



## CalCERTS Title 24 & HERS Phase II HERS Certification Training Overview

CalCERTS has been approved by the California Energy Commission as an Home Energy Rating System Provider. As such, CalCERTS administers a statewide program that trains, certifies, and tracks home energy raters and the data that they collect. CalCERTS provides ongoing technical support and quality assurance for raters.

CalCERTS' goal is to provide its raters and contractors with the tools, knowledge and resources to be productive and successful. CalCERTS has designed their website to be user friendly, intuitive, and efficient. CalCERTS provides top-of-the-line training by instructors who are leaders in their field as well as dedicated presenters. CalCERTS advocates for raters whenever possible.

For the 2008 Title 24 energy standards and HERS Phase II program, the CalCERTS certification training will be organized as follows (subject to change):

### CalCERTS HERS Raters and HERS BPC Certification Courses

Code	# of Days	Class Title	Prerequisites, (other requirements)
I	1	HERS Basics	None
II	2	Hands On-Lab <i>(includes Refrigerant Charge)</i>	None – Need EPA 608 Type II or Universal before certification
III	1	Alterations (T24)	I and II, (1 compliance field house)
IV	2	Newly Constructed Homes (T24)	I and II, (1 compliance field house)
V	1	Non-Residential (T24)	I and II
VI	1	Solar PV <i>(for NSHP rebates)</i>	I, II, and IV
VII	4	Whole House Rater <i>(includes Solar)</i>	I, II, III, IV (1 compliance AND 1 whole house field house)
VIII	1	Energy Efficient Mortgage	None
IX	2	Energy Star v3 / Special Energy Programs	I, II and IV
X	5	HERS Building Performance Contractor Rater	I, II, III, IV and VII, ( 2 field houses )
X.1	1	HERS BPC CA specific topics / challenge	I, II, III, IV and VII, ( 2 field houses ) And BPI Building Analyst
XI	1	Refrigerant Charge and Airflow Verification	I, II, and III or IV
XII	7	HERS Building Performance Contractor(BPC “Fast Track”	BPI Analyst & Envelope. Must provide proof of Home Performance Contractor (2) years of experience.
XIII	0.5	BPC Licensed Contractor Orientation	None

# CalCERTS HERS and BPC Certifications

Field Verification and Diagnostic Testing Rater (T-24 Compliance Rater) Classifications	Requirements
Alterations to Existing Homes Only	I, II, III, and a compliance field house
Newly Constructed Homes Only	I, II, IV, and a compliance field house
Alterations and Newly Constructed Homes	I, II, III, IV, and a compliance field house
Non-Residential Only	I, II, V, and a compliance field house
Solar PV (New Solar Homes Partnership)	I, II, IV, VI, IX and a compliance field house
<b>California Whole House Home Energy Rater (Independent Whole House Rater) Classification</b>	
Certified Independent Whole House Rater	I, II, III, IV, VII, and both field houses
<b>California HERS Building Performance Contractor Classifications</b>	
HERS Building Performance Contractor	<i>See Training Matrix - Below</i>
HERS BPC Rater	<i>See Training Matrix - Below</i>

## Training Requirements to Become a CalCERTS HERS Building Performance Contractor (BPC)

Class Code	Class Name	Days	Certifications you currently possess (notes - see below)					
			(1) No Certs	(2) Compliance Rater	(3) Whole House Rater (WHR)	(4) BPI BA&E	(5) WHR & BPI BA&E	(6) Experienced HPC w/ BPI BA&E
I	HERS Basics	1	x			x		
II	Hands-on Lab	2	x			x		
III	Alterations (T24)	1	x			x		
IV	Newly Constructed Homes (T24)	2	x			x		
V	Non-residential (T24)	1						
VI	Solar PV (NSHP Rebates)	1						
VII	Whole House Rater	4	x	x		x		
VIII	Energy Efficient Mortgages	1						
IX	Special Energy Programs/Energy Star v3	2						
X	HERS Building Performance Contractor	5	x	x	x			
X.1	HERS BPC CA specific topics/challenge	1				x	x	
XII	Whole House Rater Fast Track for BPC	7						x
XIII	BPC Licensed Contractor Orientation	0.5	o <sup>1</sup>	o <sup>1</sup>	o <sup>1</sup>	o <sup>1</sup>	o <sup>1</sup>	o <sup>1</sup>
FH1	Compliance Rater Field House	0.5	x			x		x
FH2	Whole House Rater Field House	0.5	x	x		x		x
Total number of days of training (including optional classes)			16.5	10	5.5	12.5	1.5	8.5

