



U.S. Department of Energy
**Energy Efficiency
and Renewable Energy**

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable

Federal Energy Management Program



Long Beach, California • August 14-17, 2005

The
Solutions
Network

Cutting and Pasting Your Way to **Greener** Buildings

*The Federal Green Construction Guide
for Specifiers*

Alison Kinn Bennett

US EPA

Environmentally Preferable Purchasing Program

EPA's Green Building Resources

www.epa.gov/greenbuilding

Media-Focused

- Energy
- Water
- Waste
- Materials
- Indoor Environments

Sector-Based

- Homes
- Offices
- Schools
- Laboratories
- Federal Facilities

...New Cross-Agency *"Green Building Work Group"*



The Federal EPP Mandate

Agencies shall:

- procure and use environmentally preferable products and services and
- implement cost-effective procurement preference programs

*—Executive Order 13101,
September 16, 1998*

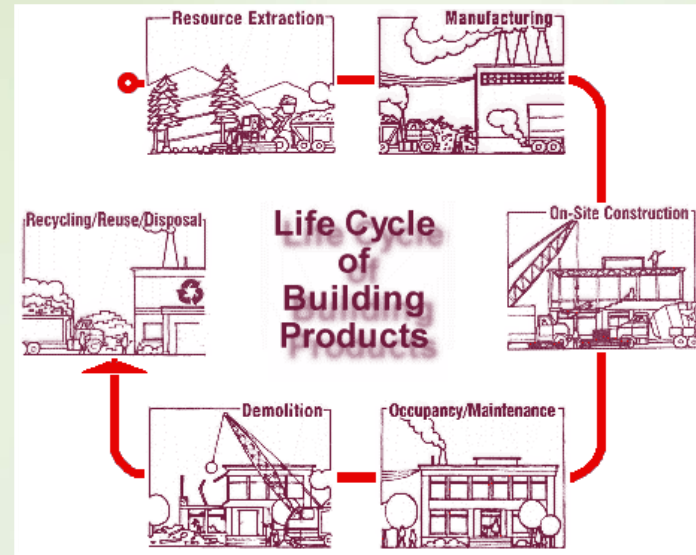


The Federal EPP Mandate

EP products and services:

- have a lesser or reduced effect on human health and the environment...
- considers impacts throughout the lifecycle

—Executive Order 13101,
September 16, 1998



Five Guiding Principles

Agencies should consider:

- Environment + Price + Performance + Availability
- Pollution prevention first
- Multiple environmental attributes over LC
- Reversibility and geographic scale of impacts
- Comprehensive and sound environmental performance data



Federal Green Construction Guide for Specifiers

- Greening of Government Executive Orders (13101, 13123, 13134, 13148)
- ENERGYSTAR & DOE/FEMP Product Efficiency Recommendations
- EPA's Comprehensive Procurement Guidelines
- NTTAA and OMB A-119
- USGBC's LEED and The GBI's Green Globes
- And Agency best practices. . .





Foundation for the Guide

- DOD Unified Facilities Criteria Program & UFGS
- GSA Real Property Sustainable Development Guide
- EPA Region 10 & RTP Specifications
- Triangle J Council of Governments, WasteSpec
- and more ...





Partners in the Guide

- EPA Offices and Regions
- Office of the Federal Environmental Executive
- Interagency Sustainability Working Group
- National Inst of Building Sciences -- Whole Building Design Guide



CSI MasterFormat™

- 1 - General Requirements
- 2 - Site Construction
- 3 - Concrete
- 4 - Masonry
- 5 - Metals
- 6 - Wood and Plastics
- 7 - Thermal and Moisture Protection
- 8 - Doors and Windows
- 9 - Finishes
- 10 - Specialties
- 11 - Equipment
- 12 - Furnishings
- 13 - Special Construction
- 14 - Conveying Systems
- 15 - Mechanical
- 16 - Electrical



08500 -- WINDOWS

Specifier Note

Resource Management:

- Windows can be fabricated from a variety of wood, metal, and plastic.

Toxicity/Indoor Air Quality:

- VOCs in adhesives and finishes, formaldehyde-based resins, wood preservatives

Performance:

- u-values, daylighting, orientation, SHGC



08500 -- WINDOWS

Part 1 - General

1.2 Submittals

Biobased / Recycled / Local Material /
Sustainable Forestry / Energy-Efficiency/
O&M Manuals

1.3 Quality Assurance

1. ASTM standards for formaldehyde and VOC emissions
2. Third-party Certification programs



08500 - Part 2 - Products; 2.1 Materials

A. Lumber - 1. Resource Management
Virgin / Salvaged / Recovered

B. Engineered Wood - 1. Toxicity/IEQ
no added urea-formaldehyde

C. [Metal] [Plastic] [xxxx]

Minimum [5] [10] [xxxx] percent post-consumer ...
or minimum [20] [40] [xxxx] percent pre-consumer



08500 – Part 2 – Products; 2.2 Accessories

A. Adhesives for [site installation] [factory fabrication]:

Toxicity/IEQ: ... GS-36 for Commercial Adhesive, [South Coast Air Quality Management District Rule 1168]

B. Fasteners:

Recycled Content: Fabricated from 100 percent re-melted steel.



