



STATUS AND TIMELINE

2008 Standards (a.k.a. "Title 24, Part 6" or "California Energy Code") approved by California Energy Commission and Building Standards Commission in mid-2008

- o Standards and manuals available at www.energy.ca.gov/title24/2008standards
- o Certified compliance software (CEC software available Oct '09; vendor software available Nov/Dec '09)
- o Effective for permit applications submitted on or after January 1, 2010

MAJOR CHANGES (LOW RISE RESIDENTIAL)

Mandatory Indoor Air Quality Requirements: ASHRAE 62.2-2007

- o Continuous and/or intermittent mechanical whole-house ventilation
 - » Possible solutions: Upgraded, low-sonne (quiet) bathroom fans; supply-side ventilation; balanced ventilation (with or without Heat Recovery, Energy Recovery Ventilators)
- o Additional Requirements: MERV 6 filters; kitchen and bathroom exhaust vented to the outside

Electronic Submittal of Compliance Documentation

- o CF-1Rs and CF-6Rs (w/ HERS credits) along with CF-4Rs must be submitted electronically
 - » For permits under "cardinal orientation" method, required January 1, 2010
 - » For permits under actual orientation method, required October 1, 2010

New HERS Sampling Procedures, Requirements

- o Sample groups cannot be open for more than six months
- o 1-in-7 "Closed" Sampling:
 - » CF-6Rs must be provided for all units before HERS inspection
 - Therefore, no CF-4Rs will be available for any home in the group until all CF-6Rs are provided
 - » "Closed" sample group can contain up to seven homes
- o 1-in-5 "Open" Sampling:
 - » CF-6R must be provided at least for tested unit before HERS inspection

- • CF-4Rs for untested units will be made available once their CF-6Rs have been provided
 - » "Open" sample group can contain up to five homes

Revised HERS Credits

- o Revised protocols: Quality Insulation Installation, Adequate Airflow, Refrigerant Charge Verification and Building Envelope Sealing
- o Revised calculations: Maximum Cooling Capacity, Adequate Airflow

New HERS Credits

- o Quality Insulation Installation for Sprayed Foams, Low Leakage Air Handlers, Tight Ducts in Conditioned Space, Ice Storage A/C, Evaporatively Cooled Condensers
- o Also, Charge Indicator Display (CID) credit, which replaces removed TXV credit

Reduction of Tankless Water Heater (TWH) Credit

- o Compliance software now reduces the proposed efficiency of TWHs by 8%

Prescriptive and Retrofit Cool Roof Requirements

- o Aged reflectance and emittance requirements based on climate zone and roofing material type (by mass)

EFFECTS OF PROPOSED CHANGES

- o Increase in stringency of about 22% for single family (SF), 15% for multi-family (MF)
- o Estimated compliance costs of about \$2170 for SF, \$1550 for MF
- o HERS credits “required” for compliance in certain climate zones
- o Enforcement division in CEC to improve compliance with Standards

COMPLIANCE COST BREAKDOWN

Costs averaged between three (3) single family and two (2) multi-family models

- o SF: Small (1569 sq.ft.), Medium (2123 sq.ft.), Large (2763 sq.ft.)
- o MF: Townhome (1622 sq.ft.), 16 Plex (13,360 sq.ft.)

Costs weighted between four (4) building styles

- o Style A: No feature restrictions
- o Style B: No 1-coat stucco allowed
- o Style C: No HERS credits allowed
- o Style D: No 1-coat or HERS allowed
- o Weighting based on analysis of 2006-2007 builder styles

Costs weighted between all 16 climate zones in California

- o Weighting based on 2006 Construction Industry Research Board (CIRB) permit data

Mandatory costs included separately (will vary by ASHRAE 62.2 compliance method)

- o SF: Estimated ~\$250/home
- o MF: Estimated ~\$900/unit

Italicized entries could not be made to comply under the “style” restrictions

CZ	Single Family				
	Style A	Style B	Style C	Style D	Weighted
1	\$ 1,352	\$ 2,096	\$ 2,482	<i>\$10,038</i>	\$ 2,824
2	\$ 519	\$ 614	\$ 519	\$ 1,149	\$ 648
3	\$ 960	\$ 1,892	\$ 1,239	\$ 1,925	\$ 1,591
4	\$ 577	\$ 708	\$ 626	\$ 1,457	\$ 756
5	\$ 737	\$ 1,311	\$ 1,193	\$ 1,945	\$ 1,203
6	\$ 647	\$ 1,101	\$ 647	\$ 1,653	\$ 1,018
7	\$ 617	\$ 576	\$ 617	\$ 576	\$ 590
8	\$ 939	\$ 892	\$ 832	\$ 1,339	\$ 961
9	\$ 848	\$ 768	\$ 802	\$ 1,181	\$ 844
10	\$ 831	\$ 1,062	\$ 974	\$ 2,925	\$ 1,214
11	\$ 1,288	\$ 1,884	\$ 4,091	\$ 5,369	\$ 2,134
12	\$ 911	\$ 2,055	\$ 2,872	\$ 4,665	\$ 2,011
13	\$ 1,372	\$ 2,081	\$ 5,077	\$ 5,609	\$ 2,306
14	\$ 1,244	\$ 2,526	\$ 5,177	\$ 8,774	\$ 2,895
15	\$ 2,050	\$ 4,117	\$ 8,685	\$ 8,360	\$ 4,006
16	\$ 124	\$ 839	\$ 1,308	\$ 2,896	\$ 863
Avg.	\$ 1,059	\$ 1,826	\$ 3,153	\$ 4,538	\$ 1,920
Mandatory Features = \$ 250					
Total SF Estimated Cost = \$ 2,170					

CZ	Multi-Family				
	Style A	Style B	Style C	Style D	Weighted
1	\$ 669	\$ 1,725	\$ 1,101	\$ 4,456	\$ 1,711
2	\$ 315	\$ 427	\$ 293	\$ 886	\$ 445
3	\$ 301	\$ 503	\$ 301	\$ 941	\$ 490
4	\$ 311	\$ 467	\$ 311	\$ 695	\$ 443
5	\$ 234	\$ 436	\$ 256	\$ 895	\$ 425
6	\$ 188	\$ 188	\$ 188	\$ 188	\$ 188
7	-\$ 17	\$ 85	\$ 85	\$ 85	\$ 52
8	\$ 380	\$ 492	\$ 358	\$ 500	\$ 456
9	\$ 194	\$ 468	\$ 229	\$ 847	\$ 424
10	\$ 338	\$ 688	\$ 813	\$ 1,698	\$ 699
11	\$ 369	\$ 1,520	\$ 2,077	\$ 3,984	\$ 1,454
12	\$ 261	\$ 1,340	\$ 1,468	\$ 2,648	\$ 1,153
13	\$ 691	\$ 1,746	\$ 2,479	\$ 3,195	\$ 1,589
14	\$ 506	\$ 2,126	\$ 2,998	\$ 3,424	\$ 1,770
15	\$ 826	\$ 2,206	\$ 3,895	\$ 3,723	\$ 1,960
16	\$ 244	\$ 802	\$ 551	\$ 1,545	\$ 711
Avg.	\$ 308	\$ 713	\$ 740	\$ 1,290	\$ 653
Mandatory Features = \$ 900					
Total MF Estimated Cost = \$ 1,553					