**Notes:**

- (1) Individual holds no CalCERTS HERS or BPI certifications
  - (2) Individual is a fully certified CalCERTS Title 24 Compliance Rater for alterations AND newly constructed buildings (classes III and IV)
  - (3) Individual is a fully certified CalCERTS Whole House Rater
  - (4) Individual is a fully certified BPI Building Analyst Professional and Envelope Professional
  - (5) Individual is a fully certified CalCERTS Whole House Rater and BPI Building Analyst Professional and Envelope Professional
  - (6) Individual is an experienced (requirements TBD) home performance contractor and fully certified BPI BA and will get their BE
- o<sup>1</sup> This class is optional unless you are the B-licensed contractor that qualifies the company as a BPC company

All information on this sheet is subject to change without notice.

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## **CalCERTS HERS and BPC Certification Training Classes: *(subject to change)***

### **I - HERS Basics\***

This 1-day class is an introduction to the California Home Energy Rating System Program. This class is a pre-requisite to all other CalCERTS Certification courses. The intent of this class is to provide an introduction and overview of the California HERS program as well as to cover basic concepts needed to continue on the path to becoming a Certified HERS Rater. This class is also great for those interested in learning more about becoming a Certified HERS Rater.

#### ***Topics Covered In This Class:***

- History & Evolution of Home Energy Rating Systems in California
- Overview of Title 24, Part 6 – The Building Energy Efficiency Standards
- California Climate Zones
- Overview of Title 20 including conflict of interest, legal issues, QA requirements, etc.
- Principles of heat transfer
- Home Energy Audit procedures
- Residential Energy Systems

### **II - Hands-On-Lab\***

**You must be EPA 608 type II or universal certified before you can become a CalCERTS certified HERS Rater.**

This 2-day class will take place in a lab setting, either in a lab with stations specifically designed to train on the various tests and inspections or in an actual house. The intent of this class is to provide candidates practical experience using examples of the diagnostic equipment they may encounter as raters and to provide hands-on experience performing some of the tests/inspections they will be asked to do. Some of the tests/inspections are not covered in this class if they are specific to a certain certification (e.g., the identification of ice storage air conditioners is only required for Newly Constructed Buildings inspections). These will be covered in the appropriate class.

#### ***Topics Covered In This Class:***

- Basic Duct Leakage Test (with smoke)
- Building Envelope Sealing (Blower Door Test)
- High Quality Installation Insulation Density Test
- Refrigerant Charge & Airflow
- Total System Airflow Measurement
- Fan Watt Draw Measurement
- High EER Verification
- Others

***Note:*** This class is not a substitute for either of the required field houses noted in the class descriptions below.

### **III - Alterations to Existing Homes (T-24)\***

This 1-day class will cover the topics necessary to perform field verification and diagnostic testing of features required by the Title 24 Energy Codes when an HVAC alteration has been made to an existing house (e.g, duct sealing after a furnace replacement). Successful completion of this class and the exam, along with the prerequisites, certifies an individual to be a CalCERTS T-24 Compliance Rater for field verification of Title 24 energy features that result from certain HVAC alterations to existing homes and some additions.

