

Welcome

*Ensuring Quality:
Successful Rating Provider
Quality Assurance Programs*

Presenter

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CHEERS©

CEC certified HERS Provider is:

California Home Energy
Efficiency Rating System
9400 Topanga Canyon
Chatsworth, CA 91311

1 (800) 4-CHEERS

www.cheers.org

CHEERS©

Douglas Beaman Associates contracts
with CHEERS to provide
Quality Assurance Services

California Process

New construction in California requires builders to comply with State Energy Standards (commonly referred to as Title-24)

Performance based standards allow use of various options that require HERS verification.

Rating vs. Verification

New Construction CHEERS Raters do not “Rate” the home, rather they “Verify or Test” that specific conservation features or measures are installed.

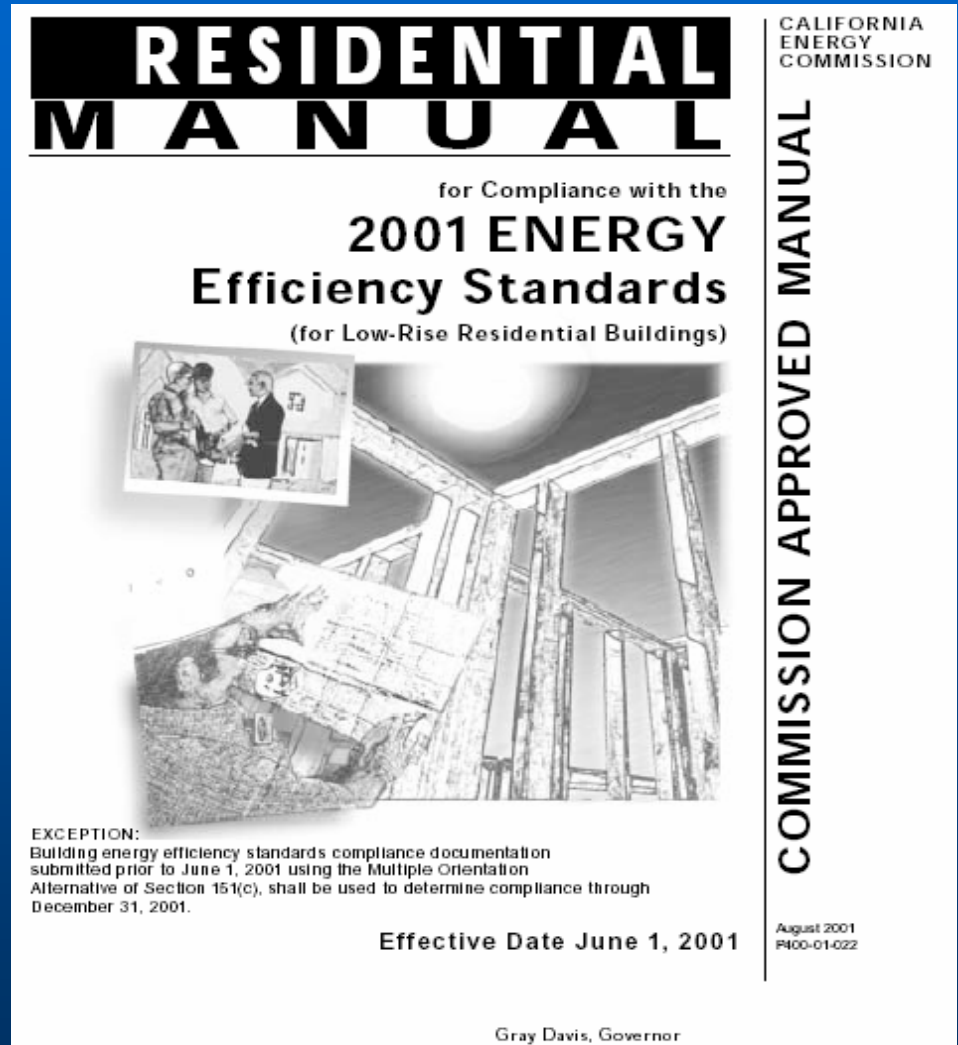
2001 Residential Manual

Available in PDF
format from the CEC

website:

