

CRRC - Ratings, Codes and Standards

Annual Report
June 2008

Subjects

- ASHRAE Standard 90.1
- ASRHAЕ Standard 189.1
- Various States and Jurisdictions
- USGBC & LEED
- NAHB Green Standard
- References

ASHRAE Standard 90.1

- Commercial energy standard.
- The latest edition is 2007.
- Cool roof provisions in 2007 and previous editions remains voluntary.
- The CRRC is referenced in the cool roof provisions.
- CRRC is recognized as informative reference only.

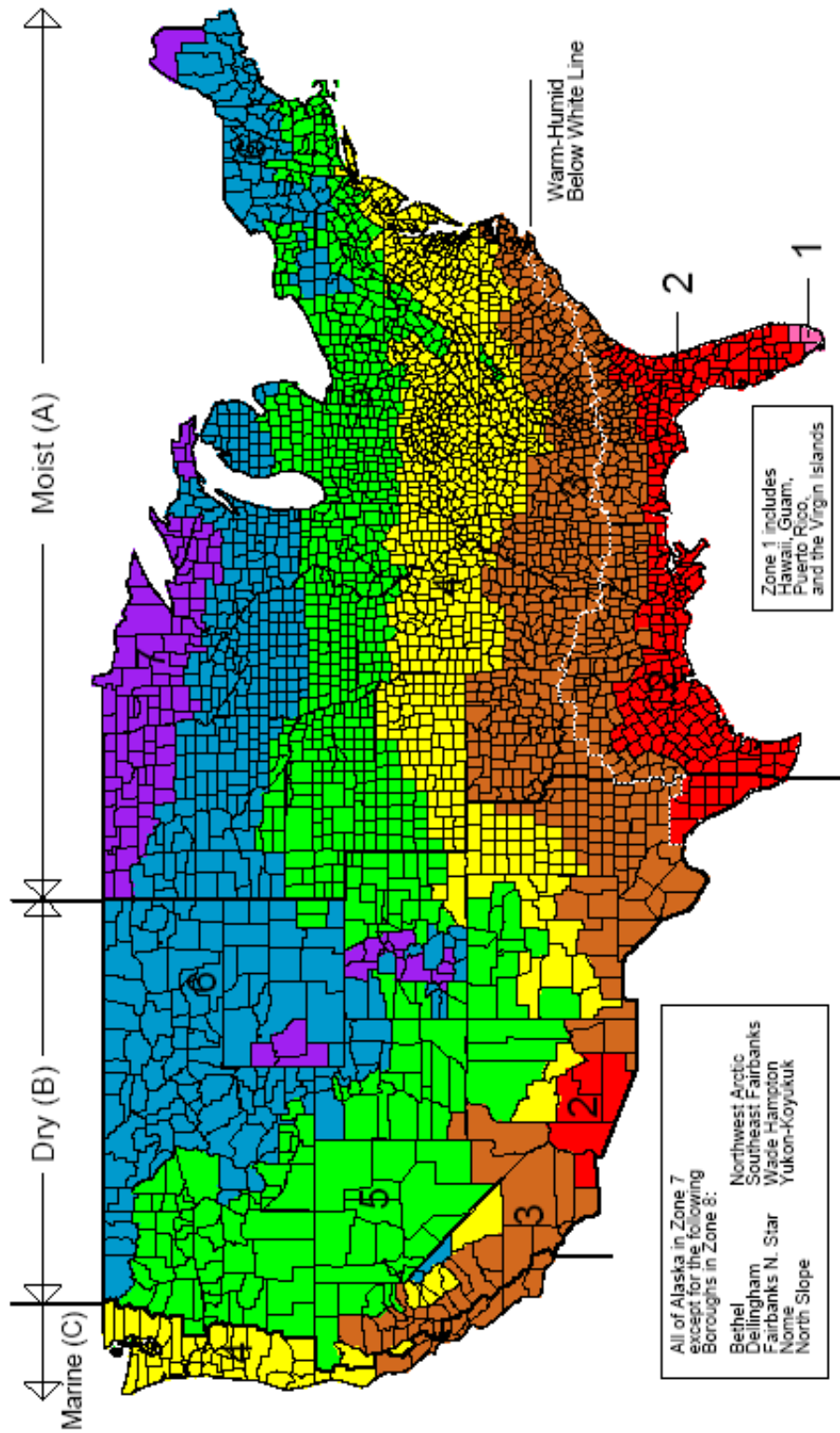
ASHRAE Standard 90.1

- Current provisions require:
- Roofs other than roofs over ventilated attics or roofs over semi-heated spaces or roofs over conditioned spaces that are not cooled.
- Minimum SRI 0.70 and TE 0.75
- Minimum SRI 82
- If comply allowed to reduce roof insulation.