#### ***Topics Covered in This Class:***

- Title 20, Requirements Specific to Alterations
- Title 24 Part 6, Requirements Specific to Alterations

- Additions, Alterations and Repairs
- When is HERS Verification Required?
- Substantially New Systems Installed in Existing Homes
- Duct Sealing and Duct Leakage Test Protocols
- Refrigerant Charge and Airflow Requirements
- Airflow and Fan Watt Draw Verification Requirements
- Other Inspections
- The People Involved In the Process and Their Responsibilities
- The Steps In the Process
- Enforcement Issues
- Sampling Procedures for Alterations
- Compliance Forms Used for Alterations

After completion of this class, Raters must arrange to perform a rating on one field house in the presence of a CalCERTS Field House Instructor. This house must be representative of a typical alteration to an existing home. This field house CAN be combined with the field house required for Newly Constructed Homes.

**Prerequisites:** *Class I HERS Basics and class II Hands-On-Lab.*

#### **IV - Newly Constructed Homes (T-24)\***

This 2-day class will cover the topics necessary to perform field verification and diagnostic testing of features required by the Title 24 Energy Codes for newly constructed homes. Successful completion of this class and the exam, along with the prerequisites, certifies an individual to be a CalCERTS T-24 Compliance Rater for field verification of Title 24 energy features that result from the construction of new homes and some additions.

##### ***Topics Covered in This Class:***

- Title 20, Requirements Specific to Newly Constructed Homes
- Title 24 Part 6, Requirements Specific to Newly Constructed Homes
- When Is HERS Verification Required for Newly Constructed Homes
- Special Tests and Inspections for Newly Constructed Homes
- The People Involved in the Process and Their Responsibilities
- The Steps in the Process
- Documentation and Reporting Requirements
- High Quality Insulation Installation Inspection (QII)
- High Quality Insulation Installation Inspection (QII) for Spray Polyurethane Foam
- Sampling Procedures for Newly Constructed Production Homes
- Compliance Forms Used for Newly Constructed Homes

After completion of this class, Raters must arrange to perform a rating on one field house in the presence of a CalCERTS Field House Instructor. This house must be representative of a typical newly constructed home. This field house CAN be combined with the field house required for Alterations.

**Prerequisites:** *Class I HERS Basics and class II Hands-On-L (or CalCERTS 2005 Session A: Alterations to Existing Homes, Session U: 2008 Update and class II: Hands-On-Lab)*

## **V - Non-Residential (T-24)\***

This 1-day class will cover the topics necessary to perform field verification and diagnostic testing of features required by the Title 24 Energy Codes for non-residential (commercial) buildings. Successful completion of this class and the exam, along with the prerequisites, certifies an individual to be a CalCERTS T-24 Compliance Rater for field verification of Title 24 energy features that result from certain HVAC alterations to, or construction of, new non-residential buildings.

### ***Topics Covered in This Class:***

- Title 20, Requirements Specific to Non-Residential Buildings
- Title 24 Part 6, Requirements Specific to Non-Residential Buildings
- When Is HERS Verification Required for Non-Residential Buildings
- Special Tests and Inspections for Non-Residential Buildings
- The People Involved in the Process and Their Responsibilities
- The Steps in the Process
- Documentation and Reporting Requirements
- Sampling Procedures for Non-Residential Buildings
- General Sampling Concepts
- Compliance Forms Used for Non-Residential Buildings

**Prerequisites:** *Class I HERS Basics and class II Hands-On-Lab (or CalCERTS 2005 Session A: Alterations to Existing Homes and Session U: 2008 Update)*

## **VI - Solar PV (for Whole House Rater OR New Solar Homes Partnership-NSHP)\***

This 1-day class will cover the topics necessary to perform field verification and diagnostic testing of features for third party inspection of Solar (PV) systems specifically for the New Solar Homes Partnership(NSHP) program. Hands on laboratory instruction will be given. You may take this class prior to any of the pre-requisites, however, you will not be certified to test solar systems until you have completed all prerequisites.