Publication

P400-01-022



www.energy.ca.gov/title24

California Process Continued

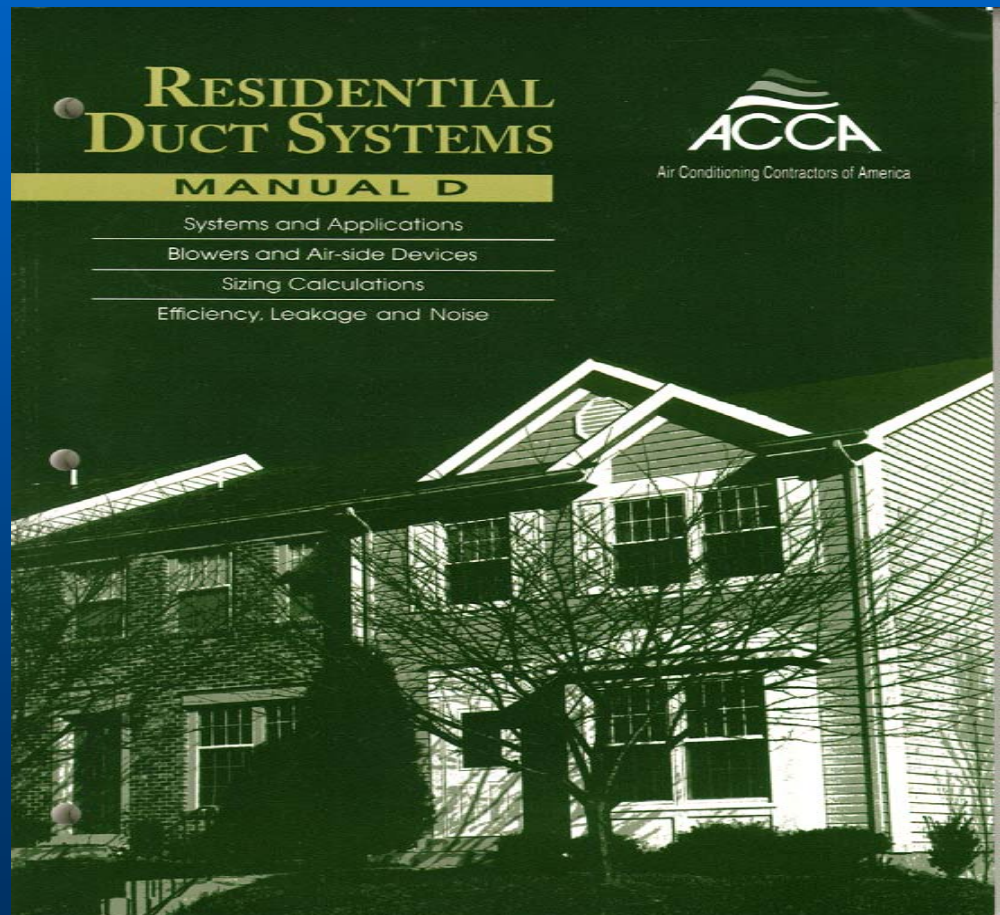
1. Title-24 “Compliance Jock” performs calculations using approved program (Micropas or EnergyPro)
2. Any approved conservation feature or measure can be used in program.
3. Some features only require building department verification i.e. insulation R-Value.
4. Some features require HERS verification.

HERS Verified Measures

1. Tested Ducts
2. TXV or RCA (almost always TXV)
3. Reduced infiltration
4. Duct Location and Surface Area
5. ACCA Manual D

ACCA Manual D Design

Compliance credit can
be taken if the duct
system is designed to
meet ACCA Manual D.



Example Process

1. Energy calculations specify “Tested Ducts”.
2. Builder ensures that HVAC contractor installs tight system.
3. HVAC Contractor tests system
4. Builder hires CHEERS Rater to test system.
5. CHEERS Rater verifies system & provides building department documentation of test results (CF-4R).
6. Building Department does not final house until CF-4R is provided by CHEERS Rater.

CF-4R Installation Certificate

CERTIFICATE OF FIELD VERIFICATION AND DIAGNOSTIC TESTING (Page 1 of 7)

CF-4R

Project Title

Date

Project Address

Builder Name

Builder Contact

Telephone

Plan Number

HERS Rater

Telephone

Sample Group Number

Certifying Signature

Date

Sample House Number

Firm: _____

HERS Provider: _____

Street Address: _____

City/State/Zip: _____

Copies to: Builder, HERS Provider

HERS RATER COMPLIANCE STATEMENT

The house was: ☐ Tested ☐ Approved as part of sample testing, but was not tested

As the HERS rater providing diagnostic testing and field verification, I certify that the houses identified on this form comply with the diagnostic tested compliance requirements as checked on this form.

- ☐ The installer has provided a copy of CF-6R (Installation Certificate).
- ☐ Distribution system is fully ducted (i.e., does not use building cavities as plenums or platform returns in lieu of ducts)
- ☐ Where cloth backed, rubber adhesive duct tape is installed, mastic and drawbands are used in combination with cloth backed, rubber adhesive duct tape to seal leaks at duct connections.