Part 2 – Products; 2.3 Fabricated Products

A.1 Energy Efficiency

- Thermal & Visible Transmittance
- U-Value
- Solar Heat-Gain Coefficient
- Exterior reflectivity
- Color of tint
- ENERGY STAR Label

A.2 IEQ

- Sound Transmission Class



Part 3 – Execution

3.X Site Environmental Procedures

A. Resource Management:

1. Energy Efficiency: Verify products are properly installed, connected, and adjusted. Verify that products are performing as specified.

END OF SECTION



Division 1 - General Requirements

01100 - Summary

01300 - Administrative Requirements

01351 - Waste Management

01353 - Noise & Acoustics Management

01354 - Environmental Management

01400 - Quality Control

01411 - Environmental Reg. Requirements

01421 - Environmental References



Division 1 - General Requirements



01500 - Const. Facilities & Temporary Controls

01611 - Env. Requirements for Products

01740 - Cleaning

01780 - Project Closeout

01810 - Commissioning

01821 - Env. Demonstration & Training

01830 - Operation & Maintenance





Division 2 - Site Construction

- 02220 - Site Demolition
- 02230 - Site Clearing
- 02360 - Soil Treatment
- 02700 - Bases, Ballasts, Pavements
- 02780 - Pervious Paving Systems
- 02872 - Bat Houses
- 02900 - Landscaping





Divisions 3, 4, and 5

03300 - Cast-in-Place Concrete

03400 - Precast Concrete

04200 - Masonry

05050 - Basic Metal Materials & Methods



Division 6 - Wood and Plastics

06070 - Wood Treatment

06100 - Rough Carpentry

06160 - Sheathing

06200 - Finish Carpentry

06600 - Plastic Fabrications

06700 - Alternative Agricultural Products





Division 7 & 8

- 07100 - Dampproofing & Waterproofing
- 07200 - Thermal Protection
- 07300 - Shingles & Tiles
- 07500 - Membrane Roofing
- 07900 - Joint Sealers
- 08210 - Wood Doors
- 08500 - Windows



Division 9 - Finishes

- 09250 - Gypsum Board
- 09300 - Tile
- 09510 - Acoustical Ceilings
- 09650 - Resilient Flooring
- 09654 - Linoleum
- 09680 - Carpet
- 09720 - Wallcovering
- 09900 - Paints & Coatings



Divisions 10 and 11

10 Specialties

- 10170 - Toilet Compartments
- 10400 - Signage

11 Equipment

- 11160 - Loading Dock Equipment
- 11450 - Residential Equipment
- 11680 - Office Equipment



Divisions 12, 13 and 14

12 Furnishings

- 12100 - Artwork
- 12482 - Floor Mats
- 12700 - Systems Furniture

13 Special Construction

- 13600 - Renewable Energy Systems

14 Conveying Systems

- 14200 - Elevators



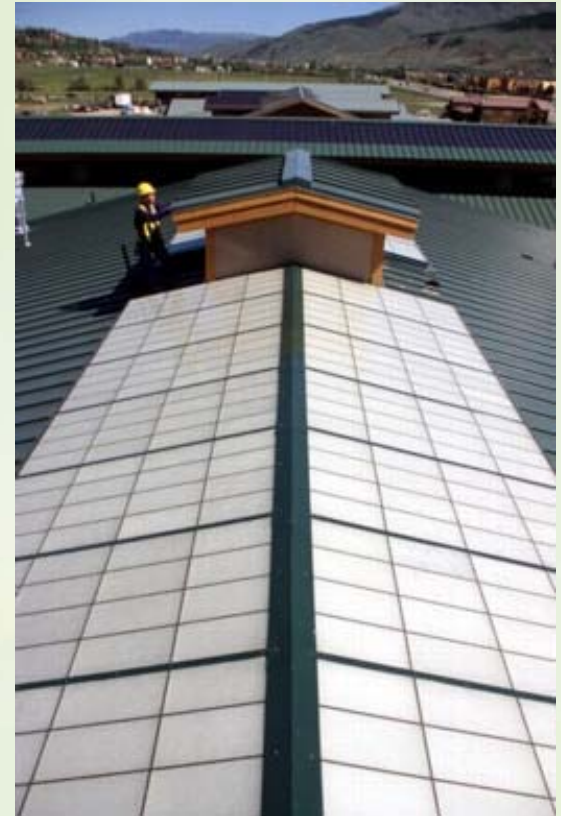
Divisions 15 & 16

Division 15 - Mechanical

- 15400 - Plumbing Fixtures & Equipment
- 15700 - Heating, Ventilating, & Air Conditioning Equipment
- 15800 - Air Distribution

Division 16 - Electrical

- 16500 - Lighting



Process for Roll-Out

- Federal Review - January 2003
- Industry Review - October 2003
- Public Review - January 2005
- Future Reviews on a case-by-case basis
- Advisory Team for continual improvement



Next Steps

- EPA IEQ Guidelines
- Model Bid Specification
- FEMP-sponsorship of new sections
- Unified Facilities Guide Spec
- State & Local Governments
- Measurement & Assessment



Questions for you...

- Additional sections?
- How should we manage future expansion?
Sections submitted from private sector?
- Interest in co-sponsoring?
- How will you use these Guide Specs?
- Suggestions for measurement and assessment?



Contact Information

Alison Kinn Bennett

USEPA - OPPT

202-564-8859

kinn.alison@epa.gov

<www.epa.gov/greenbuilding>

<fedgreenspecs.wbdg.org>

