDENTIAL ENERGY SERVICES NETWORK

MINHERS Addendum 59

Revision of Chapter 2
Include Modeling Skills in HERS Rater Capabilities & Recertification

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Proponent: SDC 200

Organization: RESNET

Purpose:

Proposed Addendum 59 revises the MINHERS Chapter 2 to set clear HERS Modeler skills criteria for certification of new HERS Raters and recertification of current HERS Raters.

Certified HERS Raters were grandfathered in as HERS Modelers and HERS Modelers are required to have professional development to retain the certification for modeling HERS Ratings. To maintain consistency in the requirements as well as to improve modeling consistency, the Addendum requires HERS Raters to meet the recertification requirements for HERS Modelers as part of their 18 hours of Professional Development. The HERS Rater training includes HERS Modeler training for new Raters seeking certification and HERS Rater capabilities now include those of a HERS Modeler.

Amendment:

Revise the Sections of the MINHERS Chapter 2 as follows:

Chapter 2- RESNET NATIONAL STANDARD FOR INSTRUCTION, ASSESSMENT AND CERTIFICATION

207 Recertification

207.1 Certification Renewal:

RESNET certified Rating Field Inspectors, HERS Modelers, and HERS Raters, shall renew their certification every three years. They shall complete the following:

207.1.1 Rating Field Inspectors

Pass the RESNET graded field evaluation overseen by a RESNET certified Candidate Field Assessor once in a three year period.

207.1.2 HERS Modelers

207.1.2.1 Attend a HERS Modeler Professional Development course offered by a RESNET Accredited Training Provider. Each course shall be reviewed and approved by RESNET Accredited Software Provider(s) for which the course is being offered. The HERS Modeler must complete professional development once in a three year period for each RESNET Accredited Software program with which they create HERS models.

207.1.3 Certified Home Energy Raters

207.1.3.1 Attend a RESNET approved conference once every three years to meet 18 hours of professional development requirements OR

207.1.3.2 Complete 18 hours of RESNET approved professional development from a RESNET Accredited Training Provider every three years

207.1.3.3 Attend HERS Modeler Professional Development course(s) offered by a RESNET Accredited Training Provider. Each course shall be reviewed and approved by RESNET Accredited Software Provider(s) for which the course is being offered. The HERS Rater must complete professional development once in a three year period for each RESNET Accredited Software program with which they create HERS models. The hours completed as part of this requirement shall be included as part of the required 18 hours of professional development.

207.1.3.4 Certified Home Energy Raters who have not completed any Confirmed, Sampled, or Threshold ratings within the three-year certification period shall successfully complete one RESNET graded-field evaluation, in addition to satisfying either 207.1.23.1 or 207.1.23.2, and 207.1.3.3.

207.2 Failure to Achieve Recertification Criteria

207.2.1 RESNET certified Rating Field Inspectors, HERS Modelers and HERS Raters that fail to meet the requirements for recertification shall be placed on "Suspension - Administrative" status in the RESNET Registry by their affiliated RESNET QA Provider on the date of the expiration of their certification, and shall be barred from conducting rating inspection or certification activities until they have successfully met the criteria for recertification.

207.2.2   RESNET certified Rating Field Inspectors, HERS Modelers and HERS Raters that fail to successfully meet the criteria for recertification by 180 days past the date of expiration of their certification shall be revoked by their affiliated RESNET QA Provider per Section 102.1.4.7.3.

208   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 - , ANSI/RESNET/ICC 380-2016, and Appendix 1 - On-Site Inspection Procedures for Minimum Rated Features. Certification candidates shall demonstrate proficiency at these capabilities through successful completion of certification requirements specified in See Section 206 Certification Candidates. Training providers should ensure that their curricula effectively cover these items.

208.1   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 listed below.

208.1.1   General

208.1.1.1   Have a basic understanding of building performance evaluation.

208.1.1.2   Demonstrate customer communication skills, ethics, and privacy.

208.1.1.3   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 ANSI/RESNET/ICC 301-2014 – Energy Rating Reference Home and Rated Home Configuration and MINHERS Appendix A.

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

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

208.1.2   Basics of specifications

208.1.2.1   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.

208.1.3   Determining Conditioned Space Volume

208.1.3.1   Determine the Conditioned Space Volume of a dwelling unit as defined in Appendix B.

208.1.4   Health and Safety

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

208.1.4.2   Identify potential combustion appliance safety hazards.

208.1.4.3   Identify evidence in combustion equipment of flame rollout, blocked chimneys, rust and

corrosion, and missing or damaged vent connectors.

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

208.1.4.5 Identify potential presence of mold and potential causes.

208.1.5 Building Science Concepts

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

208.1.6 Moisture Principles and Properties

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

208.1.7 Building Components

208.1.7.1 Identify exterior building components.

208.1.7.2 Determine building orientation and shading characteristics.

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

208.1.7.4 Estimate the approximate age of a building.

208.1.8 Measuring Building Components

208.1.8.1 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.

208.1.9 Collecting Field Data (including photo documentation)

208.1.9.1 Determine building orientation.

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

208.1.9.3 Determine roof slopes, gable heights, etc.

208.1.9.4 Calculate gross and net areas and volumes.

208.1.10 Insulation

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

208.1.10.2 Determine thickness, R-value, and location of insulation.

208.1.10.3 Recommend levels of insulation by climate zone

208.1.10.4 Identify insulation types, thickness measurements, common usage locations, and alignment with

air barriers.

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

208.1.11 Building Foundations

208.1.11.1 Identify type as crawl space, basement, or slab.

208.1.11.2 Identify ventilation system types.

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

208.1.12 Framed Floors

208.1.12.1 Identify location and type of floor system, its insulation type, thickness, and approximate R-value

208.1.12.2 Determine if framed floors are exposed to Conditioned Space Volume, Unconditioned Space Volume, or the outdoors.