ASHRAE Standard 90.1

- 90.1-2007 Addenda "f"
- Proposal before the 90.1 committee is to change reflective roof provisions from voluntary to mandatory.
- Increases from climate zones 1-3 to climate zones 1-5.
- CRRC still recognized as informative reference.

Map of DOE's Proposed Climate Zones



March 24, 2003

ASHRAE Standard 189.1

- Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings.
- Document effectively combines ASHRAE Standard 90.1 and LEED 2.2 NC.
- Cool roof provisions are required (2nd Draft Section 5.3.2.3).
- CRRC program is recognized in cool roof provisions as informative reference.

ASHRAE Standard 189.1

- Section 5.3.2.3 Roofs in climate zones 1 through 5.
- Roofs to have minimum initial SRI of 78 for low-sloped (less than or equal to 2:12) and a minimum initial SRI of 29 for steep sloped (Greater than 2:12), and/or
- Comply with criteria for the US-EPA Energy Star Program for Roof Products-Eligibility Criteria.

ASRAHE Standard 189.1

- Exemptions to 5.3.2.3 are:
- Where 75% of roof is used for:
- Roof penetrations
- Renewable energy systems
- Harvesting systems for rain water
- Green roof systems, and
- When:
- Compliance through modeling
- Roofs that shade parking
- Roofs over semi-heated spaces

Arizona

- **Commercial Code:** ASHRAE/IESNA 90.1-1999 mandatory for state-owned and state funded buildings only
- **Code Change Cycle:** No set schedule. Arizona is a home rule state

Chicago, City of

- Section 18-13-303.1
- Low-sloped roof (2:12 or less) minimum initial SR 0.65 and aged SR 0.050.
- Medium-sloped roofs (Greater than 2:12 but less than or equal to 5:12) minimum initial and aged SR 0.15.
- US-EPA Energy Star Roofs.

Florida

- As you may recall we began contacting the State of Florida to have CRRC-1 recognized in code in 2002.
- 2008 we have been recognized in both the commercial and residential energy codes for the state.

Louisiana

- **Commercial Code:** ASHRAE/IESNA 90.1-2004, and 2006 IECC for buildings not covered by ASHRAE, mandatory statewide
- **Code Change Cycle:** Beginning in January, 2007, codes are upgraded every 3 years. Last update effective on June 22, 2007.

Nevada

- **Commercial Code:** Jurisdictions in southern Nevada have adopted the 2006 Southern Nevada Energy Code, which is based on the 2006 IECC with amendments, which further references ASHRAE Standard 90.1.
- Nevada home rule state.

New Mexico

- **Commercial Code:** 2003 IECC, mandatory statewide.
- The 2003 IECC references ASHRAE Standard 90.1 which contains voluntary cool roof provisions.

South Carolina

- **Commercial Code:** 2003 IECC with reference to ASHRAE 90.1-2001 is mandatory statewide. The State Engineer's Office and the SC Department of Education have adopted the ASHRAE 90.1 1999 as the energy code for state buildings and schools and buildings under their jurisdiction.

Utah

- **Commercial Code:** 2006 IECC mandatory statewide including ASHRAE/IESNA 90.1- 2004.

USGBC-LEED

- Current LEED 2.2 NC recognizes CRRC-1 program for compliance with cool roof provisions.
- Draft LEED 3.0 out for review continues to recognize CRRC-1 program in cool roof provisions.
- LEED is being adopted by agencies other than code officiating agencies (e.g. Education, Public Works, etc.)

USGBC-LEED

- Version 2.2, SS Credit 7.2
- Option #1, low-sloped roofs (2:12 or less) minimum SRI 78, and steep slope roofs (Greater than 2:12) minimum SRI 29.
- Option #2, vegetated roofs
- Option #3, reflective roof and vegetated roof combination.

NAHB Green Standard

- Publication of standard due summer 2008.
- Cool roof provisions located in Section 602 “Enhanced Durability and Reduced Maintenance”
- 602.13 refers to US-EPA Energy Star Roofs or equivalent.
- Applies to 90% of roof.

Resources

- International Code Council
- www.iccsafe.org
- Government relations page has a listing of each state with adoption information in the form of a map or a state by state chart.

Resources

- Building Codes Assistance Project
- www.bcap-energy.org
- BCAP was established in 1994.
- BCAP provides custom-tailored assistance on building energy code adoption and implementation. We assist state and local regulatory and legislative bodies and help coordinate others representing environmental interests, consumers, labor, and industry.

Resources

- US Department of Energy
- www.energycodes.gov
- State contacts, current code status, code history, and construction data are located in the state energy codes database.

Questions

Thank you for attending.