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COMMISSIONING SPECIALIST
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welcome to
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CERTIFIED COMMISSIONING TECHNICIAN CXT OVERVIEW

ACG commissioning is a critical phase in engineering projects, requiring the design, installation, testing, operation, and maintenance of systems and components according to the owner's operational requirements. Technical, communication, and commissioning skills are essential for successful commissioning. Technical skills include understanding systems and equipment, analytical skills, testing and validation proficiency, regulatory and safety compliance, and effective communication.

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

Technical Skills

- Understanding of Systems and Equipment: Professionals must have a comprehensive understanding of mechanical, electrical, and instrumentation systems.
- Analytical Skills: The ability to analyze data and diagnose problems is crucial in commissioning.
- Testing and Validation Proficiency: Knowledge of various testing methodologies is essential.
- Regulatory and Safety Compliance: Understanding local codes, standards, and safety regulations is crucial.

Communication Skills

- Interpersonal Communication: Professionals must convey complex technical information clearly and effectively.
- Documentation and Reporting: Accurate and thorough documentation is essential.
- Conflict Resolution: Effective communication skills are essential for mediating conflicts and fostering a collaborative environment.
- Presentational Skills: Professionals often present their findings and recommendations to stakeholders.

TECHNICAL, COMMUNICATION, AND COMMISSIONING SKILLS FOR ACG COMMISSIONING

Commissioning Skills

- Project Management: Knowledge of project management methodologies can enhance commissioning effectiveness.
- Quality Assurance and Control: Professionals must implement quality control measures throughout the commissioning process.
- System Integration: Understanding how various systems interact is vital in commissioning.
- Training and Handover: Knowledge transfer to operations staff is essential.

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TECHNICAL SKILLS OF CX TECHNICIANS (CXT)

- Extensive Technical Field Experience: CxTs need hands-on skills to troubleshoot and resolve issues on-site. They must be familiar with various systems like electrical, mechanical, plumbing, and control systems.
- Expert Knowledge of Systems: CxTs must understand system components, performance metrics, and overall design intent. They must understand design documents, system integration, and schedule coordination.
- Knowledge of the Construction Process: CxTs must understand planning, execution, and closeout phases of the construction process. They must coordinate with contractors to ensure systems are tested when they are accessible.
- Thorough Knowledge of Contracting and Construction Management: CxTs must understand contractual obligations of stakeholders and risk management.
- Knowledge of Different Construction Models: CxTs must understand models like Design-Bid-Build, Design-Build, and Construction Management at Risk (CMAR) to effectively navigate the commissioning process.
- Adaptability: CxTs must understand each construction model to navigate the commissioning process effectively.
- Collaboration: Understanding the chosen construction model allows CxTs to foster collaboration among project stakeholders.
- The demand for skilled CxTs is expected to increase due to the evolving construction landscape.

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COMMUNICATION SKILLS IN CX TECHNICIANS (CXTS)

- Effective communication is crucial for successful project execution in construction and project management.
- CxTs play a pivotal role in ensuring systems and processes function as intended.
- Communication skills are essential for CxTs to navigate project complexities and enhance collaboration among diverse stakeholders.

