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H E R S

HOME ENERGY RATING SYSTEM

REGULATIONS

CALIFORNIA
ENERGY
COMMISSION



**EXPRESS TERMS
45 DAY LANGUAGE**

COMMISSION PROPOSED REGULATIONS

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Arnold Schwarzenegger
Governor



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Abstract

Public Resources Code (PRC) Section 25942 directs the Energy Commission to adopt a statewide California Home Energy Rating System (HERS) Program for residential dwellings. Phase I of the California HERS Program, which was adopted in 1999, established the basic operating framework of the program, including training and certification procedures for raters, quality assurance procedures, and data collecting and reporting requirements for raters who are performing field verification and diagnostic testing services for demonstrating compliance with Title 24 Building Energy Efficiency Standards.

These proposed revisions to the HERS regulations implement the Phase II of the HERS Program by extending Phase I to cover whole-house home energy ratings of existing (and newly constructed) homes. Phase II will put in place the remaining elements of PRC Section 25942:

- Consistent, accurate, and uniform ratings based on a single statewide rating scale.
- Reasonable estimates of potential utility bill savings, and reliable recommendations on cost-effective measures to improve energy efficiency.
- Labeling procedures that will meet the needs of home buyers, homeowners, renters, the real estate industry, and mortgage lenders with an interest in home energy ratings.
- Proposed approaches for determining measure cost-effectiveness and recommendations for energy efficiency improvements, including cross checking against utility bills.

Keywords: Whole-House Home Energy Rater, Home Energy Auditor, Home Energy Inspector, Home Energy Analyst, Building Performance Contractor, California Home Energy Rating System Program, HERS, HERS rating systems, HERS rating scale, utility bills, cost-effectiveness, field verification and diagnostic testing

California Home Energy Rating System Program

CALIFORNIA CODE OF REGULATIONS, TITLE 20, Chapter 4, Article 8, Sections 1670 - 1675

1670. Scope.

These regulations establish the California Home Energy Rating System (herein referred to as HERS) Program pursuant to Public Resources Code Section 25942, including procedures for the training and certification of raters, and a certification program for home energy rating system organizations (herein referred to as providers) and for home energy rating services (herein referred to as rating systems). ~~These regulations apply only to field verification and diagnostic testing services pursuant to Chapter 7 of the ACM Manual for demonstrating compliance with Title 24 building energy performance standards. Regulations for other home energy rating services will be addressed in a subsequent rulemaking proceeding. Until the subsequent rulemaking is concluded, home energy rating system services other than field verification and diagnostic testing are not required to be certified.~~ The HERS Technical Manual, Publication No. CEC-400-2008-012, September 2008, which is defined below, shall be incorporated by reference.

The California HERS Program regulations apply to the use of HERS raters to provide two key services:

- (1) Field verification and diagnostic testing as required by Title 24, Part 6.
- (2) Whole-House Home Energy Ratings of newly constructed and existing homes.

NOTE: In the course of providing a Whole-House Home Energy Rating, a home energy audit is performed. The California HERS Program includes the case where the energy audit portion of the rating process is completed but a Whole-House Home Energy Rating score is not designated. When describing that case, these regulations refer to that portion of the rating process as a California Home Energy Audit.

Authority: Public Resources Code Sections 25942 and 25213

Reference: Public Resources Code Sections 25942

1671. Definitions.

For the purposes of these regulations, the following definitions shall apply:

ACM Manual means the Low-Rise Residential Alternative Calculation Method Approval Manual (Energy Commission Publication No. ~~P-400-98-003~~CEC-400-2008-002) adopted in Section 10-109(b)(2) of Title 24, Part 1 of the California Code of Regulations.

Building Performance Contractor means a contractor who is also certified as a California Whole-House Home Energy Rater by a provider, and who evaluates the comfort and safety aspects of a home in conjunction with its energy features and its energy consumption in a holistic manner to determine recommendations for the best overall performance of a home for the occupant or owner.

California Field Verification and Diagnostic Testing Rater means a rater who has been trained, tested, and certified by a provider to perform field verification and diagnostic testing of newly constructed homes or alterations to existing homes to verify compliance with the requirements of Title 24, Part 6.

California Home Energy Analyst means a person who works under the direct supervision of a California Whole-House Home Energy Rater and has been trained, tested, and certified by a provider in accordance with the requirements of Section 1673(a) to perform analysis for a Whole-House Home Energy Rating using an Energy Commission-approved HERS rating software program.

California Home Energy Audit means a process to determine the energy savings and cost-effectiveness of specific measures together with an evaluation of the energy uses listed in Section 1672(d) and a report to present the information used to evaluate the measures and make recommendations for the inclusion of such measures into the home. An audit need not include a Whole-House Home Energy Rating score.

