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CERTIFIED COMMISSIONING TECHNICIAN

CXT OVERVIEW

ONLINE TRAINING BY KRISHNAJI PAWAR

LEED AP(BD+C),GSAS CGP,GCP,ISO 14001

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MODULE
01

Introduction and Course Outline

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BRIEF ABOUT ME

Krishnaji PAWAR

CEO & FOUNDER

Krishnaji Pawar is founder and CEO of Beyond Smart Cities. Before being named CEO in January 2020, Krishnaji held leadership roles at Beyond Smart Cities in both Sustainability ,Energy & Environmental Consultancy.

Specialized in developing sustainable design strategies for Green Building Certification Systems (LEED, GSAS, etc.), Energy & Water Conservation, Commissioning, Environmental Impact Assessment & Environmental Management Systems.

Currently responsible for 3,787 million square feet Green Building /Energy modeling Consulting since January 2008 in UAE, India and Qatar.



CERTIFIED COMMISSIONING TECHNICIAN CXT OVERVIEW

ACG Certified Commissioning Technicians (CxTs) work on commissioning projects under the supervision of a Certified Commissioning Authority (CxA). They need to possess technical aptitude, clear communication skills, and the ability to adhere to documentation and distribution protocols.

Learning Objectives

- **Course Overview and Introduction**
- **Definition & History of Commissioning**
- **Why is building commissioning needed?**
- **Technical, communication, and CX skills**
- **Commissioning Process Overview**
- **CX Technicians (CxT) Responsibilities**
- **Specilist Certification in CX Services**
- **Cost and benefits of building CX**
- **CX Challenges and Emerging Issues**
- **Summary and Resources**
- **CxT Practice Exam: Test Your Knowledge!**



INTRODUCTION

- CxTs are professionals working on commissioning projects under the supervision of a Certified Commissioning Authority (CxA).
- They possess technical, communication, and commissioning skills, including extensive field experience, expert knowledge of the systems they commission, and understanding of overall design intent and the construction process.
- CxTs interact with project team members, including contractors, vendors, testing agencies, and special inspectors, and use excellent written and verbal skills, communication protocols, and coordination skills.
- They are responsible for systematically documenting and organizing verification, resolution, and testing information.
- CxTs' success relies on effective communication with the CxA to deliver a consistent product to the client.

CERTIFIED COMMISSIONING TECHNICIANS (CXT) OVERVIEW

- In the design phase, CxT shares responsibility with the CxA to set up the design phase kickoff meeting and draft system verification checklists (SVC) and functional performance tests (FPT).
- In the construction phase, CxT participates in pre-construction meetings, attends coordination and progress meetings, generates, updates, reviews, and distributes System Verification Checklists (SVC), Functional Performance Tests (FPT), and Resolution Tracking Forms (RTF).
- CxT acts as a catalyst to challenge the project team relative to their specified responsibilities and roles as members of the commissioning team.
- The CxT facilitates O&M training and may direct, oversee, or verify digital recording of the training depending on contract requirements.
- Post-acceptance phase responsibilities include implementing off-season mode FPTs, generating FPT summaries and SPQC reports, monitoring warranty issue work, and sharing responsibility for the 11th month walkthrough.
- ACG Certified Commissioning Technician Candidate Prerequisites include a minimum of two years of field testing experience, working for an ACG member firm for at least six months, and being currently employed by an ACG member firm.





ACG CERTIFIED COMMISSIONING TECHNICIANS OVERVIEW

- Commissioning is a systematic process for designing, installing, testing, and operating building systems.
- It involves verification of system performance, documentation, and training of operations personnel.
- Commissioning is critical in complex systems like HVAC, electrical, plumbing, and building automation systems.



The ACG Certification

- The AABC Commissioning Group (ACG) CXA OR CXT is a certification program that recognizes individuals who have demonstrated knowledge and skills for effective commissioning practices.