CHEERS Registry

In addition to providing Building Department with test results:

The test results are entered into the CHEERS registry (internet based data base)

Independent

HERS raters must be independent of both the builder and sub-contractor who installed the duct systems being field verified, and can not be hired to make corrections to the systems.

HERS raters can not be employed by sub-contractors or parties, whose work they are evaluating.

Building Departments

Building departments consider approved HERS raters to be special inspectors.

HERS raters must demonstrate competence, to the satisfaction of the building official, for the visual inspections and diagnostic testing.

Market Penetration

Approximately 20% of building permits in California currently use the HERS verification process

CHEERS Verifications 2003

# of CHEERS Tests Performed by Rater in 2003	# of Raters	% of Active Raters	# of Tests Performed
1 - 25	31	38.3%	234
26 - 100	8	9.9%	460
101 - 500	23	28.4%	6,129
501 - 1,000	8	9.9%	5,951
Over 1,000	11	13.6%	25,655
Total	81	100.0%	38,429

Single Family & Multi-Family Buildings

Building Type	# of Tests	S.F. Lots or M.F. Buildings	Projects
Single Family	35,259	9,501	872
Multi-Family	3,170	563	38
Total	38,429	10,064	910

Quality Assurance Story

CHEERS submitted QA plan to California Energy Commission (CEC) for approval. Necessary since CEC is the governing body for California Energy Standards.

Training

Certification Training – 3 ½ Days

Curriculum developed by CHEERS approved by
California Energy Commission

Certification Exam final day of class

Training/QA Overlap

Initial Visit - After completion of training –

First field verification performed with the QA field representative present.

Reassures CHEERS Rater and deals with the time lapse between the end of training and first test.

Field QA

5% of total number of tests per year performed
by CHEERS Rater

(10% if fewer than 25 tests per year performed
by Rater)

Selecting Raters for QA

Each month a summary of tests results from the
CHEERS Registry provided to the QA office.

List Compiled

Each month's test data is added to the on-going tabulation of test data to determine the QA requirements for each CHEERS Rater.

Schedule Field QA

The QA field representative contacts CHEERS
Raters and schedules field QA.

Easy task with busy Raters since they are in the field
nearly every day.

More challenging with other Raters, they might have
to call a day or two before their next job.

QA Feedback

Each Rater receives a “feedback” report following each field visit.

Annual Summary

1. Annual report goes to each Rater of their field QA results.
2. Annual report prepared for CHEERS office, CHEERS Board and other appropriate parties.

Cold QA

In addition to scheduled QA field visits,

The QA field representative also performs
unannounced field tests.

Ideally same houses as tested homes, but not always
because of sampling.

Sampling for Production Homes

At the builder's option CHEERS Raters test each house or for a sample of houses.

Sampling rate is approximately 1 out of 7 after each floor plan is initially tested.

Sampling rules and guidelines part of California Energy Standards.

Ability to Adapt

One of the most important lessons (as in most things in life) is being able to change to new situations, problems, and who knows what else.

Challenges Ahead

Significant increase in the number of HERS verifications with the 2005 California Energy Standards and from the California Energy Star Program.



California Energy Star

Incentives available for builders to build California Energy Star homes.



A  Semptra Energy utility™



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Business

Builder Services

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2003 California ENERGY STAR® New Homes Program

The California ENERGY STAR® New Homes Program is a performance based program designed to encourage builders to construct single family and multi-family dwellings that use at least 15% less energy than the standard design required by the [California Energy Efficiency Standards](#).

This 15% level has also been designated by the Environmental Protection Agency as the new ENERGY STAR® Homes baseline for California. As a result, homeowners and renters will save money while enjoying a comfortable, energy efficient home. Builders will receive recognition through both a national and statewide ENERGY STAR campaign.

To Apply:

1. Download the application that applies to your building project.

[Multifamily High Rise](#)

Condominium(4 stories or more)
High Rise Apartment(4 stories or more)

[Multifamily Low Rise](#)

Condominium(3 stories or less)
Townhouse(3 or more units)
Low Rise Apartment(3 stories or less)

[Single Family](#)

Production Home
Custom Home



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New Construction Solutions

To help incorporate energy efficiency at the earliest stages of new construction, SDG&E offers programs and training to builders, businesses and project teams to help them design and construct energy-efficient buildings and homes.

California ENERGY STAR® New Homes Program

Your new home buyers and renters will save money while enjoying the benefits of a comfortable, energy efficient home. Participating Single family and multifamily home builders will receive recognition through both a national and statewide Energy Star campaign. [Learn more](#)

Residential New Construction Training

San Diego Gas & Electric offers Title 24 [training classes](#) to help you recognize your options and learn how energy-saving technologies can help reduce your cost of complying with the new energy standards.

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