California Home Energy Auditor means a person who has been trained, tested, and certified by a provider as a California Whole-House Home Energy Rater to provide the information for a California Home Energy Audit.

California Home Energy Inspector means a home inspector who has also been trained, tested, and certified by a provider and who works under the direct supervision of a California Whole-House Home Energy Rater to gather the data specified in the HERS Technical Manual to enable the development of a California Whole-House Home Energy Rating.

California Whole-House Home Energy Rater means a person who has been trained, tested, and certified by a provider to properly gather information on the energy consuming features of a home, perform diagnostic testing at the home, evaluate the validity of that information, simulate and perform analysis for a California Whole-House Home Energy Rating or a California Home Energy Audit using an Energy Commission-approved HERS rating software program to estimate the energy consumption of a home using the information gathered on site, and complete all of the cost-effectiveness evaluations described in Section 1672(d).

California Whole-House Home Energy Rating means a process to determine a California Whole-House Home Energy Rating score representing the relative energy efficiency of a newly constructed or existing residential building as compared to the Reference Home.

Certified, as to a provider and rating system, means having successfully completed the certification requirements as specified by Section 1674.

Energy Commission means the State of California Energy Resources Conservation and Development Commission, commonly known as the California Energy Commission.

Energy-Rated Home means a newly constructed or existing residential building that has an energy rating pursuant to these regulations.

Executive Director means the Executive Director of the Energy Commission.

Financial Interest means an ownership interest, debt agreement, or employer/employee relationship. Financial interest does not include ownership of less than ~~5%~~five percent of the outstanding equity securities of a publicly traded corporation.

HERS Technical Manual or *HTM* means the 2008 HERS Technical Manual, Energy Commission Publication CEC-400-2008-012, and is incorporated by reference.

Independent Entity means having no financial interest in, and not advocating or recommending the use of any product or service as a means of gaining increased business with, firms or persons specified in Section 1673(i).

NOTE: The definitions of "independent entity" and "financial interest," together with Section 1673(i), prohibit conflicts of interest between providers and raters, or between providers/raters and builders/subcontractors.

Net Zero Energy Home means a home that has a net annual Time Dependent Valued (TDV) energy consumption of zero, accounting for both energy consumption and the use of on-site renewable energy production.

Provider means an organization that administers a home energy rating system in compliance with these regulations (referred to as a "home energy rating service organization" in Section 25942 of the Public Resources Code).

Rater means a person who has been trained, tested, and certified by a provider to perform one or more of the functions or procedures used to develop a California Whole-House Home Energy Rating, a California Home Energy Audit, performing the site inspection and data collection required to produce a home energy rating or the field verification and diagnostic testing required for demonstrating compliance with the Title 24, Part 6, Building Energy Efficiency performance Standards, and who is listed on a provider's registry in compliance with Section 1673(c).

Rating means a California Whole-House Home Energy Rating, a California Home Energy Audit, or the field verification and diagnostic testing required for verifying compliance with the Title 24, Part 6, Building Energy Efficiency Standards, as specified by these regulations representation on a 0 to 100 scale of the annual source energy efficiency of a home, as specified in Section 1672(e).

Rating System means the materials, analytical tools, diagnostic tools and procedures to produce home energy ratings, and provide home energy rating and field verification and diagnostic testing services (referred to as "home energy rating services" in Section 25942 of the Public Resources Code).

Reference Home means a low-rise residential building similar to the rated house, but for which the energy performance characteristics of each component exactly meet the reference house specifications defined in the HERS Technical Manual.

Service Water Heating means service water heating as defined in Section 101(b) of Title 24, Part 6 of the California Code of Regulations.

~~Source Energy means source energy as defined in Section 101(b) and calculated as specified in Section 102 of Title 24, Part 6 of the California Code of Regulations.~~

Time Dependent Valued (TDV) Energy means the time varying energy used by the building to determine the home energy rating pursuant to these regulations. TDV Energy accounts for the energy used at the building site and consumed in producing and delivering energy to a site, including, but not limited to, power generation, and transmission and distribution losses.

