CERTIFIED COMMISSIONING TECHNICIAN CXT OVERVIEW

The commissioning of facilities faces significant challenges due to regulatory compliance, which requires strict guidelines from regulatory bodies like FDA and ISO. The integration of advanced technologies like BIM, IoT devices, and AI increases the complexity of the commissioning process.

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!**

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INTRODUCTION

Understanding Commissioning in Facilities

- Commissioning involves assessing systems including HVAC, electrical, plumbing, and automation systems to ensure they operate as intended, meet regulatory requirements, and provide a safe environment.

Common Challenges in Commissioning

- Regulatory Compliance: Facilities must adhere to stringent guidelines set by regulatory bodies like the FDA and ISO. Non-compliance can result in severe penalties.
- Integration of Advanced Technologies: As facilities incorporate advanced technologies like BIM, IoT devices, and AI, the commissioning process becomes more complex.
- Communication Gaps: Effective commissioning relies on clear communication among all stakeholders. Miscommunication can lead to misunderstandings regarding project specifications, resulting in costly rework and delays.

EMERGING ISSUES IN COMMISSIONING SERVICES

- Sustainability and Energy Efficiency: Commissioning teams must ensure systems function correctly and contribute to the overall sustainability goals of the facility.
- Workforce Shortages and Skills Gaps: The AEC industry is facing a significant skills gap due to an aging workforce and a lack of trained professionals in commissioning roles.
- Cybersecurity Concerns: With the integration of IoT devices and smart technologies, cybersecurity has emerged as a critical issue.

CODE APPLICATIONS FOR COMMISSIONING

- Local and national energy codes and green codes now require commissioning and specific documentation.
- These requirements should be analyzed during pre-design and integrated into the OPR and commissioning processes.

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INCREASING BUILDING AND CONSTRUCTION TECHNOLOGIES

- The design and construction of buildings and systems have become increasingly complex, making the OPR process critical.
- The complexity of these systems increases the technical specifications in the OPR and the commissioning process.

BUILDING PERFORMANCE REPORTING

- Legislation and market demand for measuring and reporting facility resource efficiency have made the design, construction, and performance measurement of high-efficiency building systems increasingly important.
- Certification programs often require OPR and commissioning documentation for verification and credits.

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INTEGRATION OF HEALTH REQUIREMENTS WITH ENERGY AND SUSTAINABILITY

- Numerous sustainability, green building, and health-related programs for buildings and occupied spaces have been established, promoted, and mandated.
- Some directly require commissioning, while most are sufficiently complex that they require building system performance and reporting.

INTEGRATING CX INTO BUILDING OPERATIONS

The design, construction, and commissioning of facilities directly affect the performance of the facility and its systems for the life of the building.

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INTEGRATING AI INTO FAULT DEFECT AND DIAGNOSTIC (FDD) AND OPERATIONS

The introduction of AI automation and analytics into fault detection and diagnostic (FDD) systems is opening the door to allowing building systems to make minor system adjustments on their own.

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OWNER VERSUS BUILDING USER

Many projects are core-and-shell made ready for a "tenant," with requirements that are greater than the original design concept.

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ADVANCED TRAINING FOR OPERATIONS AND MAINTENANCE PERSONNEL

As technical and technology-based building commissioning and regulatory requirements depend increasingly on data analytics, facility staff will require new knowledge, skills, and abilities.

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JOBSITE SAFETY AND PERSONAL PROTECTIVE EQUIPMENT (PPE) TRAINING

Introduction to Jobsite Safety

- Job-site safety is crucial in construction or maintenance operations.
- Comprehensive training on safety protocols and the appropriate use of PPE are essential.

Basic Safety Questions

- Recognizing potential hazards on the jobsite is key to risk mitigation.
- Different tasks require different types of PPE.
- Regular inspection and maintenance of PPE are essential.
- Familiarity with emergency protocols is crucial.
- Workers must know how to report unsafe conditions or accidents.

APPLICATION OF PROFESSIONAL CONDUCT

- Effective communication is essential.
- Respect and courtesy are key to fostering a culture of mutual appreciation.
- Conflict resolution is crucial in any professional setting.
- Accountability and integrity enhance trustworthiness.
- Collaboration is crucial in achieving common goals.

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WORKING KNOWLEDGE OF PROCEDURAL STANDARDS

- Understanding ACG Procedures and Processes is essential for professionals in building systems and environmental services.

- Professionals must read and interpret ACG CX guidelines, implement procedures, provide accurate documentation, and continuously improve.

- Ongoing training and certification in ACG procedures ensures familiarity with evolving standards and technologies.

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