

# *EXCERPT FOR 9/1/11 ASSE Call*

## Integrating Safety and Health into Green Construction Rating Systems

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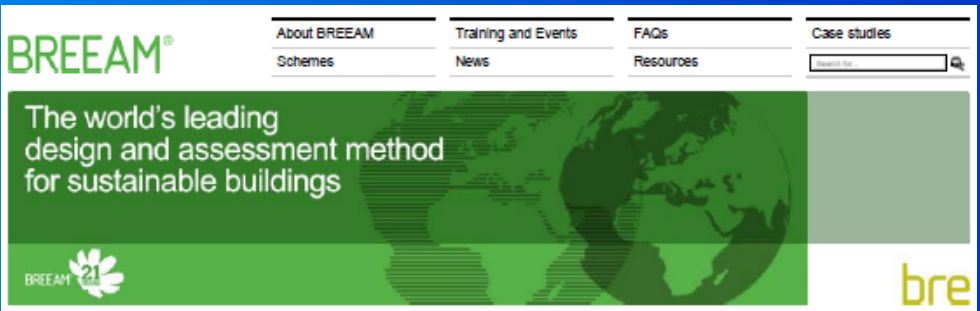
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Green rating systems play a key role.....

.....but do they address S&H?



# Strategy discussions

## Incremental Path

Develop S&H **Pilot Credits**:

- ✓ Add language to enhance **existing** credits that involve specific hazards.
- ✓ Develop **new stand-alone** S&H credits.
- ✓ Position for adoption into LEED.

## Comprehensive Path

Develop dedicated S&H Best Practices rating system that could either stand alone or be integrated into LEED.

Partner with S&H professionals, owners, and construction firms to pilot new credits and systems

# Focus areas

- ✓ **Construction** phases
- ✓ **Maintenance** work over the lifecycle of the building
- ✓ **DID NOT** focus on occupant issues



*“From a maintenance standpoint, I would have made the lights more accessible. Right now, if a light goes out in the theater we have to call in the electricians, and they practically have to build a scaffold to get to it.”*

*Manager, Central Los Angeles High School No. 9*

*<http://www.metropolismag.com/story/20110720/starchitecture-high>*

# Step 1) Evaluate LEED New Construction credits for safety and health potential

- **Positive:** likely activities, if coupled with additional safety design and planning measures, could act to **REDUCE** construction (C) and maintenance (M) worker exposures and risks. **7 credits**
- **Negative:** likely activities, if **NOT** coupled with additional safety design and planning measures, could act to **INCREASE** C & M worker exposures and risks. **11 credits**
- **Neutral:** While safety hazards cannot be ruled out, the likely activities appear less likely to either increase or reduce C & M worker exposures and risks, regardless of safety design and planning measures. **38 credits**  
(+1 both positive and negative)

## Step 2) Identify specific credits for safety enhancement

### Indoor Environmental Quality (IEQ):

- Credit 8.1 & 8.2 Daylight and Views
- Credit 3.1 & 4.1 Construction IAQ Mgmt Plan /Low emitting materials

### Materials & Resources (M&R):

- Credit 2 Construction Waste Management
- Credit 1.1 & 1.2 Building Re-use

### Sustainable Sites (SS):

- Credit 7.2 Heat Island Effect-Roofs

## Step 3) Develop enhanced credits and reference guide materials

### For Credits:

- ✓ Insert language --- match current level of detail
- ✓ Describe what needs to be done (not how to do it).
- ✓ Emphasize design and planning steps.

### For Reference Guides (Used to communicate key details)

- ✓ Insert new information in appropriate sections  
(e.g. *Benefits and Issues to Consider, Implementation, Documentation Guidance, Operations and Maintenance, Resources*)
- ✓ Provide options
- ✓ Provide photos and examples

# 3. EXAMPLES OF S&H ENHANCED CREDITS.

## Credit 7.2: Heat Island Effect—Roof 1 Point

**Intent :** To reduce heat islands to minimize impacts on microclimates and human and wildlife habitats.

### Requirements

**OPTION 1** Use roofing materials with a solar reflectance index (SRI) equal to or greater than the values in the table below for a minimum of 75% of the roof surface.

**OPTION 2** Install a vegetated roof that covers at least 50% of the roof area.

**OPTION 3** Use a combination of the above options

# S&H enhanced version

## Credit 7.2: Heat Island Effect—Roof 1 Point

### Requirements

**OPTION 1** Use roofing materials with a solar reflectance index (SRI) equal to or greater than the values in the table below for a minimum of 75% of the roof surface. **Develop and implement a safe roof plan to prevent falls and other hazards involved with construction and maintenance of high-albedo roofs.**

**OPTION 2** Install a vegetated roof that covers at least 50% of the roof area. **Develop and implement a safe roof plan to prevent falls and other hazards involved with vegetated roof installation and maintenance.**

## Credit 7.2: REFERENCE GUIDE

### 1. Benefits and Issues to Consider (New H&S Issues section)

...Vegetated roofs primarily present fall hazards to construction workers building the roof; landscaping workers installing the vegetation; and landscaping or maintenance workers providing Periodic care for vegetated roofs.

....Reflective surface roofs may present visual, heat, and fall hazards to construction workers building them and to maintenance workers performing periodic washing to maintain solar reflective index levels.

## Credit 7.2: REFERENCE GUIDE

### 4) Implementation (New S&H section )

#### Elements of a Safe Roof Plan.

1. Structural Integrity.

2. Fall prevention / protection.

*(5 options listed)*

3. Safe access

*(2 options listed)*

4. Unique building hazards

*(Glare, heat stress, toxics, and electrical hazards)*

### 7) Documentation Guidance

Include description of safe roof plan design features and documentation on implementation. Describe provisions for safe maintenance of vegetative and high albedo roofs over the building lifecycle.

# Partnering with ASSE

## Construction Practice Specialty Group

- ✓ Pilot test the draft pilot credits by using them on actual construction projects
- ✓ Provide feedback on how well they worked and how to improve them
- ✓ Eventually support their use on LEED jobs
- ✓ Also pilot test the comprehensive SCSH rating system – see web address on following page

# Comprehensive S&H rating system from Oregon State University Partners



The screenshot shows the homepage of the Sustainable Construction Safety & Health (SCSH) website. At the top, there is a navigation bar with links for 'About', 'News', 'Links', 'Contact Us', and 'Support'. The main header features a banner with a construction worker and the text 'SAFE. HEALTHY. GREEN.' Below this, a tagline reads 'Help us build worker well-being into sustainable design & construction'. The main content area is divided into two columns. The left column is titled 'Sustainability, Safety, and Health' and contains a section titled 'Welcome to the SCSH rating system' with a paragraph explaining the system and a link to 'Read more...'. The right column contains a 'REQUEST AN AUDIT' section with a 'Certify your project' link, and a list of links: 'SCSH Overview', 'Case Studies', 'Calculator Tutorial', and 'SCSH Roundtable'. At the bottom, there is a 'LEAVE A NOTE' section with a form for 'Name \*', 'Email \*', and 'Comment', and a 'Submit' button. To the left of the form is a 'SUPPORT SCSH' section with links for 'Make a Donation', 'Our Supporters', 'Become a Research Partner', and 'Suggest a Research Idea'. The SCSH logo is visible in the bottom right corner of the page.

<http://sustainableafetyandhealth.org/>

# Thanks!

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