Authority: Public Resources Code Sections 25942 and 25213

Reference: Public Resources Code Sections 25942

1672. Requirements for Rating Systems.

- ~~(a) Rating Site Inspections and Diagnostic Testing. Each rating shall be based on a site inspection of the home, and diagnostic testing as specified by the rating system. Each rating system shall have documented procedures for site inspection and diagnostic testing of rated homes.~~
- (a) California Whole-House Home Energy Rating or California Home Energy Audit. A California Whole-House Home Energy Rating or a California Home Energy Audit shall be completed for a home only if it is completed as specified by these regulations and the HERS Technical Manual.
- (b) Data Collection.
- (1) For ratings of existing homes that produce a California Whole-House Home Energy Rating or a California Home Energy Audit, each rating shall be based on a site inspection of the home that includes data collection and diagnostic testing as specified by the rating system in conformance with these regulations and the HERS Technical Manual. Each rating system shall have documented procedures for site inspection and diagnostic testing of rated homes.
- (A) The data collection shall be completed by a California Whole-House Home Energy Rater or by a California Home Energy Inspector directly supervised by a California Whole-House Home Energy Rater.
- (B) The types and the details of data pursuant to each level of rater certification shall be collected as specified in the HERS Technical Manual.
- (C) The minimum level of data collection for a California Whole-House Home Energy Rating shall meet the specifications in the HERS Technical Manual.
- (2) For ratings of newly constructed homes that produce a California Whole-House Home Energy Rating, each rating shall be based on data gathered from construction documents as specified in the procedures outlined in the HERS Technical Manual and verified or tested on-site by a California Whole-House Home Energy Rater. California Whole-House Home Energy Ratings may be produced based on sampling of one house out of a group of seven as long as all of the houses in the group have the same energy efficiency and on-site generation measures. These ratings may be

produced using the multiple orientation approach specified in the Title 24, Part 6, Building Energy Efficiency Standards. Procedures for initial testing, sampling, resampling, and corrective action specified in the Residential Appendices to Title 24, Part 6, shall be followed.

(3) For ratings of newly constructed homes to establish compliance with Title 24, Part 6, through field verification and diagnostic testing, data shall be collected or specified by the Residential Appendices to Title 24, Part 6. A rater who collects such data and performs such diagnostic tests shall be certified by the provider as a California Field Verification and Diagnostic Testing Rater.

(c) Data Analysis Requirements. The analysis to complete a California Whole-House Home Energy Rating or a California Home Energy Audit shall be conducted by either a California Whole-House Home Energy Rater or a California Home Energy Analyst under the direct supervision of a California Whole-House Home Energy Rater.

(b)(d) Energy Uses Rated. Each rating system shall rate the total combined energy efficiency of the following energy uses of each home rated:

(1) Space heating;

(2) Space cooling; and

(3) Service hot water;

(4) Lighting in conditioned space.

(5) Exterior lighting mounted on buildings or lighting in an unconditioned garage.

(6) Electric appliances.

(7) Gas appliances.

(8) Other interior electric and natural gas uses specified in the HERS Technical Manual.

(e) On-site Renewable Generation. If a home has on-site renewable generation whose energy production is modeled as specified in the HERS Technical Manual, two ratings shall be determined, one that rates the house with the on-site generation included in the energy calculations and one that rates the home without considering the on-site generation.

(e)(f) Rating Scale. Each rating system shall determine a California Whole-House Home Energy Rating score based on rate the annual source-TDV eEnergy efficiency of homes a home on a linear scale of where 0 (zero) represents a net zero energy home to and 100- represents the reference home. A rated home that uses more energy than the reference home shall have a rating of greater than 100. The rating shall be for the combined total of the three-energy uses described specified in Section 1672(b)(d).

(g) Method of Calculating TDV Energy.- An hourly energy simulation program approved by the Energy Commission shall be used to calculate the TDV Energy of the rated home and the reference home for the purpose of calculating the rating. The method shall use standard weather files for the California climate zones and other modeling rules, procedures, and assumptions as specified in the HERS Technical Manual.

- (h) Utility Bill Analysis. Every California Whole-House Home Energy Rating or California Home Energy Audit, where utility bills are available for a period of at least twelve months, shall include a utility bill analysis as specified in the HERS Technical Manual.
- (i) Recommendations for Energy Efficiency Improvements. Every California Whole-House Home Energy Rating or California Home Energy Audit shall include a list of cost-effective improvements to the energy efficiency of the home as specified in the HERS Technical Manual.
- (j) Greenhouse Gas Emissions. Each California Whole-House Home Energy Rating or California Home Energy Audit shall include an estimate of the carbon dioxide emissions attributable to the projected energy use of a home as specified in the HERS Technical Manual.
- (k) Rating report. The information specified in Sections 1672(a) through (j) shall be presented to the client in the form of a California Whole-House Home Energy Rating report as specified in the HERS Technical Manual.
- ~~(d)(1)~~ Field Verification and Diagnostic Testing. The provider and rater shall provide field verification and diagnostic testing of energy efficiency improvements as a condition for those improvements to qualify for the Title 24, Part 6, Building Energy Efficiency performance Standards compliance credit, as required by Chapter 7, Appendix F, and Sections 3.8.3 and 3.9 of the ACM Manual the Building Energy Efficiency Standards and Reference Appendices. ~~Providers and raters shall not knowingly provide untrue, inaccurate or incomplete field verification or diagnostic testing information or report field verification or test results that were not conducted in compliance with these regulations. Providers and raters shall not knowingly accept payment or consideration in exchange for reporting a rating or field verification and diagnostic test result that was not in fact conducted and reported in compliance with these regulations.~~
- (m) Provider and Rater Conduct and Responsibility. Providers and raters shall not knowingly provide untrue, inaccurate, or incomplete rating information or report rating results that were not conducted in compliance with these regulations. Providers and raters shall not knowingly accept payment or other consideration in exchange for reporting a rating result that was not in fact conducted and reported in compliance with these regulations.

