

BESTEST)—NREL Report no. NREL/TP-472-7332 which is administered by, and has pass-fail criteria set by the accrediting body.

(b) Future tool requirements. On or before [insert date four years from the date of the final rule], each HERS provider accredited under these guidelines, shall have updated their energy analysis tool to be capable of rating the following additional features—

- (1) Thermostat set-back and set-up;
- (2) Effects of part load and weather conditions on HVAC systems;
- (3) Demand and time of use utility rates;
- (4) Solar water heating;
- (5) Trombe walls;
- (6) Sunspaces; and
- (7) Whole house fans.

(c) Energy analysis tools that are certified under paragraph (a)(5) of this section must be retested and recertified if a new version of the tool is released that includes changes to the engineering algorithms.

§ 437.201 Site data collection manual.

Each HERS provider shall provide each data collector with a manual containing procedures for the on site collection of data that are:

(a) Consistent with those provided in Guideline No. 10 of the Home Energy Rating Systems Council HERS Guidelines, titled "On Site Inspection Procedures"; or

(b) Established or approved by the accrediting body and updated as supplemental or revised information becomes available.

§ 437.202 Training home energy raters.

Each person seeking a position as a full rater, data collector, or data analyst for any HERS provider shall receive training prior to performing rating tasks without supervision. The training will be conducted in accordance with a syllabus developed by each HERS provider. The syllabus must specify subjects that are applicable to each position (i.e. full rater, data collector or data analyst) and must include—

(a) Classroom training. Each rater shall receive classroom training on—

- (1) Basic principles of heat transfer (i.e., viewing the home as a system);
- (2) The minimum rated features of buildings;
- (3) Variations in construction types and their ramifications;
- (4) Types and efficiencies of windows;
- (5) Types and efficiencies of heating, cooling, water heating, and lighting systems;

(6) Types and characteristics of space conditioning and domestic hot water distribution systems;

- (7) Types of thermostatic controls;
- (8) Determination of azimuth;
- (9) Determination of air leakage;
- (10) Determination of fuels used by major appliances;
- (11) Utility rate structures;
- (12) On-site inspection procedures;
- (13) Producing a scale and dimension drawing of a home;
- (14) Calculating the area of rectangles, triangles, circles, ovals and combinations of these shapes;
- (15) Calculating the volume of boxes, pyramids, spheres, and other geometric shapes;
- (16) Communicating the benefits of energy saving measures and practices to the consumer; and
- (17) Quality assurance.

(b) Written examination. Each rater shall be given a written examination that evaluates the rater's understanding of the subjects in paragraph (a) of this section.

(c) Field training. Each rater shall perform two ratings (or portions of ratings for those seeking to be data collectors or data analysts), including software operations, in the presence of trainers.

(d) Probationary period. Each rater shall complete a probationary period where close supervision is provided. This period covers a minimum of five ratings, after which the supervisor shall determine if additional training is needed.

(e) Challenge test. A challenge test may be taken, which, if passed in all competencies, will waive the classroom training requirement. The requirements of paragraphs (c) and (d) of this section may not be waived.

§ 437.203 Quality control.

(a) Each HERS provider shall establish a quality assurance plan that includes—

- (1) Periodic peer review and re-evaluation of raters;
- (2) Random auditing of each rater's work;
- (3) Evaluation of the training program by raters after field experience;
- (4) Customer evaluation of rating services;
- (5) Random review of the inputs into the rating tool to ensure that they are consistent with the data collected in the field; and
- (6) Verification of the accuracy and completion of the input forms and output of the first five ratings performed by each rater.

(b) Each HERS provider shall maintain a permanent quality assurance file that is updated at least every two

years or when changes to the system are made, and contains—

- (1) A description of local rate structures for electricity, gas and other locally used fuels;
 - (2) A description of climatological data (including interpolation methods) used;
 - (3) A description of the data storage and maintenance systems including—
 - (i) Software for database;
 - (ii) Training for data entry personnel; and
 - (iii) Data quality assurance procedures that will be exercised;
 - (4) A description of each rating tool that the HERS provider uses including a list of which home types the tool supports;
 - (5) The results and date of the certified accuracy test conducted for the rating tool;
 - (6) An example of the rating outputs that are produced;
 - (7) The materials and tests used to provide training for home energy raters;
 - (8) The materials used to document the site data collection procedures; and
 - (9) A description of the individual elements of the quality assurance plan set forth in paragraph (a) of this section.
- (c) Each HERS provider shall maintain an electronic database of information for each home rated. The minimum content of the database is—
- (1) A unique file reference or ID number;
 - (2) Date of on-site inspection;
 - (3) Raters name;
 - (4) Tool name and version;
 - (5) Identification of weather data used for the rating;
 - (6) Type of rating, either complete or projected;
 - (7) Use of rating, either—
 - (i) Time of sale rating;
 - (ii) Pre-home improvement rating;
 - (iii) Post home improvement rating; or
 - (iv) Information only rating;
 - (8) Address of rated home;
 - (9) Home type;
 - (10) Floor area of conditioned space;
 - (11) Fuel types used by building HVAC and water heating systems;
 - (12) Minimum rated feature energy efficiency data used to determine the rating;
 - (13) In the four categories of heating, cooling, water heating and all other uses, the—
 - (i) Estimated annual purchased energy consumption in total;
 - (ii) Estimated annual purchased energy consumption by fuel;
 - (iii) Estimated annual energy cost in total; and
 - (iv) Estimated annual energy cost by fuel.
 - (14) Estimated total annual energy cost for all uses; and