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COMMISSIONING CERTIFIED TECHNICIAN

CXCT OVERVIEW

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MODULE

5

CP Roles, Responsibilities & Professional Qualifications

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COMMISSIONING CERTIFIED TECHNICIAN - CXCT OVERVIEW

The commissioning process is crucial for ensuring building systems function as intended, providing comfort, efficiency, and sustainability. The National Environmental Balancing Bureau (NEBB) offers guidelines and standards for commissioning, especially in HVAC and building automation systems.

Learning Objectives

- **Course Overview and Introduction**
- **Definition & History of Commissioning**
- **Why is building commissioning needed?**
- **Basics of field TAB verification, HVAC systems, and controls**
- **CP roles, responsibilities, and professional qualifications**
- **Cost and benefits of System Commissioning**
- **Working knowledge of procedural standards**
- **Summary and Resources**
- **CxCT Exam Sample Question**



INTRODUCTION

- Commissioning is a quality-oriented process that ensures the design, installation, and functional testing of building systems.
- The commissioning team comprises various stakeholders with distinct roles and responsibilities.
- Developing the Commissioning Plan: The team is responsible for creating a comprehensive plan outlining the goals, scope, schedule, resources, and methodologies for the commissioning process.
- Defining Owner Requirements: The team engages with the building owner to understand and document their operational needs and expectations.
- Design Review and Coordination: The team conducts a thorough review of design documents to ensure alignment with the commissioning plan and the owner's requirements.
- Verification and Testing: The team verifies that installations adhere to the design specifications during the construction phase.
- Documentation and Reporting: The team maintains detailed records of the commissioning process, including test results, issues encountered, and resolutions implemented.
- Training and Handover: The team facilitates training for the facility management staff on the systems' operation and maintenance.
- Post-Occupancy Evaluation: The team may conduct post-occupancy evaluations to assess the performance of the systems in real-world conditions.

MANAGING INTERPERSONAL RELATIONSHIPS

- The commissioning process is a critical phase in project management, particularly in construction and engineering sectors.
- The commissioning team is a multidisciplinary group of professionals responsible for overseeing, managing, and executing the commissioning activities.
- The importance of interpersonal relationships in commissioning is highlighted.
- Strategies for relationship management include active listening, conflict resolution, and building trust and respect.





MENTORING AND TRAINING ON SYSTEMS AND PROCEDURES

- Mentoring is essential in commissioning, especially in projects involving new technologies and processes.
- Training programs should be structured to the specific systems and procedures used in the project.



Team Roles and Project Scope Throughout Project Phases

- Each team member has defined roles and responsibilities.
- These roles include the Commissioning Manager, Systems Engineer, and Field Technician.