Authority: Public Resources Code Sections 25942 and 25213

Reference: Public Resources Code Sections 25942

1673. Requirements for Providers.

- (a) Training and Certification Procedures for Raters. Each provider shall conduct the following rater training and certification procedures. The Energy Commission may require providers to provide additional training to their raters to ensure an appropriate level of rating quality.
 - (1) Each provider's training program shall include classroom and field training ~~of~~ for rater applicants for California Whole-House Home Energy Rater certifications.

incorporating training in analysis, theory, and practical application in at least the following areas:

- (A) Home energy consumption and efficiency data collection, organization and analysis.;
- (B) Principles of heat transfer.;
- (C) Building energy feature design and construction practice, including construction quality assurance, on-site renewable generation, and "house as a system" concepts.;
- (D) Ssafety practices relevant to home energy auditing procedures and equipment.;
- (E) Home energy audit procedures.;
- (F) Energy efficiency effects of building site characteristics.;
- (G) Types and characteristics of space heating, space cooling, service hot water, and hard wired lighting systems.;
- (H) Mathematical calculations necessary to utilize the rating system.;
- (I) The modeling and use of Energy Commission-approved HERS software required to produce a California Whole-House Home Energy Rating or a California Home Energy Audit and the associated California Home Energy Rating Certificate and reports in accordance with the algorithms, procedures, methods, assumptions, and defaults specified in the HERS Technical Manual.
- (J) Methods of cost-effectiveness analysis including interest and discount rates, cost-benefit ratios, life cycle cost analysis, calculation of present value, cash flow analysis, payback analysis, and cost estimation.
- ~~(K)~~(K) The function and proper use of diagnostic devices including but not necessarily limited to: duct leakage testing equipment, blower doors, and air flow and pressure measurement devices.;
- ~~(L)~~(L) Construction types, equipment types, and their associated energy efficiency ramifications.;
- ~~(K)~~(M) Field verification and diagnostic testing requirements of ~~Chapter 7, Appendix F, and Sections 3.8.3 and 3.9 of the ACM Manual~~ the Title 24, Part 6, Building Energy Efficiency Standards and the Reference Appendices.;
- ~~(L)~~ California Home Energy Rating System Program requirements specified in these regulations;
- (N) Interpretation of prioritized recommendations for efficiency improvements and customized adjustment procedures for specific occupants.
- (O) The behavioral, psychological, cultural, and socioeconomic influences on energy consumption of home occupants in the United States and California.

- (P) California Home Energy Rating System Program requirements specified in these regulations.
- (2) California Home Energy Inspector applicants shall not be required to be trained by the provider in areas indicated in Sections 1673(a)(1)(H), (I), (J), (K), (M), (N) and (O) but shall be required to receive more in-depth training in the areas indicated in Sections 1673(a)(1)(A) through (G) and background training in Sections 1673(a)(1)(L) and (P).
- (3) California Home Energy Analysts applicants shall not be required to be trained by the provider in Sections 1673(a)(1)(D) and (K) but shall be required to receive more in-depth training in Sections 1673(a)(1)(G), (H), (I), and (J) and background training in Sections 1673(a)(1)(A) to (C), (E), (F), and (L) to (P).
- (4) California Field Verification and Diagnostic Testing Raters shall not be required to be trained by the provider in the areas indicated in Sections 1673(a)(1)(I), (J), (N), and (O) but shall be required to receive more in-depth training in Sections 1673(a)(1)(H) and (K) through (M) and background training in Sections 1673(a)(1)(A) to (G) and (P).
- ~~(2)~~(5) The training for all certifications and raters shall include thorough instruction in the use of using the provider's rating system and database.
- ~~(3)~~(6) The training shall require rater-California Whole-House Home Energy Rater applicants to satisfactorily perform field verification and diagnostic testing a rating for at least two homes and field verification and diagnostic testing for at least two homes in the presence and under the direct supervision of the provider's trainer. The training shall require California Field Verification and Diagnostic Testing Rater applicants to satisfactorily perform field verification and diagnostic testing for at least two homes in the presence and under the direct supervision of the provider's trainer. The provider shall review and approve this field verification and diagnostic testing these ratings for accuracy and completeness.
- ~~(4)~~(7) The provider shall require each rater applicant to take a an Energy Commission approved written and practical test that demonstrates his or her competence in all subjects specified in Section 1673(a)(1). The provider shall retain all results of these tests for five years from the date of the test.
- ~~(5)~~(8) Each provider may establish a an Energy Commission-approved challenge test that evaluates competence in each area addressed by the provider's training program. If a rater applicant successfully passes this challenge test, the provider may waive the classroom training requirement and the written and practical test requirements for that applicant. An applicant who passes this challenge test shall must also successfully meet the requirements specified in Section 1673(a)(3)(6).
- (9) Programs incorporating Building Performance Contractors shall provide more in-depth training in all areas specified in Section 1673(a)(1). These special programs

