

# LEED v4 COMMISSIONING CHECKLIST!



Date: \_\_\_\_\_  
Client: \_\_\_\_\_  
Project: \_\_\_\_\_

## EA PRE-REQUISITE: FUNDAMENTAL COMMISSIONING AND VERIFICATION

\* = Deliverable

### PLANNING

- UPLOAD CxP's EXPERIENCE TO LEED ONLINE \*
- OWNER'S PROJECT REQUIREMENTS AND/OR CURRENT FACILITY REQUIREMENTS \*
- BASIS OF DESIGN \*

### DESIGN

- CxP REVIEW OF DESIGN (PERFORMANCE, OPERATIONS & MAINTENANCE REVIEW)
- CxP REVIEW OF ENVELOPE DESIGN (PERFORMANCE, CONTINUITY, MATERIAL COMPATIBILITY & MAINTENANCE REVIEW)
- Cx SPECS \* HAVE BEEN INCLUDED IN CONSTRUCTION DOCUMENTS
- Cx PLAN \*

### PRE-CONSTRUCTION

- Cx PLAN REVIEWED WITH THE TEAM (CONSTRUCTION KICK-OFF)
- COMMISSIONING ACTIVITIES INCLUDED IN CONSTRUCTION SCHEDULE

### CONSTRUCTION

- INSTALLATION CHECKLISTS \* (COMPLETED BY CONTRACTOR, PRODUCED/VERIFIED BY CxP)
- NOTIFY CxP OF MANUFACTURERS START-UPS (SCHEDULED BY CONTRACTOR)
- COORDINATE TAB, ENGINEERING PUNCH AND PLAN FOR CORRECTIVE ACTION PRIOR TO Cx TESTING
- COORDINATE CONTRACTORS TO ASSIST CxP WITH FUNCTIONAL TESTING
- COORDINATE CONTRACTORS CORRECTIVE ACTIONS (ISSUES LIST PROVIDED BY CxP)

### TURNOVER

- COORDINATE CONTRACTOR EQUIPMENT TRAINING W/ CxP WHOLE-SYSTEM TRAINING
- O&M PLAN \*
- ISSUE FINAL REPORT \*, UPLOAD TO LEED ONLINE (MUST BE COMPLETED BY CxP)

## EA CREDIT: ENHANCED COMMISSIONING (3 POINTS)

### CREDIT PRE-REQ

- COMPLETE ALL OF THE ABOVE (PRE-REQUISITE), PLUS THE FOLLOWING:

### DESIGN

- DOCUMENTED OPR, BOD, AND DESIGN REVIEWS\* (EX. REVIEW LOG)
- DOCUMENTED SUBMITTAL REVIEW (EX. SUBMITTAL LOG) \* #
- SYSTEMS MANUAL AND OPERATOR & OCCUPANT TRAINING REQUIREMENTS INCLUDED IN SPECIFICATIONS/CDs \* #

### TURNOVER

- ASSEMBLE SYSTEMS MANUAL (SOME ITEMS PROVIDED BY DESIGNERS OR CONTRACTORS) \* #
  - FINAL BASIS OF DESIGN (BY DESIGN TEAM)
  - AS-BUILT SYSTEM SINGLE LINE DIAGRAMS
  - AS-BUILT SEQUENCE OF OPERATIONS, CONTROL DRAWINGS, SETPOINTS
  - OPERATING INSTRUCTIONS FOR Cx SYSTEMS (O&Ms)
  - PREVENTIVE MAINTENANCE SCHEDULE
  - CxP's RECOMMENDATIONS FOR FUTURE TESTING, INCL. BLANK TEST FORMS
  - SCHEDULE FOR CALIBRATING SENSORS & ACTUATORS
  - COPY OF 10-MONTH CHECKUP CONTRACT
- ISSUE TRAINING PLAN (SCHEDULE) \* #, UPLOAD TO LEED ONLINE
- COORDINATE, VERIFY CONTRACTOR EQUIPMENT TRAINING W/ CxP WHOLE-SYSTEM TRAINING #
- ISSUE ONGOING COMMISSIONING PLAN \* #, UPLOAD TO LEED ONLINE

### WARRANTY

- 10 MONTH CHECKUP (CONTRACT MUST BE IN PLACE BETWEEN OWNER AND CxP) \* #

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## EA CREDIT: ENHANCED COMMISSIONING + MBCx (1 POINT)

CREDIT PRE-REQ  COMPLETE ALL REQUIREMENTS OF EA CREDIT, ABOVE.

- DESIGN  Cx PLAN INCLUDES MBCx \* (IMPORTANT: MBCx REQUIREMENTS MAY REQUIRE ADDITIONAL CONTROLS EQUIPMENT)
- ISSUE LIST OF MONITORING POINTS TO BE TRACKED/FREQUENCY \*, UPLOAD TO LEED ONLINE

## EA CREDIT: ENHANCED COMMISSIONING - ENVELOPE COMMISSIONING (2 POINTS)

- COMPLETE BUILDING ENVELOPE COMMISSIONING FOR " # " ITEMS IN EA CREDIT REQUIREMENTS, ABOVE.

The Commissioning Process, as outlined in ASHRAE Guideline 0-2005, ASHRAE Guideline 1.1-2007 for HVAC&R Systems and NIBS Guideline 3-2012 Commissioning of Exterior Enclosures, has proven economic, energy, and "soft" benefits (less headaches, callbacks, more organized project, more leverage for sticking to schedule, etc.) In fact, according to the latest research from the Dept. of Energy and Lawrence Berkeley National Lab, "...commissioning is arguably the single-most cost-effective strategy for reducing energy, costs, and greenhouse gas emissions in buildings today." (Mills, 2009 with update Coming Soon 2018.)

The United States Green Building Council (USGBC) also has recognized the inherent value in employing the commissioning process. For LEED, Commissioning is a *tool* for proving that energy systems (mechanical, electrical, plumbing, envelope and renewable energy systems) are designed, installed, and tested to perform well and can be maintained well over the life of the building. Important: While commissioning includes all energy systems, the process itself *does not* encompass the entirety of the LEED-related work for a project.

Disclaimer: This checklist was created by Jump-Start Building Commissioning, based on and used for specific project work, and used to guide activities in order to complete commissioning work required for the pre-requisite and enhanced commissioning-specific credits. It should be used as an example and is not an end-all checklist for scoping or completing LEED commissioning projects. **Please suggest revisions or provide comments by email directly to: [tjumper@jumpstartbuildings.com](mailto:tjumper@jumpstartbuildings.com)**