

**EFCOG BEST PRACTICE #27**  
**Template for Sustainable Design Standards**  
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**BRIEF DESCRIPTION OF BEST PRACTICE:**

The Template for Sustainable Design Standards relates closely to Integrated Safety Management Guiding Principles 4 and 5: Balanced Priorities, and Identification of Safety Standards.

As relatively cost neutral standards, the Template helps sites balance the priorities of cost and environmental health. Many of the standards contained in the Template lead to energy or water conservation which implies less impact on the global environment and lower operating costs. Other standards in the Template lead to reduction of pollutants in the indoor environment, improving the health and safety of occupants.

The standards in the Template are safety related, since they are designed to reduce negative impacts on the environment. The Template identifies safety standards to improve DOE sites.

**WHAT ARE THE BENEFITS OF THE BEST PRACTICE:**

The Template for Sustainable Design Standards provides sustainable design standards for incorporation into design guidelines or architectural/engineering standards at individual DOE sites. The purpose of this template is to provide high level, global standards that will enhance sustainable construction if used at DOE sites.

The template is limited to cost-neutral or low cost standards that should become normal practice. DOE sites are welcome to adapt all or portions of the entries into site-specific design standards, or sites can re-write as construction specification, i.e., "shall" or "will" replaces "consider" and "should."

Excluded from this template are specifications specific to energy efficiency and conservation since it is assumed that all sites already have viable energy standards.

**DESCRIPTION OF PROCESS EXPERIENCE USING THE BEST PRACTICE:**

The bulk of the sustainable standards included in the Template came from these sources:

1. *Design Guideline*, National Renewable Energy Laboratory, April 2002

2. "Update on Environmental Health Impacts of Polyvinyl Chloride (PVC) as a Building Material: Evidence from 2000-2004," a commentary for the US Green Building Council by Sandra Steingraber, PhD, Distinguished Visiting Scholar, Ithica College, New York, Healthy Building Network, April 2004.
3. *Regulation 8, Organic Compounds*, Bay Area Air Quality Management District, State of California, November 2001.
4. *Plant Design Criteria Manual*, Pantex Plant, April 1999
5. *Facility Projects & Engineering Standards*, Pacific Northwest National Laboratory, March 2003.
6. "Guidance for Preparation of a Sustainable Design Report for Office Buildings at Sandia National Laboratories," Sandia National Laboratory, November 2003.
7. *Leadership in Energy & Environmental Design*, Reference Package Version 2.0, US Green building Council, June 2001.
8. *DOE-ID Architectural Engineering Standards*, Idaho National Engineering and Environmental Laboratory, November 2001
9. *LANL Sustainable Design Guide*, LA-UR 02-6914, Los Alamos National Laboratory, December 2002.
10. "Section 01570, Construction Waste Management", Lawrence Berkeley National Laboratory, April 2002.
11. "Commissioning Guide Specification", Lawrence Livermore National Laboratory, 95% draft as of October 2002.
12. *Conduct of Engineering and Technical Support Procedure Manual*, Savannah River Site, April 2002.

The distribution of the contributions from these twelve sources to the topics in the Template is shown in the Table below.

	1	2	3	4	5	6	7	8	9	10	11	12
General	X			X	X		X	X	X			X
Sitework						X	X		X	X		
Concrete	X											
Metals	X								X			
Wood and Plastics	X	X					X		X			
Thermal and Moisture Protection	X						X		X			
Special Construction	X											
Finishes	X		X				X		X			
Mechanical	X			X		X	X	X	X		X	
Electrical	X			X	X		X		X			

Since most of the references represent standards already in place and in practice at DOE sites, implementation is already occurring throughout the complex. The Template will result in even broader application across the complex.