shall be submitted by the HERS provider for individual review and approval by the Energy Commission.

- (b) Rater Agreements. As a condition of rater registry under Section 1673(c), each provider shall ensure that a rater applicant who has met the applicable requirements of Section 1673(a) has entered into an agreement with the provider to provide home energy rating and field verification and diagnostic services in compliance with these regulations. The agreement shall require raters to:
- (1) ~~P~~rovide home energy rating and field verification services in compliance with these regulations;
 - (2) ~~P~~rovide true, accurate, and complete data collection, analysis, ratings, and field verification and diagnostic testing; ~~and~~
 - (3) Not accept payment or consideration in exchange for reporting data gathered for a rating, analytical results used for a rating, or a rating result that was not in fact conducted and reported in compliance with these regulations.
 - ~~(3)~~(4) Comply with the conflict of interest requirements as specified in Section 1673(i).
- (c) Rater Registry. As a condition of rater registry, each provider shall certify to the Energy Commission that a rater applicant has met the requirements of Section 1673(a) and entered into an agreement meeting the requirements of Section 1673(b). The provider shall maintain a registry of all raters or persons who meet these requirements, provide an electronic copy of the registry to the Energy Commission, and make that registry available in printed or electronic form upon written request.
- (d) Data Maintenance.
- (1) Each provider shall record and maintain for a period of ten years all data collected for a rating if the data is listed as a mandatory or optional input for the rating in question. This requirement shall apply to data collected from a site visit, from the plans for a newly constructed building, or from a utility bill analysis. All mandatory or optional outputs generated for a rating shall also be recorded. The data shall be recorded in a standardized format as specified by the Executive Director.
 - (2) For homes that have received a field verification rating, the following information shall also be collected and maintained for ten years and may be in an electronic format:
 - (A) The energy efficiency improvements field verified and diagnostically tested.
 - (B) Whether or not the builder chose to include the home in a sample for field verification and diagnostic testing as specified in the Residential Appendices.
 - (C) Whether or not initial field verification and diagnostic testing as specified in the Residential Appendices was conducted on the home.
 - (D) Whether or not the home in a sample was actually selected and field verified and diagnostically tested as specified in the Residential Appendices.

- (E) Whether or not the home in a sample was actually selected for resampling and field verified and diagnostically tested after a sampling failure was found in the sample as specified in the Residential Appendices.
- (F) Whether or not the home in a sample was field verified and diagnostically tested and corrective action was taken after a resampling failure was found in the sample as specified in the Residential Appendices.
- (G) Whether or not the homeowner declined to have field verification, diagnostic testing, and corrective action taken after occupancy as specified in the Residential Appendices.
- (H) The Certificate of Compliance, the Installation Certificate, and the Certificate of Field Verification and Diagnostic Testing.

~~(d) — Field Verification and Diagnostic Testing Data Collection. Each provider shall collect and maintain for a period of five years, the following information for each home for which field verification and diagnostic testing service is provided:~~

- ~~(1) — Certificates of Field Verification and Diagnostic Testing;~~
- ~~(2) — Certificates of Compliance;~~
- ~~(3) — Installation Certificates; and~~
- ~~(4) — other reports made pursuant to Chapter 7 of the ACM Manual.~~

~~Alternatively, the information contained in these documents may be collected and stored electronically as long as all of the content and certification signatures from the specified documents are retained.~~

(e) Field Verification and Diagnostic Testing Evaluation. Providers shall maintain a database of the information specified in Section 1673(d)(2)(H) for a minimum 10 percent random sample of the homes actually field verified and diagnostically tested annually, or 500 such homes annually, whichever is less. Each provider shall provide this information annually in electronic form to the Energy Commission for evaluating the effectiveness of field verification and diagnostic testing. ~~To the extent that~~ If the Energy Commission makes this information public, it will do so only be in aggregated form only. All of this information shall be organized according to climate zones as defined in Section 101(b) of Title 24, Part 6, of the California Code of Regulations.

