

Issue: #TB167
Date: February 1, 2006
Topic: Sustainable Building Practice

Summary of LEED-NC v2.2

LEED Version 2.2 was released in November 2005. It contains some significant differences from the earlier LEED-NC v 2.1. This technical bulletin summarizes the revisions in this version that relate to lighting controls.

Energy & Atmosphere (EA) Category: Differences from LEED-NC v. 2.1

Prerequisite 1: Fundamental Building Commissioning

Specifically mentions that Commissioning process activities shall be completed for the following energy-related systems, at a minimum:

- Heating, ventilating, air conditioning, and refrigeration (HVAC&R) systems (mechanical and passive) and associated controls
- Lighting and daylighting controls
- Domestic hot water systems
- Renewable energy systems (wind, solar etc.)

Adds these requirements:

- Designate an individual as the Commissioning Authority (CxA) to lead, review and oversee the completion of the commissioning process activities.
- The CxA shall have documented commissioning authority experience in at least two building projects.
- The CxA shall report results, findings and recommendations directly to the Owner.
- For projects smaller than 50,000 gross square feet, the CxA may include qualified persons on the design or construction teams who have the required experience.

Provides more detailed requirements for the commissioning authority's qualifications as follows:

- The individual serving as the CxA shall be independent of the project's design and construction management, though they may be employees of the firms providing those services. The CxA may be a qualified employee or consultant of the Owner.

Prerequisite 2: Minimum Energy Performance

- References ASHRAE 90.1-2004 rather than ASHRAE 90.1-1999

- References specific sections of 90.1-2004 including Section 9.4 Mandatory Provisions (includes lighting controls) and Section 11 Energy Cost Budget Method.
- ASHRAE User's Manual worksheets may be used to demonstrate compliance

Credit 1: Optimize Energy Performance

Provides the option to follow one of three compliance paths for meeting the credit.

Option 1: Whole Building Energy Simulation (1 - 10 Points)

- Use a whole building energy simulation to demonstrate a percentage improvement over performance designed using 90.1-2004 as the baseline
- Use Building Performance Rating Method (BPRM) in Appendix G of 90.1-2004. Include all of the energy costs within and associated with the building project. All energy costs include regulated and unregulated loads (plug loads, parking garage, exterior lighting). Version 2.1. did not include unregulated loads.
- Project must meet Prerequisite 2 and be compared against a baseline building that complies with 90.1-2004.
- Point allocations revised and account for unregulated loads and improving energy performance above 90.1-2004, rather than 90.1-1999.

Option 2 - Prescriptive Compliance Path (4 Points)

Obtain a flat 4 points by designing to fully comply with the prescriptive measures of ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004. This document outlines strategies for designing a building that is 30% more energy efficient than a building designed to meet 90.1-1999.

- This applies to office buildings under 20,000 sq. ft

Option 3 - Prescriptive Compliance Path (1 Point)

- Design to fully comply with the Basic Criteria and Prescriptive Measures of the Advanced Buildings Benchmark Version 1.1, excluding sections 1.7 Monitoring and Trend-logging, 1.11 Indoor Air Quality, and 1.14 Networked Computer Monitor Control.

Indoor Environmental Quality (IEQ) Category: Differences from LEED-NC v. 2.1

Version 2.1 integrated the lighting, thermal, and air flow controls under Credits 6.1 and 6.2. Credit 6.1 applied to perimeter spaces, and Credit 6.2 applied to nonperimeter spaces. Rigorous, and sometimes confusing, zone sizes and rules existed.

Version 2.2 separates lighting from thermal and airflow control into individual credits. Credit 6.1 in Version 2.2 is for lighting controls, and Credit 6.2 is for thermal comfort.

Credit 6.1. Lighting Controls (1 pt.)

- Individual lighting controls for 90% of the building occupants to enable personal control and adjustability of lighting.
- Lighting controls must be supplied for all shared multi-occupant spaces so that groups can tailor lighting to their needs.