### ***Topics Covered in This Class:***

- About the New Solar Homes Partnership Program
- The People Involved in the Process and Their Responsibilities
- Equipment Verification
- Verify Installation Specifications
- Verify Performance Specifications
- Shading Analysis
- Compliance Forms
- California Flexible Install

**Prerequisites:** *You must be a CalCERTS certified 2008 Newly Constructed Homes Rater. Those wishing to be certified for NSHP (New Solar Homes Partnership) must also take and pass Class IX: Special Energy Programs. Note: PV is included in all future versions of the Whole House Rater training (Class VII). This class satisfies the requirement for raters who took the previous version of Class VII that did not include solar.*

## **VII – Independent Whole House Rater\***

This 4-day class will cover the topics necessary to perform a California Whole-House Home Energy Rating or a California Home Energy Audit. You will be taught to properly gather information on the energy-consuming features of a home, perform diagnostic testing of a 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 California Energy Commission-

approved CalRatepro software to estimate the energy consumption of a home using information gathered on site, and complete cost-effectiveness evaluations..

***Topics Covered in This Class:***

- An Energy Audit's Purpose
- Understanding HVAC Energy Use, Heating Energy Use, Lighting Energy Use, Appliances, Ancillary Energy Uses, and Renewables
- Field Data Collection and Reporting
- Hands on Examples
- CalRatepro Software
- Solar

After completion of this class, Raters must arrange to perform a rating on one field house in the presence of a CalCERTS Field House Instructor. Call CalCERTS (916) 985-3400 for more information.

**Prerequisites: You must be a 2008 CalCERTS Compliance (HERS I) Rater for Alterations and Newly Constructed Homes.**

### **VIII - Energy Efficient Mortgage Basics \***

This 1-day class is intended to provide the training and education necessary for candidates to be able to properly complete and EEM. There are no prerequisites for anyone to attend this class. Only CalCERTS certified California Whole House (HERS II) raters, who complete this course, can perform EEM's.

***Topics Covered in This Class:***

- Defining an EEM
- Defining FHA and the history of FHA EEMs
- Overview of the Real Estate transaction for Raters
- Why are EEMs important to Raters
- EEM's in today's market
- The team players in an EEM
- The EEM Rating Process
- EEM Programs offered
- Creating an EEM report
- Cost effectiveness, the draft report, etc.

### **IX - Energy Star V.3 / Special Energy Programs\***

The purpose of this 2-day training is to teach raters how to inspect all of the energy features in a newly constructed home other than the traditional HERS measures (which are covered in other classes). This verification is required for most "above-code" programs where a qualified inspector must do verification of all energy features in order to receive a rebate or other incentives. Raters will learn how to verify energy related performance of walls, roofs, floors, windows, water heating systems and HVAC systems. There will also be some discussion of basic building science topics and water management.

Most of the class is spent covering the Energy Star V.3 Guide Books, which provide a good overview of energy feature inspection protocols, as well as certify the rater to perform Energy Star V.3 inspections.

***Topics Covered in This Class:***

- Energy Star Version 3
- Federal Tax Credits
- Utility Rebate Programs
- Other Programs

*Prerequisite: You must be a CalCERTS certified 2008 Newly Constructed Homes (T24) Rater.*

## **X – HERS Building Performance Rater \***

A HERS Building Performance Contractor (BPC) Company is certified to evaluate the health, safety, and comfort 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. The BPC Company can install those features they have recommended.

This is a five-day class. One day will consist of hands-on field training.

### **Topics Covered in This Class:**

- BPI Building Analyst Topics
- BPI Envelope Professional Topics
- California Specific Topics for Building Performance Contractors

Individuals who are already certified as BPI Building Analyst **and** Envelope Professional should take the BPC Rater Challenge class (X.1) instead.

**To achieve certification as a BPC Rater all applicants must achieve certification as a BPI Building Analyst and Envelope Professional.** These each require a separate written and field exam that is arranged at a later date through CalCERTS or authorized BPI proctor. *There are additional costs for BPI written and field exams.*

*Prerequisites: You must be a 2008 CalCERTS Compliance (HERS I) Rater for Alterations and Newly Constructed Homes and Whole House Rater.*

## **X.1 – HERS BPC CA specific topics / challenge\***

This 1-day class is designed for those individuals who are qualified to take class X and are already certified as a BPI Analyst and BPI Envelope professionals.