(f) Data Submittal. Upon the Energy Commission's request, but not more frequently than annually, a provider shall submit to the Energy Commission ~~the total of the number of homes for which field verification and diagnostic testing services were provided since the last data submittal, and a report of the following information for each home for which field verification and diagnostic testing service was provided:~~ information recorded pursuant to Section 1673(d) and provide the Energy Commission ongoing access to the provider's database.

- ~~(1) — the energy efficiency improvements field verified and diagnostic tested;~~

- ~~(2) whether or not the builder chose to include the home in a sample for field verification and diagnostic testing as specified in Section 7.4 of the ACM Manual;~~
- ~~(3) whether or not initial field verification and testing as specified in Section 7.4.1 of the ACM Manual was conducted on the home;~~
- ~~(4) whether or not the home in a sample was actually selected and field verified and diagnostically tested as specified in Section 7.4.2 of the ACM Manual;~~
- ~~(5) whether or not the home in a sample was actually selected for resampling and field verified and diagnostically tested after a sampling failure was found in the sample as specified in Section 7.4.3 of the ACM Manual;~~
- ~~(6) whether or not the home in a sample was field verified and diagnostically tested and corrective action was taken after a resampling failure was found in the sample as specified in Section 7.4.3 of the ACM Manual;~~
- ~~(7) whether or not the homeowner declined to have field verification, diagnostic testing and corrective action taken after occupancy as specified in Section 7.4.3 of the ACM Manual.~~

~~All of this information shall be organized according to climate zones as defined in Section 101(b) of Title 24, Part 6 of the California Code of Regulations. To the extent If the Energy Commission makes this information public, it will do so only be in an aggregated form only.~~

- (g) Training Materials Retention. Each provider shall retain for at least five years after the last date they are used, at least one copy of all materials used to train raters.
- (h) Quality Assurance. Each provider shall have a quality assurance program that provides for at least the following:
 - (1) Quality Assurance Staff. The provider shall have a designated Quality Assurance Manager to oversee the quality assurance process. The Quality Assurance Manager shall appoint as many Quality Assurance Reviewers as necessary to assist with the completion of the tasks outlined in this Subsection 1673(h). The qualifications of the Quality Assurance Manager and the Quality Assurance Reviewers shall be submitted to the Energy Commission for approval, and only after approval may they undertake their quality assurance functions. Changes in Quality Assurance personnel shall be reviewed and approved by the Executive Director.
 - ~~(1)(2) Initial Rreview. The provider shall review and approve for accuracy and completeness the field verification and diagnostic testing rating documentation for at least the first five homes which a rater performs after completion of the requirements specified in Section 1673(a)(1) through Section 1673(a)(6), (2) and (3), not including those homes field verified and diagnostically tested rated under the provider's direct supervision as specified in Section 1673(a)(3)(6).~~
 - ~~(2)(3) Field checks Quality Assurance of for California Whole-House Home Energy Raters and California Field Verification and Diagnostic Testing Raters-raters.~~

- (A) For each rater, the provider shall annually evaluate the greater of one ~~home~~rating, randomly selected or one percent of the rater's past 12 month's annual total number of ratings (rounded up to the nearest whole number) for each measure tested by the rater ~~homes for which field verification and diagnostic testing services were provided~~. For raters that have had at least one quality assurance evaluation for any measure in the past 12 months, this evaluation shall only be done for those other measures that have been tested by the rater at least 10 times in the past 18 months. The provider shall independently repeat the ~~field verification and diagnostic testing~~rating to check whether ~~field verification and diagnostic testing~~the rating was accurately completed by the rater, and determine whether information was completely collected and reported as required by Chapter 7 of the ACM Manual. The provider also shall conduct the same check on one percent of all ratings conducted through the provider, selected randomly from the provider's entire pool of ratings on an ongoing basis. For rated homes using the Building Performance Contractor exception to Section 1673(i)(3), at least five percent of the rated homes shall be verified by a Quality Assurance Reviewer.
- (B) Raters shall not be informed that a building or installation will be field checked until after they have completed the original rating. The field check shall occur after the submission of the Certificate of Field Verification and Diagnostic Testing for a field verification rating and after the distribution of the rating report for a home energy rating.
- (C) These evaluations by the provider's Quality Assurance personnel shall be documented in the provider's database and include the results of all testing performed by the provider's quality assurance personnel. If the provider's Quality Assurance personnel determine that the rater's results did not meet the criteria for truth, accuracy, or completeness of these regulations, then the provider shall report the Quality Assurance failure on the provider's rater registry website for a period of six months. In addition, the provider's Quality Assurance personnel shall evaluate two additional ratings of the failed measure by the same rater performed in the past 12 months. If a second deficiency is found, then the rater shall have two percent (rounded up to the nearest whole number) of his ratings of the failed measure evaluated for the next 12 months by all providers. The provider's Quality Assurance Manager shall notify other providers in writing or by electronic mail of raters that are required to have additional quality assurance verification as required by this provision.
- (4) Additional Quality Assurance for Unrated or Untested Buildings or Installations
- (A) For houses or installations passed as part of a sampling group but not specifically field verified or rated by a rater, the greater of one house or installation or one percent of all unrated or untested buildings or installations

in groups sampled by the rater shall be independently rated or field verified by the provider's Quality Assurance personnel.

