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COMMISSIONING SPECIALIST
BEYOND SMART CITIES
CERTIFIED COMMISSIONING MANAGER
CCM TRAINING PROGRAM
ONLINE PROFESSIONAL COURSES LED BY THE WORLD'S TOP SPECIALISTS
ONLINE TRAINING BY KRISHNAJI PAWAR
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MODULE 03

Certification Programs for CxA Professionals

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CERTIFIED COMMISSIONING MANAGER - CCM TRAINING OVERVIEW

This presentation explores the top certifications for commissioning specialists and managers, highlighting their importance in demonstrating knowledge, earning higher salaries, and demonstrating industry credibility. It also highlights the importance of studying latest technologies and industry standards to advance careers.

Learning Objectives

- What is Commissioning?
- What are Commissioning Engineer Certifications?
- BCxA' S CCP & ACP Certification
- ASHRAE' S BCxP Certification
- ACG' S CxA Certification
- AEE' S CBCP Certification
- Beyond Smart Cities's CCM & CCxS Certification
- Certified Commissioning Manager - CCM
- Hiring Beyond Smart Cities' CCM has many benefits

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INTRODUCTION

- Certifications are essential for commissioning specialists and managers to demonstrate their knowledge and expertise in the job market.
- Engineers with certification typically earn higher salaries than those without certification, and certain certifications may be required for certain positions.
- In addition, certifications provide engineers with industry credibility and can help them stand out from other job applicants.
- Lastly, certifications demonstrate to prospective employers that the engineer has taken the time to study the most recent technologies and industry standards, and is dedicated to providing quality service.
- This presentation will examine the top certifications for commissioning specialists or managers and explain how they can help commissioning engineers advance their careers.

THE DEFINITION OF COMMISSIONING

- “The Commissioning Process is a quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meets defined objectives and criteria.” ASHRAE Guideline 0
- “…a systematic, documented, and collaborative process including inspection, testing, and training.”
- “…conducted to confirm that a building and its component system meet the requirements of the occupants and conform to the design intent.”
- “…a quality assurance procedure applied to building construction throughout the entire project…”



WHAT ARE COMMISSIONING SPECIALIST OR MANAGER CERTIFICATIONS?

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- Certifications are essential for commissioning specialists and managers to demonstrate their knowledge and expertise in the job market.
- This presentation will examine the top certifications for commissioning specialists or managers and explain how they can help commissioning engineers advance their careers.
- What are certifications for commissioning specialists and engineers?Commissioning engineer certification is a program that equips engineers with the knowledge and skills necessary to commission technical systems correctly.
- Obtaining certification as a commissioning engineer is an invaluable asset for any engineer seeking to advance in this field.
- When submitting an engineer for certification, be sure to thoroughly review his or her credentials and experience.



WHAT DOES A COMMISSIONING MANAGER DO?

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A commissioning manager ensures a new building meets occupancy requirements. This includes coordinating trades and contractors and inspecting and testing the finished product to meet local, state, and federal codes.
The commissioning manager's job duties include:



- Overseeing the commissioning process for new construction projects
- Ensuring that all systems are installed and functioning properly.
- Coordinating with various contractors and vendors
- Creating schedules and timelines for the commissioning process
- Monitoring progress and keeping track of milestones
- Identifying any potential problems or delays
- Resolving any issues that arise during the commissioning process
- Writing reports and documenting findings
- Providing updates to clients or project managers



COMMISSIONING AUTHORITY OR MANAGER



- Commissioning is a standardized process led by an expert in the design, construction, and operation of systems, commonly referred to as a commissioning authority (CxA).
- The The CxA typically leads a team of facility commissioning-trained and certified system experts.
- Putting something "in commission" means to make it operational for regular use.
- Historically, the Navy has used commissioning to ensure that ships are seaworthy before leaving port.
- As it ensures safety, reduces waste, and maximizes uptime, commissioning on expensive and sensitive process systems is also well understood by manufacturers.
- Public Works Canada was the first in the construction industry to use commissioning or building commissioning on building projects.
- Commissioning was added to the Leadership in Energy and Environmental Design (LEED) criteria by the United States Green Building Council (USGBC) in 1998.
- As the built environment continues to include more complex and interdependent systems, and as building owners focus on energy efficiency to reduce operational costs, the role of the building commissioning authority has become an integral part of the entire building design procedure.