### **Topics Covered in This Class:**

- California Specific Topics for Building Performance Contractors

*Prerequisites: You must be a 2008 CalCERTS Compliance Rater for Alterations and Newly Constructed Homes and Whole House Rater.*

## **XI – Refrigerant Charge & Airflow Verification\***

**You must be EPA 608 type II or universal certified before you can become a CalCERTS certified HERS Rater.**

This 1-day class will take place in a classroom and lab setting, with stations specifically designed to train on the Refrigerant Charge & Airflow Verification test. The intent of this class is to provide hands-on experience performing the Refrigerant Charge & Airflow Verification test/inspection which will be more common under the 2008 standards. This class will cover Section RA3.2 of the 2008 Reference Appendices (CEC-400-2008-004-CMF).

Contractors and HVAC technicians who are already EPA certified and are experienced charging residential A/C systems may challenge the exam (take the exam without sitting through the class) by providing a copy of your EPA certificate and evidence of previous training (e.g., NATE, Check-Me, utility training, etc.). You must also sign an affidavit stating that you are qualified to perform refrigerant charge verification and provide a copy of your driver's license. You **MUST** study section RA3.2, referenced above, before taking this test or it is very unlikely that you will pass.

It is not mandatory that all raters be able to perform the refrigerant charge verification. Some raters will choose not to offer this service. If you do wish to perform this service, you must be qualified to do so.

**Prerequisites:** *You must be a CalCERTS Certified Title 24 Compliance Rater (for either Residential Alterations to Existing Homes or Newly Constructed Homes) prior to taking this class.*

## **XII – HERS BPC Fast Track**

A HERS Building Performance Contractor (BPC) Company is certified to evaluate the health, safety, and comfort 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. The BPC Company can install those features they have recommended.

This 7-day class is designed as a “Fast Track” for those individuals who are certified as a BPI Analyst and have experience working as a Home Performance Contractor for at least two years.

### ***Topics Covered in This Class:***

- Condensed version of CalCERTS’ HERS Basics, Hands-On Lab, Alterations (T24), Newly Constructed Homes (T24), Whole House Rater and HERS Building Performance Contractor. (Classes: I, II, III, IV, VII and X). You will be required to pass the full written and practical exams for each of these classes. A score of 80% is required to pass each exam.

**Prerequisites:** *You must be an active BPI Analyst. Also, you will need to obtain your BPI Envelope certification before you can receive your HERS BPC certification. You will be required to complete a questionnaire/affidavit documenting previous experience as a home performance contractor and complete a pre-qualification exam.*

## **XIII – HERS Building Performance Licensed Contractor Orientation**

To qualify as a HERS BPC Company, the company must hold an active Class B-License and complete BPC training OR hold an active Class B-License and employ a qualified CalCERTS Building Performance Rater. A CalCERTS Building Performance Rater employed by a BPC Company can provide Whole House Energy Rating /Audit services on behalf of the BPC Company.

This ½ day class is mandatory for General Contracting companies who want to become a HERS BPC company and must be attended by the primary class B license holder in the company. This is a short introduction to the HERS BPC program and all the responsibilities that come with the credential. The course is one of several that have to be completed to obtain the HERS BPC certification. This class may also be attended by those individuals that are interested in the HERS BPC program generally and want more in-depth information.

### ***Topics Covered in This Class:***

- Overview of the roles and responsibilities of a HERS BPC company
- Historical education of the California HERS Regulations
- Training options and models
- Value Propositions of becoming a HERS BPC company

**Prerequisites:** *Must have an active Class-B CA. Contractor’s License.*

*\*There will be an exam at the end of the class. The exam is open book and multiple choice. The required passing rate is 80%. If you do not pass the first time, you will be given two additional attempts. A re-test fee may apply.*



**This information is provided for overview purposes only. Detailed requirements can be obtained from CalCERTS. All information is subject to change without notice.**