208.1.12.3 Determine floor system type and frequency of framing members.

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

208.1.13 Slab-on-Grade

208.1.13.1 Identify slab as covered or exposed.

208.1.14 Above Grade Walls

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

208.1.14.2 Identify signs of building additions.

208.1.14.3 Determine if walls are exposed to Conditioned Space Volume, Unconditioned Space Volume, or outdoors.

208.1.14.4 Determine construction type, thickness, and exterior color.

208.1.15 Windows, Doors and Skylights

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

208.1.15.2 Determine window, door, and skylight efficiencies and performance factors.

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

208.1.15.4 Identify exterior door types, insulation, and orientation.

208.1.15.5 Identify glass-area of exterior doors and windows.

208.1.16 Rim or Band Joist

208.1.16.1 Determine insulation type, thickness, and approximate R-value.

208.1.17 Ceilings

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

208.1.18 Attic

208.1.18.1 Identify type of attic and location of attic venting.

208.1.19 Roof

208.1.19.1 Identify approximate age, type, and color of roofing materials.

208.1.19.2 Determine approximate R-value if insulated.

208.1.20 Heating and Cooling Systems

208.1.20.1 Identify types, model numbers, and location of systems.

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

208.1.20.3 Identify basic combustion appliance concerns

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

208.1.20.5 Identify space-conditioning systems as active or passive.

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

208.1.20.7 Identify Ground-source heat pumps, air-source heat pumps, and air conditioning systems.

208.1.20.8 Identify ductless systems (hydronic, steam, electric).

208.1.20.9 Identify combo systems.

208.1.20.10 Identify solar thermal systems.

208.1.20.11 Identify control types (standard thermostats, programmable thermostats, multi-zone controls.

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

208.1.20.13 Identify summer and winter design temperatures.

208.1.20.14 Identify cooling and heating system design trade-offs.

208.1.21 Domestic Hot Water Systems

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

208.1.22 Gas Leakage Testing

208.1.22.1 Identify gas leaks using combustible gas sensing equipment.

208.1.23 CAZ Testing

208.1.23.1 Perform CAZ depressurization, 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.

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

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

208.1.24 Air Leakage

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

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

208.1.24.3 Perform single-point and multi-point building envelope leakage testing in accordance with the airtightness testing protocols contained in [ANSI/RESNET/ICC 380-2016](#).

208.1.24.4 Identify potential air sealing using zonal pressure differentials and measurement techniques.

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

208.1.25 Conditioned Air Distribution Systems

208.1.25.1 Determine duct type, location, and R-value.

208.1.25.2 Identify obvious leakage locations and indications of previous sealing.

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

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

208.1.25.5 Identify room and zone pressure imbalances caused by lack of ducted return air or pressure relief

mechanisms such as transfer grilles or jumper ducts.

208.1.25.6 Perform duct leakage testing in accordance with the duct testing protocols contained in ANSI/RESNET/ICC 380-2016 and recommend sealing as needed based on test results.

208.1.25.7 Determine need for duct insulation in Unconditioned Space Volumes and specify thickness of retrofit insulation if needed.

208.1.26 Ventilation

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

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

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

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

208.1.27 Appliances and Lighting

208.1.27.1 Estimate efficiency from model numbers or vintage.

208.1.27.2 Identify potential lighting upgrades.

208.2 HERS Modeler

A HERS Modeler is permitted to create and/or edit rating models for HERS rating purposes under the supervision of a Certified HERS Rater. A Certified HERS Modeler shall have proficiency in the capabilities listed below.

208.2.1 Understand and interpret plans, builder specifications, and field data forms/documentation.

208.2.2 Reference "Help Menu" and online technical support resources to resolve specific modeling questions.

208.2.3 Understand and reference RESNET Standards to maintain compliance with "user" modeling requirements for calculating HERS Ratings.

208.2.4 Create a projected HERS Rating from plans and Builder specifications using RESNET Accredited HERS Modeling software tool.

208.2.5 Create a Confirmed Rating from a rater/RFI's field data collection forms using RESNET Accredited HERS Modeling software tool.

208.3 Home Energy Rating System Rater (HERS Rater)

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

208.3.1   General

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

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

208.3.1.3 Prepare a detailed work scope.

208.3.1.4 Develop field inspection forms.

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

208.3.2   RESNET Rating System

208.3.2.1 Communicate the business aspects of being a RESNET HERS Rater.

208.3.2.2 Maintain current knowledge of the HERS Rating method using the Reference Home as defined in ANSI/RESNET/ICC 301-2014.

208.3.2.3 Conduct both projected and confirmed building simulation and performance analysis to provide HERS Ratings in accordance with the requirements in Chapter 3 - and ANSI/RESNET/ICC 380-2016.

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

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

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

208.3.2.7 Assist and educate customers and builders with:

208.3.2.7.1 Home Energy Surveys and Home Energy Ratings.

208.3.2.7.2 Cost effectiveness of energy efficient building design.

208.3.2.7.3 Quality assurance.

208.3.2.7.4 Marketing of HERS Rated Homes.

208.3.2.7.5 Qualifications for programs such as ENERGY STAR®.

208.3.2.7.6 Real estate financing, economic terminology, and energy code compliance.

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

208.3.2.7.8 Adding appraisal value through energy improvements.

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

208.3.2.9 Produce reports which meet minimum reporting requirements and improvement analysis.

208.3.2.10 Maintain standard operating procedures and office administration.

208.3.2.11 Maintain knowledge of current technical guidelines.