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DEFINITION OF A COMMISSIONING AUTHORITY

A commissioning authority (CxA) is a person or firm responsible for the delivery of the commissioning process. One person or an entire team may carry out the process, depending on the scope and complexity of the project. For a team approach, there would typically be a person dedicated to managing the process, while others would be involved with the more technical aspects of the process.





THE COMMISSIONING AUTHORITY'S WHOLE BUILDING DESIGN ROLE



- The commissioning authority should be involved in all building design decisions. CxAs should be involved in pre-design or be the owner's first contact. The owner's expert remains involved throughout design and construction to ensure their needs are met. The main responsibility throughout the project is to understand the OPR and incorporate them into the design, installation, and testing before returning a fully functional building to the owner. The CxA works with the design team throughout this process.
- Designing, building, and operating a building requires many team members. Due to schedule and budget constraints, many of these professionals are competent but lack coordination and integration. The CxA can help the project team by using their experience and knowledge and iterating. Commissioners iterate on projects because they don't work on them full-time. Instead, they have several projects in design, construction, and operation. As a lesson, problems from one project can be avoided on another.

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THERE ARE FOUR STAGES OF CXA INVOLVEMENT IN NEW CONSTRUCTION PROJECTS:

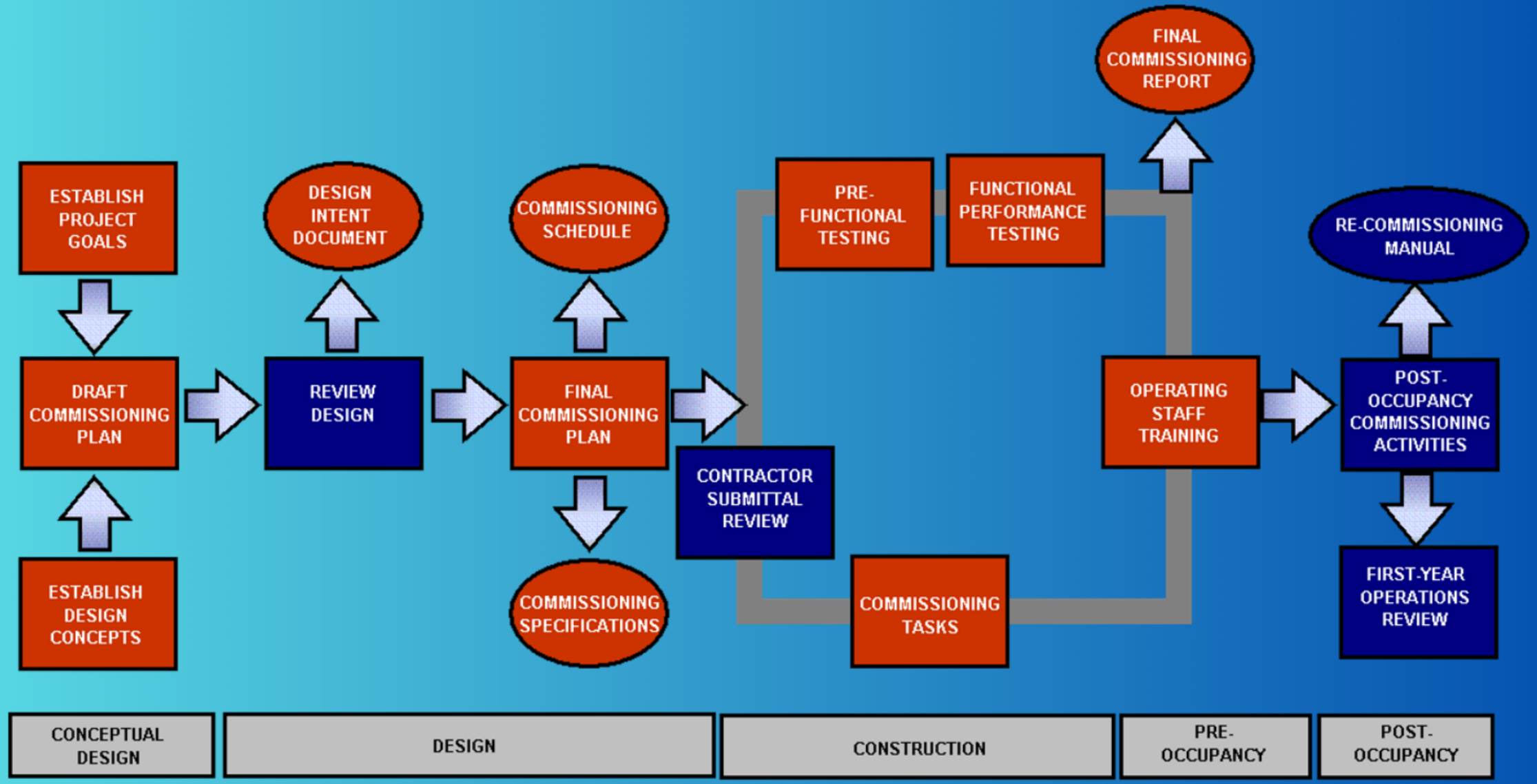


- The CxA is brought on before the design team to give owners unbiased feedback during evaluation.
- The CxA helps the owner's staff create the Owner's Project Requirements (OPR) before choosing a design team.
- This "living" document contains all the owner's desired information and requirements for the project.
- The CxA will also work with the design team to create commissioning specifications that outline contractors' construction duties.
