



Transbay Transit Center Commissioning for LEED

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Prepared For:
Transbay Joint Power Authority



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OUTLINE

1. What is Commissioning (Cx)?
2. Cx Benefits
3. Cx Scope
4. Cx Current Status
5. Cx Requirements
6. Cx Deliverables



WHAT IS COMMISSIONING?

A quality assurance process for verifying and documenting proper equipment and system installation and performance per the Owners Project Requirements (OPR), Basis of Design (BOD) and construction documents.

- Verify systems operation
- O&Ms
- Verify Training
- Warranty Phase work included
- Commissioning is a Prerequisite for LEED Certification



COMMISSIONING BENEFITS

Contractor Benefits

- Smoother, more predictable schedule flow with decreased delays from systems in Cx Scope
- Reduced contractor call-backs & warranty claims

Owner and Occupant Benefits

- Energy savings to the owner
- Fully optimized functionality of building systems
- Better indoor air quality and comfort
- Reduced HVAC, EMCS & electrical problems found while maintaining equipment
- Longer equipment life
- Better trained O&M staff

COMMISSIONING SCOPE

Enovity will commission the following LEED systems:

- Mechanical Systems
 - Central Building Automation System (BAS)
 - HVAC Equipment
 - HVAC Distribution Piping and Ductwork
- Electrical Systems
 - Lighting Controls Systems (scheduled and occupancy)
 - Daylight Dimming Controls Systems
- Plumbing Systems
 - Domestic Hot Water Systems

COMMISSIONING SCOPE

Enovity will also commission the following Non-LEED systems:

- Additional Mechanical Systems
 - Refrigeration systems
- Additional Electrical Systems
 - Distribution (switchgear, panelboards)
 - Generator systems
 - Uninterruptible power systems
- Additional Plumbing systems
 - Graywater and Reclaimed Water Systems
- Fire Alarm and Suppression Systems
- Vertical Transportation Systems
- Ramps
- Traffic Signaling Systems
- Security and Access Systems
- Communication Systems
 - PA
 - Phone
 - CCTV
 - AV
 - IT
 - Telecom
 - Digital Signage

COMMISSIONING CURRENT STATUS

- Commissioning is a Design, Construction and Warranty Phase process
 - Currently in Design Phase
- Assisted owner in developing the OPR document
- Assisted MEP Design Engineer in developing the BOD document
- Completed Commissioning specifications for inclusion in bid documents detailing Contractor and CxA requirements
- Completed detailed Design reviews at 100%DD and 50%CD milestones
 - Working with MEP Engineer to implement comments
- Completed Design Phase Commissioning Plan
- Working on Construction Phase Commissioning Plan
- Working with Webcor and Turner regarding Commissioning activity and milestones being incorporated into overall construction schedule

COMMISSIONING REQUIREMENTS

- Provide Commissioning Specifications detailing the commissioning procedure for each scoped system
- Inclusion of Commissioning schedule tasks into overall schedule
- Team cohesion to achieve benefits
- Clear and timely communication to maximize effectiveness

COMMISSIONING REQUIREMENTS

- Enovity is Commissioning Authority as agent of the Owner
- Reviews design documents and submittals
- Wrote commissioning specifications
- Develops pre-functional and functional test forms
- Witnesses pre-start checks, equipment startups, TAB, and functional tests
- Documents commissioning history for the Owner and O&M staff
- Is not responsible for design of systems

COMMISSIONING DELIVERABLES

- Fully operating systems that meet design intent
- All accompanying documentation
- Complete and documented training of staff
- Complete O&M manuals as required
- Team assistance in creating LEED Systems Manual



QUESTIONS

Questions and Discussion





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Providing commissioning, energy engineering, sustainable design and building operations and maintenance services to the construction and property management industry.