

BEYOND

SMART CITIES

LEED COMMISSIONING & ACTIVE SYSTEMS

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LEED COMMISSIONING & ACTIVE SYSTEMS

What is Fundamental LEED Commissioning

What is Enhanced LEED Commissioning

What is Active Systems ?

What is Active Building?

LEED EA PREREQUISITE
FUNDAMENTAL
COMMISSIONING & VERIFICATION
INTENT

To 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

Implement or have a contract in place to implement the following fundamental best practice commissioning procedures

- Document the Owner's Project Requirements (OPR) and the Basis of Design (BOD) documentation.
- Incorporate commissioning requirements into the Construction Documents.
- Develop and utilize a Commissioning Plan.
- Verify installation, functional performance, training, and operating and maintenance documentation.
- Complete a Commissioning Report.

LEED EA CREDIT: POSSIBLE 6 POINTS

ENHANCED COMMISSIONING

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

In addition to the Fundamental Building Commissioning prerequisite, implement or have a contract in place to implement the following additional commissioning tasks:

- ☒ A commissioning authority independent of the design team shall conduct a review of the design prior to the construction documents phase.
- ☒ An independent commissioning authority shall conduct a review of the construction documents near completion of the construction document development and prior to issuing the contract documents for construction.
- ☒ An independent commissioning authority shall review the contractor submittals relative to systems being commissioned.
- ☒ Provide the owner with a single manual that contains the information required for re-commissioning building systems.
- ☒ Have a contract in place to review building operation with O&M staff, including a plan for resolution of outstanding commissioning-related issues within one year after construction completion date



COMMISSIONING AS DEFINED HERE FOCUSES ON ACTIVE SYSTEMS THAT AFFECT SUSTAINABILITY

☒ **"Active" system** : Any system that needs to change its operation in response to changing conditions in the building's environment (indoor or outdoor) is an active system.

☒ **"Affect Sustainability"**: Degrades the expected environmental performance of the building, in terms of: **Energy, Water ,Air ,Visual / Thermal Comfort**

☒ An **Active Building** is described as "a building that supports the wider grid network by intelligently integrating renewable energy technologies for heat, power and transport."



EXAMPLES OF ACTIVE SYSTEMS IN GREEN BUILDINGS

- ☒ Lighting Controls
- ☒ Sun Controls / Shading
- ☒ Demand Controlled HVAC / Ventilation
- ☒ Ventilation Systems and Control
- ☒ Gray Water
- ☒ Storm Water Control
- ☒ Photovoltaics / Cogeneration / Fuel Cells
- ☒ Direct Digital Controls (DDC)
- ☒ Chiller and Boiler Plants