- Construction: The CxA visits the site to observe equipment installation, ensure design documents are followed, and report issues to the design team.
- These visits focus on project commissioning and do not replace the design team's construction administration duties.
- In addition to helping the design team, the CxA can help contractors resolve field issues that could delay construction.
- The owner should include building O&M staff on the commissioning team.

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COMMISSIONING AND THE BUILDING DEVELOPMENT PROCESS





COMMISSIONING AUTHORITY STRATEGIES FOR ACHIEVING WHOLE BUILDING DESIGN OBJECTIVES



Commissioning Authority Strategies for Achieving Whole Building Design Objectives While not involved with all of the building design objectives, there are a few where the CxA plays an important role.

- **Functional/Operational**
- **Productive**
- **Secure/Safe**
- **Sustainable**

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RELEVANT CODES AND STANDARDS



- ASHRAE Guideline 0, The Commissioning Process—The industry-accepted Model Commissioning Guideline
- ASHRAE Guideline 189.1, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings
- ASHRAE Standard 202, The Commissioning Process for Buildings and Systems
- ASTM Standard E2813, Standard Practice for Building Enclosure Commissioning
- The Building Commissioning Guide by the U.S. General Service Administration
- CALGreen
- ICC IgCC® International Green Construction Code®

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CERTIFIED COMMISSIONING PROFESSIONAL

CCP is the first commissioning certification to be recognized under the Better Buildings Workforce Guidelines Program. This means that all CCPs are recognized as qualified commissioning providers to deliver commissioning services to federally funded projects. Additionally, more local, state, and national codes are adopting language to include certified commissioning providers that are accredited by a third party. Washington State was the first to adopt such language in its state energy code.