(B) These Quality Assurance verifications shall be blind tests in that the provider shall not inform the installer, builder, or the rater that the specific building or installation will be verified.

(C) The results of these Quality Assurance verifications shall be entered into the provider's database. The provider shall summarize the results of these Quality Assurance verifications and submit them to the Energy Commission on an annual basis and provide the Commission with ongoing access to the database and associated summaries of the results of these verifications.

~~(3)~~(5) Complaint response system. Each provider shall have a system for receiving complaints. The provider shall respond to and resolve complaints related to ratings and field verification and diagnostic testing services and reports. Providers shall ensure that raters inform purchasers and recipients of ratings and field verifications and diagnostic testing services about the complaint system. Each provider shall retain all records of complaints received and responses to complaints for five years after the date the complaint is presented to the provider and annually report a summary of all complaints and action taken to the Executive Director.

(i) Conflict of Interest.

(1) ~~Providers shall be independent entities from raters who provide field verification and diagnostic testing.~~

(2) Providers and raters shall be independent entities from the builder and from the subcontractor installer of energy efficiency improvements field verified or diagnostically tested.

(3) Providers and raters shall be independent entities from any firm or person that performs work on the home for a California Home Energy Audit or a California Whole-House Home Energy Rating.

EXCEPTION to Section 1673(i)(3): Building Performance Contractors working as a California Whole-House Home Energy Rater with an Energy Commission-approved special program as part of a provider's rating system as specified by the HERS Technical Manual are not required to be an independent entity from the person(s) or firms performing the work on a home.

~~(j)~~ Improvement Measures Cost Database. Each provider shall develop and maintain a database of the cost of implementing the efficiency improvement measures specified in the HERS Technical Manual. The database shall contain statewide standardized cost values and regional adjustment factors.

Authority: Public Resources Code Sections 25942 and 25213

Reference: Public Resources Code Sections 25942

1674. Certification of Providers and Rating Systems.

- (a) Application. A person or entity wishing to be certified as a provider and wishing to have a rating system certified shall submit four copies of an application to the Energy Commission. The application shall contain:
- (1) ~~A~~ complete copy of all ~~field verification and diagnostic testing~~ rating procedures, manuals, handbooks, rating system descriptions, and training materials;
 - (2) ~~A~~ detailed explanation of how the rating system meets each requirement of Section 1672;
 - (3) ~~A~~ detailed explanation of how the provider meets each requirement of Section 1673;
 - (4) ~~T~~he name, address, and telephone number of the provider and a statement of where its principal place of business is and where and upon whom service of legal process can be made;
 - (5) ~~U~~pon Energy Commission request, if the provider is a corporation, a copy of the articles of incorporation and the current by-laws;
 - (6) ~~I~~f the provider is a partnership, the names, addresses, telephone numbers, and partnership status (for example, general, managing) of all the partners, and a copy of the current partnership agreement;
 - (7) ~~T~~he names, addresses, telephone numbers, and business relationships of all the provider's owners, parents, subsidiaries, and affiliates;
 - (8) ~~A~~ statement that ratings are accurate, consistent, and uniform, utility bill estimates are reasonable, and recommendations on cost-effective energy efficiency improvement measures are reliable;
 - (9) ~~A~~ statement that the provider understands and will not knowingly fail to comply with the requirements of these regulations; ~~and~~;
 - (10) ~~A~~ statement under penalty of perjury that all statements in the application are true, provided in the form specified by Section 2015.5 of the Code of Civil Procedure.
- (b) Confidentiality of Information. Any provider who submits the required application information and wishes to have that information treated as confidential in order to limit its disclosure shall, at the time of submitting the information, apply for a confidential designation as specified in Section 2505 of Title 20 of the California Code of Regulations.
- (c) Energy Commission Consideration.
- (1) The Energy Commission's Executive Director may request additional information from the applicant necessary to complete and evaluate the application.
 - (2) The Executive Director shall provide a copy of its evaluation to interested persons. The Executive Director may convene a workshop to receive comments from interested persons.

