



ARMA Board of Directors

November 5, 2009

Chicago, IL

***ARMA Steep-slope
Committee Report***

Darrel P. Higgs
Technical Manager
Owens Corning



Cool Roof Steering Group (CRSG): 2008 Title 24-2008

- **Effective January 1, 2010**
- **On-line information at www.energy.ca.gov/title24/**

Key Activities

- **Develop new Q&A for 2008 version of Title 24**
- **Complete new insulation trade off tables/calculator for 2008 version of the code**
- **Implement a communication plan to educate and inform the industry and public on the compliance options allowed in code**



Cool Roof Steering Group (CRSG): Title 24-2011

Proposed Schedule for 2011 Standards

Solicitation/Procurement RFQ & contract implementation for 2011 Standards Technical Support; develop templates for 2011 Standards	Nov '08 to June '09
Pre-Rulemaking Activities: Phase 1: Analysis of Measures Analysis of measures	June '09 to Feb '10 (Begin actual timeline)
Pre-Rulemaking Activities: Phase 2: Public Workshops 1. Scoping workshop, plus present info on weather data, TDV and cost effectiveness methodology (including scenario analysis) 2. Stakeholder workshops, focused on specific areas of proposed changes	Oct '09 to Feb '10
Pre-Rulemaking Activities: Phase 3: Drafting Standards and Rulemaking Documents Reconcile comments in preparation for draft regulation workshops, including analysis rework and markup of the Standards documents; conduct workshops for presentation of proposed draft revisions to Standards documents; incorporate the comments from the workshops into the final proposed first draft Standards documents; draft rulemaking documents; close Pre-rulemaking Docket	Feb '10 to Feb '11
Rulemaking Activities Open Rulemaking Docket; file Rulemaking documents with CBSC; develop 45-Day Language Standards documents; develop and complete APA (Administrative Procedures Act) process requirements for rulemaking process; CEC adoption of 45-Day Standards documents; file necessary documents with various required agencies; close Rulemaking Docket	Feb '11 to July '11
Post Rulemaking Activities Preparation and development of materials for CBSC approval	July '11 to Sep '11
Compliance Manuals and Software Development Compliance manuals, software development and review to begin upon adoption of Standards. Compliance manual and software publication to occur 6 months prior to implementation	June '11 to Feb '12
Adoption Date	June 15, 2011
Implementation Date	September 1, 2012



Cool Roof Steering Group (CRSG): ASHRAE 90.1

Key Activities

- **ARMA submitted comments (May 5, 2008)**
 - **Demonstrate that requirements are *NOT* cost effective**
- **Face-to-face meeting in Salt Lake City (June 20-22, 2008)**
 - **Eliminated steep-slope requirement**
 - **Reduce low-slope to CZ 1-3**
- **Next steps:**
 - **Awaiting new public review draft of Addendum *f* to be released in November, 2009**
 - **Results expected to be addressed at the next meeting**
 - **January 22 – 27 Orlando, Florida**
 - **NRCA agrees to help collect cost survey**



Cool Roof Steering Group (CRSG): ASHRAE 189.1P-Commercial Green Building Standard

- **New Draft Standard Highlights:**
 - **5.0 Site Sustainability: Roofs (5.3.2.3)**
 - **Minimum 75% of roof covered shall meet:**
 - **Reflectance:**
 - **Minimum SRI of 78 low-sloped ($\leq 2:12$)**
 - **Minimum SRI of 29 steep-sloped ($\geq 2:12$)**
 - **And/Or comply with EPA Energy Star Program**
 - **Included climate zones 1-4**
 - **Prescriptive Option: Vegetated roof minimum depth of 3 inches**



Cool Roof Steering Group (CRSG): ASHRAE 189.1P-Commercial Green Building Standard

ARMA SUCCESSFUL IN MAKING MODIFICATIONS:

5.3.2.3 Roofs. This section applies to the building and covered parking *roof* surfaces for *building projects* in *climate zones* 1, 2, 3 **and 4...**

For roofing products, the values for solar reflectance and thermal emittance shall be determined by a laboratory accredited by a nationally recognized accreditation organization, **such as the Cool Roof Rating Council CRRC-1 Product Rating Program**

Recommendations:

- Continue to monitor and participate in ASHRAE 189.1P development process through 189.1P committee member, Merle McBride, OC



Cool Roof Steering Group (CRSG): AB 32 CO2 Emission Reduction

AB32 Goals

- **2010: Emissions at 2000 levels, 11% below business as usual. Reduction of 60 million tons**
- **2020: Emissions at 1990 levels, 28% below business as usual. Reduction of 173 million tons**
- **2050 Emissions at 80% below 1990 levels.**
- **Including the following sectors**

Agriculture	Land Use & Local Initiatives
Energy	Oil & Gas Refining
Including Efficiency	Manufacturing
Forests	Transportation
High Global Warming Potential	Waste Management/Recycling

AB32 Deadlines:

- **January 1, 2011—adopt all regulatory measures**
- **January 1, 2012—effective regulations**



