



LEED ID+C: Retail | v4 - LEED v4

## Enhanced commissioning

Possible 5 points

Glossary

### Intent

To further support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability.

### Requirements

#### Option 1. Enhanced commissioning (4 points)

Projects must complete the following commissioning process (CxP) activities for mechanical, electrical, domestic hot water, and renewable energy systems and assemblies in accordance with ASHRAE Guideline 0-2005 and ASHRAE Guideline 1.1-2007 for HVAC&R systems, as they relate to energy, water, indoor environmental quality, and durability.

- Review contractor submittals.
- Include systems manual requirements in construction documents.
- Include operator and occupant training requirements in construction documents.
- Verify systems manual updates and delivery.
- Verify operator and occupant training delivery and effectiveness.
- Verify seasonal testing.
- Review building operations 10 months after substantial completion.
- Develop an on-going commissioning plan.

#### OR

#### Option 2. Monitoring-based commissioning (5 points)

Achieve Option 1.

Develop monitoring-based procedures and identify points to be measured and evaluated to assess performance of energy- and water-consuming systems.

Include the procedures and measurement points in the commissioning plan. Address the following:

- roles and responsibilities;
- measurement requirements (meters, points, metering systems, data access);
- the points to be tracked, with frequency and duration for trend monitoring;
- the limits of acceptable values for tracked points and metered values (where appropriate, predictive algorithms may be used to compare ideal values with actual values);
- the elements used to evaluate performance, including conflict between systems, out-of-sequence operation of systems components, and energy and water usage profiles;
- an action plan for identifying and correcting operational errors and deficiencies;
- training to prevent errors;
- planning for repairs needed to maintain performance;
- the frequency of analyses in the first year of occupancy (at least quarterly);

Update the systems manual with any modifications or new settings, and give the reason for any modifications from the original design.