- (3) Within 90 business days of receiving the complete application, the Executive Director shall send to the Energy Commission and to the applicant a written recommendation that the Energy Commission certify the provider and its rating system or deny that certification.
 - (4) The Executive Director shall recommend certifying the provider and rating system if ~~it~~the Executive Director finds the following:
 - (A) ~~T~~the rating system meets all of the requirements of Section 1672~~; and~~.
 - (B) ~~T~~the provider meets all of the requirements of Section 1673.
 - (5) The Energy Commission shall act on the recommendation at its next regularly scheduled Business Meeting that is at least fifteen business days after the date that the recommendation was mailed to the applicant.
 - (6) The Energy Commission shall certify the proposed provider and rating system if it confirms the Executive Director's findings in Section 1674(c)~~(5)~~(4).
 - (7) Upon certification the Energy Commission shall assign the provider a three-digit identification number.
- (d) HERS Rating Software Approval. As part of a provider's Home Energy Rating System the provider shall apply for approval of HERS rating software. Application for approval of HERS rating software may be submitted with the application for certification of the provider and their rating system or as an amendment to their approval and certification. However, approval of HERS rating software is subject to an independent timeline.
- The approval process for HERS rating software shall only begin after Energy Commission approval of the software as compliance software for the Title 24, Part 6, Building Energy Efficiency Standards in accordance with the requirements of the 2008 Residential ACM Approval Manual.
- (1) If the application for the HERS rating software approval is complete, the Executive Director shall make the application available to interested parties. Comments from interested parties shall be submitted within 60 business days after acceptance of the application or approval of the software as compliance software for the Title 24, Part 6, Building Energy Efficiency Standards, whichever is later.
 - (2) Within 75 business days of receipt of an application or approval of the software as compliance software for the Title 24, Part 6, Building Energy Efficiency Standards, whichever is later, the Executive Director may request any additional information needed to evaluate the application. If the additional information is incomplete, consideration of the application shall be delayed until the applicant submits complete information.
 - (3) Within 75 business days of receipt of the application or approval of the software as compliance software for the Title 24, Part 6, Building Energy Efficiency Standards, whichever is later, the Executive Director may convene a workshop to gather additional information from the applicant and other interested parties. Interested

parties shall have 15 business days after the workshop to submit additional information regarding the application.

- (4) Within 90 business days after the Executive Director receives the application, or within 30 business days after receipt of complete additional information requested, or within 60 business days after the receipt of additional information submitted by interested parties, whichever is later, the Executive Director shall submit to the Energy Commission a written recommendation on the application.
 - (5) The application and the Executive Director's recommendation shall be placed on the business meeting agenda and considered at a business meeting within 30 business days after submission of the recommendation.
 - (6) The Executive Director may charge a fee to recover the costs of processing and reviewing applications.
 - (7) All applicants have the burden of proof to establish that their applications should be approved.
- (e) Special Approval. Programs within rating systems using California Home Energy Inspectors or Building Performance Contractors to develop or complete California Whole-House Home Energy Ratings or California Home Energy Audits shall be separately approved by the Energy Commission. Rating systems using Third Party Quality Control programs as described in the Residential Appendices for field verification and diagnostic testing procedures to verify compliance with Title 24, Part 6, shall also be separately approved by the Energy Commission.
- (d)(f) Re-certification. A certified provider shall notify the Energy Commission whenever any change occurs in any of the information, documentation, or materials, the provider submitted to the Energy Commission under Section 1674(a), and shall submit the changed information to the Energy Commission. Where this changed information could affect the provider's compliance with these regulations, the Energy Commission may require that the provider and the rating system be re-certified under the process described in Section 1674. The Executive Director may waive re-certification for non-substantive changes. The Energy Commission may also require that providers and rating systems be re-certified if the requirements of these regulations are amended or modified.

Authority: Public Resources Code Sections 25942 and 25213

Reference: Public Resources Code Sections 25942

1675. Review by the Energy Commission.

- (a) Annual Review. The Energy Commission may annually review the performance of providers certified under Section 1674 to determine whether the providers comply with the requirements of these regulations. This review may include interviewing recipients of ratings and field verification and diagnostic testing services and reports on a voluntary basis.

- (b) **Complaint Proceedings.** Any person or entity may file a complaint concerning any violation of these regulations as provided for in Section 1230 et. seq. of Title 20 of the California Code of Regulations. The Energy Commission may, for good cause, conduct an investigation and, if necessary, hearing, under the procedures established in Section 1230 et. seq. of Title 20 of the California Code of Regulations.

Each provider shall provide all information requested by the Energy Commission regarding any annual review or complaint proceeding.

- (c) **Energy Commission Determination.** If the Energy Commission determines there is a violation of these regulations or that a provider is no longer providing rating, field verification and diagnostic testing services, the Energy Commission may revoke the certification of the provider pursuant to Section 1230 et. seq. of Title 20 of the California Code of Regulations.

Authority: Public Resources Code Sections 25942 and 25213

Reference: Public Resources Code Sections 25942