Attaining a CCP certification has many benefits for building commissioning professionals, including:

- Verification of your expertise by an independent organization
- CCP is an ANAB-accredited program.
- CCP is the first certification recognized under the Better Building Workforce Guidelines.
- Professional growth and development
- Enhanced professional credibility
- Great job opportunities

ASSOCIATE COMMISSIONING PROFESSIONAL (ACP

The Associate Commissioning Professional (ACP) can be a stepping stone for CX providers starting their journey in this profession. Once they study for, take, and pass the ACP test, they can use their proven knowledge to commission projects, using the profession's best practices, until they are able to qualify for the CCP.

Attaining the ACP demonstrates:

- You have gained the knowledge and technical application of the new construction commissioning process from an independent organization.
- Your focus on professional growth and development
- Enhanced professional credibility
- Increased job opportunities



CERTIFIED COMMISSIONING AUTHORITY (CXA) CERTIFICATION

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- The CxA program recognizes independent building commissioning professionals who demonstrate the technical, management, and communications skills required for competent performance.
- The scope of the CxA program is aligned with the certification scheme for commissioning professionals developed by the U.S. Department of Energy's Better Buildings program, which was evaluated and then adopted by the ACG Certification Council.
- ACG's CxA certification is available to industry professionals who lead, plan, coordinate, and manage commissioning teams to implement commissioning processes in new and existing buildings.
- CxA certificants manage commissioning projects, prepare commissioning documentation, conduct commissioning activities, coordinate operator training activities, complete warranty phase activities, conduct existing building commissioning, conduct on-going commissioning, and are independent and work on behalf of building owners.





ASHRAE'S BCXP CERTIFICATION PROGRAM

ASHRAE's BCxP certification program validates competency to lead, plan, coordinate, and manage a commissioning team to implement commissioning processes in new and existing buildings.

Why Commissioning Professionals Pursue the ASHRAE BCxP

- Elevate your reputation and career opportunities. See survey data
- Demonstrate competency in critical building commissioning knowledge and skills. See who's a BCxP.
- The BCxP digital badge guarantees enhanced recognition.
- ANSI National Accreditation Board (ANAB) accredited personnel certification program, under ISO/IEC 17024 (ID #1139), ensuring fairness and validity
- Recognized by the U.S. Department of Energy (DOE).



CERTIFIED BUILDING COMMISSIONING PROFESSIONAL



Who are the certified building commissioning professionals?

- Do you lead, plan, coordinate, or manage the building systems commissioning processes in new and existing buildings on behalf of building owners?
- Are you an energy professional with technical, management, and communication skills who undertakes building commissioning services for federally funded projects?
- Are you a consultant that specializes in the energy efficiency of building systems, identifies upgrades, or ensures optimization for their ongoing needs?

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CERTIFIED COMMISSIONING MANAGER (CCM)

- CCM honors independent building commissioning professionals who excel in technical, management, and communication skills.
- The CCM program aligns with the U.S. Department of Energy's Better Buildings program's commissioning professional certification scheme, which the Beyond Smart Cities Specialist Certification Council evaluated and adopted.
- Industry professionals who lead, plan, coordinate, and manage commissioning teams to implement commissioning processes in new and existing buildings can get Beyond Smart Cities' CCM certification.
- CCM certificants manage commissioning green building projects, prepare commissioning documentation, conduct commissioning, coordinate operator training, complete warranty phase activities, commission existing buildings, and commission on-going buildings. They are independent and work for building owners.



THERE ARE MANY BENEFITS TO HIRING BEYOND SMART CITIES'S CCM



- Improved Building Performance: The CCM at Beyond Smart Cities has the knowledge and expertise to ensure that your building's systems are operating effectively. This can improve indoor air quality, increase occupant comfort, and reduce energy costs
- A CCM can assist in identifying opportunities for energy conservation and sustainable practices within a building. This can help reduce your carbon footprint and lower your energy costs.
- By identifying and addressing issues with your building's systems at an early stage, a CCM can aid in preventing costly repairs and downtime. This can save you money in the long run on maintenance costs.
- By ensuring that your building is operating optimally, a CCM can assist in boosting the value of your property. This is particularly advantageous if you intend to sell or lease your building in the future.

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