Cool Roof Steering Group (CRSG): AB 32 CO2 Emission Reduction

- **California Attorney General (AG)**
 - AB 32 as a political opportunity
 - Cool Roofs is a solution to help meet AB 43
 - Targeting Title 24 as a vehicle to set Cool Roof requirement
 - DORMANT per Jim Mattesich (Greenberg Traurig LLP)
- **Global Cooling: Increasing World-wide Urban Albedos to Offset CO2 (Akbari, Menon & Rosenfeld)**
 - Paper to be peer reviewed for technical accuracy
 - Department of Energy is putting together a blue ribbon panel to review the paper
 - CRSG will develop a position regarding paper



Cool Roof Steering Group (CRSG): AB 32 CO2 Emission Reduction

- **Cool Communities Developers Group**
 - ARMA Meeting November 19, 2008
 - Next Conference Call Cancelled and Never Rescheduled
 - Moving to research for more back-up support
 - CEC and CARB combined forces to fund \$700,000 worth of research over 4 to 5 years
 - Obtain utility cost data and other to determine the extent and effectiveness of cool roofing
 - Conduct survey to determine how consumers and businesses can be encouraged to use cool roofing
 - Training for roofers and end-users of roofing materials on developments within the industry
 - Research new forms of asphalt with reflective pigments embedded



Cool Roof Steering Group (CRSG)

2010 Key Activities

- **U.S EPA Energy Star Program**
 - **New Department of Energy (DOE) and Environmental Protection Agency (EPA) Energy Star Program**
 - **Enhancements to include expanded coverage, more frequent specifications, product testing and new effort to recognize super efficient products**
 - **Conference call scheduled November 6 will provide information on Memorandum of Understanding signed by DOE and EPA**
 - **Conference call scheduled November 12 is an opportunity to learn the drivers and key elements of an enhanced verification program**



Cool Roof Steering Group (CRSG)

2010 Key Activities

- **Does the science support Cool Roof Mandates?**
 - **Global Cooling: Increasing World-wide Urban Albedos to Offset CO₂ (Akbari, Menon & Rosenfeld)**
- **2011 California Title 24 Standards Development Process**
- **Department of Energy (DOE) & California Energy Commission (CEC) Accelerated Aging Test Protocol Development**
- **The American Clean Energy and Security (ACES) Act of 2009**
- **Cool Roof Rating Council (CRRC)**



Cool Roof Steering Group (CRSG)

2010 Key Activities

- **Green Building Standards & Codes**
 - **ASHRAE 189.1P**
 - **ICC International Green Construction Code (IgCC)**
 - **ICC 700 National Green Building Standard**
 - **ASTM Standard Specification for Minimum Environmental, Social, and Economic Requirements for a Building Promoting Sustainability**
- **United States Green Building Council (USGBC) LEED**
- **AB 32 California Global Warming Solutions Act of 2006**



Cool Roof Steering Group (CRSG)

Members

- **Darrel Higgs, Owens Corning (Chair)**
- **Allan Snyder, CertainTeed**
- **Lou Hahn, GAF Materials Corporation**
- **Helene Hardy Pierce, GAF Materials Corp (Incoming Chair)**
- **Eileen Dutton, GAF Materials Corporation**
- **Heidi Wollert, Johns Manville**
- **Sid Dinwiddie, PABCO**
- **Tim Kersey, Siplast**
- **Kirk Goodrum, Siplast**
- **Aaron Phillips, TAMKO**
- **John Goveia/Phil Dregger, Pacific Building Consultants**
- **Andre Desjarlais, Oak Ridge National Laboratories**
- **Reed Hitchcock and Jim Baker, ARMA**



ARMA-NRCA Quality Control Task Force

Purpose

- **Develop a consensus Quality Control document that provides guidelines and corrective actions of asphalt shingles during the application process**
 - **Focused on the prevention of application of problems**

Key Activities

- **Draft Document being reviewed by ARMA Members**
- **ARMA QC Task Force will report at the March Meeting**
- **A report will be prepared for ARMA Board**
- **Final Draft developed by ARMA/NRCA Task Force**
- **Approval for publication by ARMA and NRCA Boards**



ARMA-NRCA Quality Control Task Force

Members

- **Bill Woodring, GAF Materials Corporation (Co-Chair)**
- **Richard Snyder, CertainTeed**
- **Darrel Higgs, Owens Corning**
- **Maciek Rupiari, NRCA (Co-Chair)**
- **Dane Bradford, Bradford Roofing**
- **Dave Karel, Garlock-French Roofing**
- **Bob Kulp, Kulp Roofing**
- **Bruce McCrory, Kiker Corporation**



Ventilation Task Force—Roof Assembly Ventilation Coalition

Mission: To study, monitor, and promote the interests of steep slope roof assembly ventilation through sound theory backed by scientific data.



