Innovative Approaches to Improving Energy Code Compliance

Leveraging the HERS Registry

BayREN Codes & Standards
1. What is needed for compliance?

2. What is the least effective method for managing compliance documents?

3. How can you leverage the HERS Registry to minimize the compliance process?
First, let’s get a perspective on compliance documentation...

How many printed pages of compliance forms are needed for a typical single family residential home?

Can you guess?
Single Family Newly Constructed Home

- 2,000 SF
- 2-Story
- 3 Bedroom
- 2 HVAC Systems – 1st and 2nd Floors
- Wood-framed, ventilated attic, slab floor
- Quality Insulation Installation (QII)
- Solar PV installed
Which Forms are needed?

CERTIFICATES OF COMPLIANCE
- CF1R-PRF-01 3 SETS
- CF1R-SRA-01

CERTIFICATES OF INSTALLATION
- CF2R-ENV-01
- CF2R-ENV-03
- CF2R-ENV-04
- CF2R-LTG-01
- CF2R-MCH-01

CERTIFICATES OF INSTALL (CONT’D)
- CF2R-MCH-02
- CF2R-MCH-20
- CF2R-MCH-21 2 SETS
- CF2R-MCH-22 2 SETS
- CF2R-MCH-23 2 SETS
- CF2R-MCH-25 2 SETS
- CF2R-MCH-26 2 SETS
- CF2R-MCH-27
- CF2R-PLB-02
- CF2R-SPV-02

CERTIFICATES OF VERIFICATION
- CF3R-MCH-20 2 SETS
- CF3R-MCH-21 2 SETS
- CF3R-MCH-22 2 SETS
- CF3R-MCH-23 2 SETS
- CF3R-MCH-25 2 SETS
- CF3R-MCH-26 2 SETS
- CF3R-MCH-27
- CF3R-ENV-21
- CF3R-ENV-22
- CF3R-ENV-23
How many printed pages for this project?

176 printed pages per set

How many sets?

Building Dept.

Homeowner

Builder, Installers, Designers
How many did you say??

- 1 set = 176 pages
- 2 sets = 352 pages
- 3 sets = 528 pages

At this rate,

1,000 new homes would need 528,000 pages of printing!

The point is that printing compliance forms has become unreasonable and unmanageable.

The HERS Registry can eliminate printing.
Building Department Steps

- Require printed documents from the builder/installers/rater
- Determine if all the correct documents are present
- Determine if all documents are complete and signed
- Return the documents to the department for processing
- Scan and record the documents for digital file
- File the hard copy documents
- Flag the hard copies for scheduled shredding
- Pull the documents when ready to shred
- Pay to have the documents shredded

What is the “least effective” method for managing compliance documents?
Do you know which documents are needed?

- It is next to impossible to determine which forms are needed, even for the experienced.
- The number of compliance forms can be overwhelming.
- Residential forms include 63 different forms, but if you count the sub-forms it’s well over 100.
- And each form has multiple pages.
How many touches for each project?

Each touch of a document:

- Takes valuable time
- Studying the documents takes even more time
- Filing and managing takes time and floor space
- The quality of compliance enforcement actually decreases, and overall compliance suffers
How can you leverage the HERS Registry to minimize the compliance process?

- The **HERS Registry** will trigger the needed forms to avoid the guesswork.
- Electronic tracking provides an instant report of what is complete, or not.
- Building departments no longer need to think of the compliance documents as “forms”.

Think of it as steps in a compliance process.
Generate Forms Automatically

Compliance can be as simple as 1-2-3

Just three basic steps:

- **CF1R – Certificate of Compliance**
  - What is required?

- **CF2R – Certificate of Installation**
  - What was installed?

- **CF3R - Certificate of HERS Verification**
  - What was HERS verified?
Once a project is in the HERS Registry, it can be tracked from start to finish by anyone involved with the project, including the **building department**.

- If changes occur along the way, the registry tracks these changes.
Are All Forms Complete?

- The HERS Registry will tell you at one quick glance whether or not the project is complete.
- The Project Status Report (PSR) provides this.
Go Paperless

- A project can be viewed in the office or **in the field** using a smart phone or tablet with internet access.
- No more paper (unless you prefer hard copies).
- Anyone can be given access to view the status of the project electronically.
- No filing

You can scan this QR code with your phone/tablet to access the files.

You can send an email to your responsible person.
Summary of Benefits

- Fully Automated
- Saves time
- Triggers which forms are needed
- Tracks the forms as complete or not complete
- Communicate with the contractor via email message
- Paperless
- Access from the field or in the office
- 1-page quick summary shows project document status— the PSR report
Welcome to the CalCERTS Compliance Lookup Registry.

You can use this tool to search our registry for CEC Registered Compliance Status.

Please select a Building Department from the list below and a Search Type.

**Building Department:** Redwood City (City)

**Search Type:**
- CEC Registration Number
- CalCERTS Certificate #
- Street Address
- HERS Rater (Name)
- HERS Rater (CalCERTS, ID #)
- Building Department Permit #
Building Department: County of Marin
Search by: Street Address

Enter all or part of any of these fields:

Street NUMBER: 60  Street NAME:  ZIP CODE: 94920

(Do not include Way, Street, Pl, etc)

BACK  SEARCH
Locate Your Project

Click on the Address Link...

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**NEW SEARCH**  **MODIFY SEARCH**

*** ALERT ***
2 records match your search criteria in your jurisdiction. Please select the address you are interested in from the list below.

<table>
<thead>
<tr>
<th>Address</th>
<th>City / Zip</th>
<th>Project Type</th>
<th>Permit Number</th>
<th>Energy Standards Code Year</th>
<th>HERS Rater</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 Eden Lane</td>
<td>Belvedere / 94920</td>
<td>Alterations SFR</td>
<td>149109</td>
<td>2013</td>
<td>Bagnasco, Stacie (CC2006315)</td>
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</tbody>
</table>

*** ALERT ***
7 records match your search criteria OUTSIDE your jurisdiction.

Click HERE To View Matching Records OUTSIDE your jurisdiction
**Project Status Report (PSR)**

If any dots are red, then the required documents are not complete.

**Project is Complete When All Dots are Green!**
Roy Eads is currently serving as Senior Technical Manager at CalCERTS, Inc. in Folsom, CA. He assists HERS Raters, homeowners, contractors, installers, designers, and Building Department staff with energy code compliance documentation.

Serving as an independent Certified Energy Analyst, HERS Rater, and Residential HVAC System Designer since 2006, he has developed a passion for energy efficiency and the move toward Zero Net Energy building. He has a foundation of knowledge through more than 30 years of general construction and restoration contracting, possesses A.S. Degrees in HVAC and Project Management, holds a Certificate of Building Inspection Technology, and maintains a constant and extensive regimen of energy-related training and architectural technology.

Mr. Eads assisted with the development of the Building Energy Systems Professional (BESP) A.S. degree program at the community college level and is currently teaching an online California Energy Code course as an adjunct professor at College of the Desert in Palm Desert, CA.

Roy works with BayREN to deliver energy code compliance training to building department staff and remains fully involved in the process of energy code development.
BayREN Codes & Standards Trainings

- BayREN Codes & Standards is a joint effort of Bay Area cities and counties to achieve full compliance with provisions of the California Energy Code.

- BayREN trainings seek to provide building department staff and private sector building professionals with tools and strategies for improving energy code compliance.
Contact BayREN for Training

BayREN Codes & Standards Program

- Website:  www.bayrencodes.org
- Email:    codes@bayren.org