Eligibility and Requirements

- Candidates must have at least two years of experience in the commissioning field or related areas.
- They must pass a comprehensive examination that tests their understanding of commissioning principles, procedures, and best practices.

ROLE AND RESPONSIBILITIES OF ACG CERTIFIED COMMISSIONING TECHNICIANS

- System Verification and Testing: Technicians perform system verification and testing, such as measuring airflow, temperature, and pressure at various points in the system.
- Documentation and Reporting: Technicians maintain detailed records of tests conducted, system performance data, and any discrepancies identified during the commissioning process.
- Communication and Collaboration: Technicians work closely with a diverse team that includes engineers, contractors, and facility managers.



IMPORTANCE OF CERTIFICATION



- Achieving the CxT certification demonstrates a commitment to professional growth and adherence to industry standards.
- Quality Assurance: Organizations that employ ACG Certified Commissioning Technicians benefit from the assurance that these professionals possess the knowledge and skills to ensure high-quality commissioning processes.

EFFICIENT BUILDING PERFORMANCE IMPORTANCE

- Changes in people's expectations and business environment necessitate efficient building performance.
- The built environment protects health from environmental issues like heat, air pollution, rain, and noise.
- Buildings should not become pollution sources and health hazards.
- Decreased resources like water and energy, and increasing costs of their usage, necessitate better performance.



EFFICIENT BUILDING PERFORMANCE IMPORTANCE+

- Investors expect higher returns on investments, leading to improved building valuation and management models.
- The complexity and automation of building technology necessitates the start-up of individual components and total system operation.
- Major green building certification systems now require HVAC system commissioning, but proper system performance should be a basic requirement for new construction and refurbishment projects.



KEY DEFINITION & MEANING

Commissioning is a process - a systematic process of ensuring that a building performs in accordance with the design intent, contract documents, and the owner's operational needs.

Basis of Design (BOD)

A document that records the concepts, calculations, decisions, and product selections used to meet the owner's project requirements and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.



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ASHRAE: American Society of Heating Refrigerating and Air-Conditioning Engineers is an international organization with a mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education

Building Performance Monitoring & Metric: Using tools that compile building data into a few useful metrics to help operators understand whether their building technology is working as intended.

Owner's Project Requirements (OPR)

A written document that details the functional requirements of a project, i.e., the expectations of how it will be used and operated, It also includes project goals, measurable performance criteria (e.g., energy efficiency goals), cost considerations, success criteria and relevant benchmarks, and supporting information.



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Commissioning Process (CxP): A quality-focused process for enhancing the delivery of a project includes commissioning process activities specified by the owner or required by a code or standard. The process focuses on verifying and documenting that all of the systems and assemblies under the scope of commissioning are planned, designed, installed, tested, operated, and maintained to meet the owner's project requirements.

Commissioning Final Report (CxFR): A document that records the activities and results of the commissioning process and is developed from the final commissioning plan with all of its attached appendices.

Commissioning Plan (CxPlan) : A dynamic document that outlines the organization, schedule of activities, allocation of resources, and documentation requirements of the commissioning process. The document shall be updated frequently, at least at the end of every phase, with the tasks and documents related to the coming phase.

Commissioning Provider (or Authority (CxA) or Agent): An organization or individual identified by the owner who sets up the commissioning team and leads, plans, schedules, and coordinates the activities to implement the commissioning process.

Commissioning Team (Cx Team) : Individuals and agencies who, through coordinated actions, are responsible for implementing the commissioning process.



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Beyond Smart Cities is the world's 1st Green Technology Marketplace, connecting millions of Sustainability Specialists, Green Building Specialists, Energy Specialists, Commissioning Specialists, Environment Specialists, Health & Safety Specialists, Fire Safety Specialists, Climate Change Specialists & Green Products/Technology Manufacturers with independent talent around the globe.

Our mission is to build and support a global community of experts with the highest professional standards in sustainability, green building, energy, commissioning, environment, health & safety, fire safety, climate change, GHG accounting, carbon auditing, and GHG emissions management.

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