Ventilation Task Force—Roof Assembly Ventilation Coalition

KEY FOCUS:

- **Communicate and Educate the Roofing Industry on the positive net effects of attic ventilation**
 - **Article Development**
 - **Florida Forum, June 2009**
 - **Professional Roofing Sustainable Roofing Piece**
- **Develop ICC Codes Proposals in Conjunction with ARMA**
- **Seek research opportunities to support Ventilation Coalition mission**



Ventilation Task Force—Roof Assembly Ventilation Coalition

2010 IRE Abstract: Roof Ventilation – What You Need to Know to Help Your Customers Make the Right Choices and How You Can Avoid Design and Installation Errors

- **Submit IRE Abstract with modifications**
 - **Roofing Industry Council on Weather Issues**
 - **Canadian Roofing Show**
 - **Green Building Show**
 - **Western States Roofing Show**



Ventilation Task Force—Roof Assembly Ventilation Coalition

September 2009 Meeting Highlights:

- **Participation Fee Increased: \$3,500**
 - Anticipated Revenue: \$31,500
 - Program is budgeted to be break even
 - ARMA will continue to provide staff support
- **The Coalition is looking at a 3 year strategic plan with the desire to become a separate entity**
 - Issues included a limited funding base
 - Expanding the scope to included allied organizations with an interest in attic ventilation



Ventilation Task Force—Roof Assembly Ventilation Coalition

September 2009 Meeting Highlights:

- **Investigate Additional Research Grants**
 - Department of Energy
 - ASHRAE
- **Developing a Communications Calendar and Message Points to Forward to the ARMA Steep Slope and Communications Committee**



Ventilation Task Force—Roof Assembly Ventilation Coalition

ICC Codes Proposals developed with ARMA CSG

- **Must have balanced approach**
 - Maximum of 50% at the top.
 - More Intake is required
 - 50% to 60% at the Intake
 - One single method.
- **Exhaust Vents should be placed at**
 - At the ridge or
 - 3 feet below the ridge (vertical plane)
 - Exception for situation where framing precludes the installation of the product



Ventilation Task Force—Roof Assembly Ventilation Coalition

- **Ventilation Task Force:**
 - Helene Hardy Pierce, GAF Materials Corporation (Chair)
 - Ed Todd, Atlas Roofing
 - Allan Snyder, CertainTeed
 - Darrel Higgs, Owens Corning
 - Lorraine Ross, Intec Consulting
 - Aaron Phillips, TAMKO
 - Jim Baker, ARMA
- **Charter Members (including ARMA):**
 - Donnie Anderson, Air-Vent, Inc., of Dallas, TX;
 - Michael Coulton, Benjamin Obdyke of Horsham, PA;
 - Phil Woolfrey, Canplus/Duraflo, of Canada;
 - Gary Urbanski, Diversi-Plast, Inc., of Minneapolis, MN (Chair)
 - Helene Hardy Pierce, GAF Material Corporation, of Wayne, NJ
 - MacGregor Pierce, Hunter Panels, Inc, of Portland, ME;
 - Ted Belden, Lomanco of Jacksonville, AR; and
 - Eric Godfrey, Metal-Era, Inc., of Waukesha, WI.



Other 2010 Steep-slope Activities

- **Accelerated Aging and Insulated Deck Program (Self Funding)**
 - **Accelerated Aging Program**
 - **Compares the properties and performance of shingles with accelerated aging methods and field aging**
 - **Next report due in March 2010**
 - **Program to Conclude in 2018**
 - **Insulated Deck Program**
 - **Studies shingle performance and physical properties over ISO, EPS and Radiant Barriers**
 - **Next report due March 2012**
 - **Program to conclude 2012**

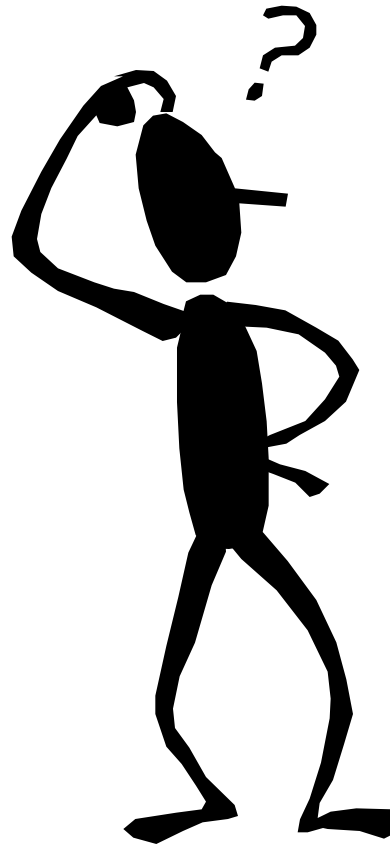


Other 2010 Steep-slope Activities

- **Updates to the Manufactured Housing Guide for 3 Tab Shingles**
 - **Task Force:**
 - **Sid Dinwiddie (Chair), PABCO**
 - **Darrel Higgs, Owens Corning**
 - **Richard A. Snyder, CertainTeed Corporation**
 - **William Woodring, GAF Materials Corporation**
- **Technical Bulletin Development on Installation of PV over Steep Sloped Shingled Roofs**



Questions?





Actions:

- **Approve the ARMA Steep-slope Committee report as presented?**



Thank you!