Types of Communication Skills

- Verbal Communication: Use of spoken language to convey information, including meetings, phone calls, and face-to-face discussions.
- Written Communication: Involves emails, reports, memos, and documentation.
- Non-Verbal Communication: Use of body language, gestures, and facial expressions to gauge understanding, engagement, and emotional responses.
- Active Listening: Engages actively with contractors and field personnel to understand project requirements and concerns.
- Coordination Skills: Involves organizing and managing activities involving multiple stakeholders.
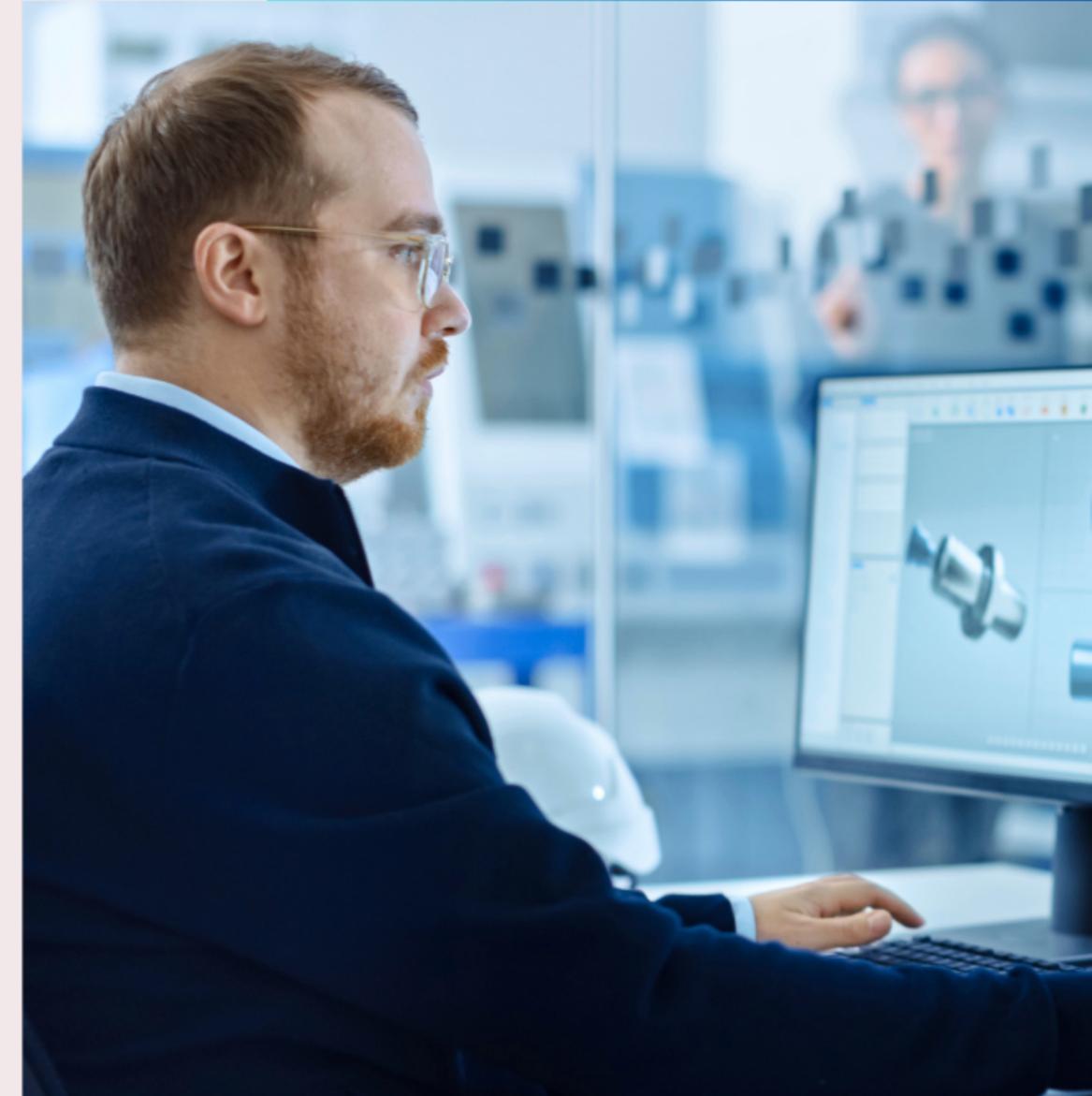
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COMMUNICATION PROTOCOLS

- CxTs must be familiar with communication protocols that dictate how information is shared within a project team.
- Understanding when to utilize each type of communication is critical for maintaining clarity and efficiency.

Team Building Mentality

- Fosters a team-building mentality, creating an environment where all team members feel valued and encouraged to contribute.
- • Effective communication cultivates trust and collaboration, allowing team members to share ideas, voice concerns, and work collectively towards common objectives.

UNDERSTANDING COMMISSIONING SKILLS

Commissioning Skills Overview

- Commissioning is a crucial process in construction and building management that ensures systems and equipment perform as intended.
- It involves systematic documentation and organization of verification, resolution, and testing information.

Key Components of Commissioning Skills

- Communication: CxTs must convey complex information clearly to various stakeholders, including contractors, engineers, and clients.
- Accountability: CxTs must take responsibility for their actions and decisions, acknowledging mistakes or oversights.
- Team Building: CxTs must be adept at building strong teams, similar to a sports team working together to achieve a common goal.

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UNDERSTANDING THE COMMISSIONING PROCESS

- Roles and Responsibilities: CxTs must understand their roles and those of others involved in the commissioning process.
- Practical Construction Site Protocols: CxTs must adhere to safety regulations and manage testing procedures.

Documentation in Commissioning

- Resolution Tracking Procedures: CxTs must keep a record of issues and how they were resolved.
- Start-Up Requirements: Understanding what needs to be done to start systems properly is essential for successful commissioning.
- Submittal Reviews: Reviewing documents submitted by contractors ensures they meet project specifications.
- As-Built and Existing Conditions Drawings: These documents show how systems were actually built compared to the original plans.
- Functional Performance Test Techniques: CxTs must know how to carry out tests that verify systems operate as intended.
- Operations and Maintenance (O&M) Documentation: Instructions on how to operate and maintain systems once they are in use.
- Preventative Maintenance Practices: Understanding how to keep systems running efficiently over time is crucial.

Importance of Document Control

- Establishing defined documentation standards: Use of Forms and Templates, Clear and concise language, and Distribution Protocols.

CONTACT US

📞 +91 6363032722

✉️ info@beyondsmartcities.in

🌐 learn.beyondsmartcities.in

📍 #55,HMR Layout ,Bengaluru ,India