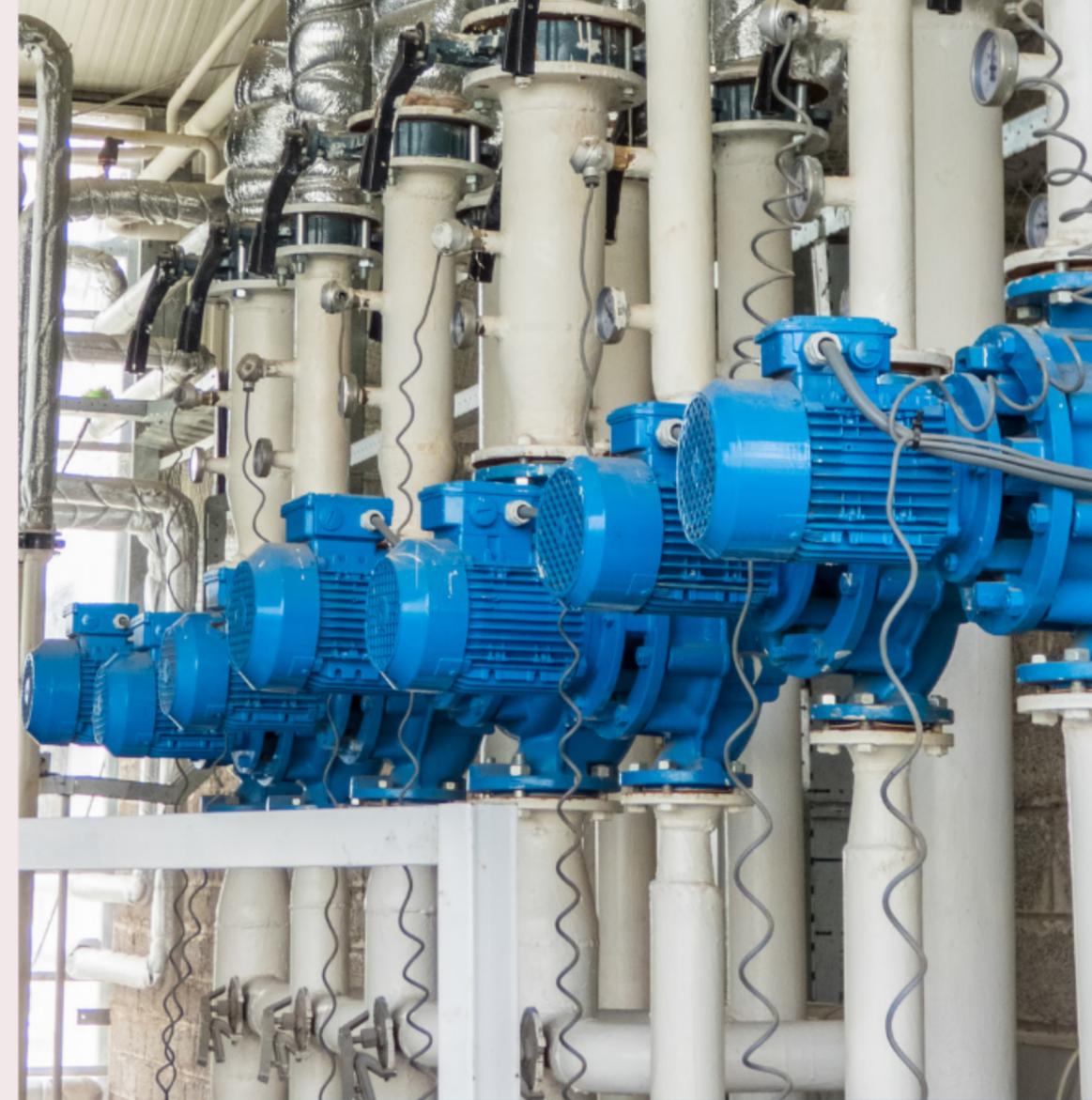
COMMISSIONING PROJECT PHASES AND SCOPE

- The commissioning process typically unfolds across several project phases: design, construction, and occupancy.
- The commissioning team collaborates with the design team to establish performance criteria and review design documents.
- The construction phase ensures that systems are installed according to the specifications.
- The occupancy phase involves testing and validation of systems to confirm they operate as intended.



CONTRACTUAL ARRANGEMENTS AND RISK MITIGATION

- Scope of Work: Contracts outline specific tasks and deliverables expected from the commissioning team.
- Payment Terms: Understanding these terms is crucial for managing cash flow effectively.
- Liability and Indemnification: Contracts typically include clauses outlining the liabilities of each party and indemnification provisions to protect against losses or damages.



RISK MITIGATION STRATEGIES

- Early Identification of Risks: The team conducts thorough risk assessments during the planning phase.
- Regular Communication with Stakeholders: Regular meetings and updates facilitate proactive problem-solving.
- Contingency Planning: The team develops contingency plans that outline alternative strategies in case of unforeseen events.
- Performance Monitoring: Continuous monitoring of systems and processes during the commissioning phase allows for the early detection of issues.



COMMISSIONING AND MEASUREMENT INSTRUMENTS IN FACILITY MANAGEMENT

- Commissioning is a systematic process that ensures a facility's systems are designed, installed, tested, operated, and maintained according to the owner's operational requirements.
- Measurement instruments are used to evaluate system performance, validate design specifications, and ensure optimal operation.
- Thermal Instruments: Measure temperature variations in systems like HVAC components.
- Flow Measurement Devices: Assess flow rates of air and water in HVAC systems.
- Pressure Measurement Tools: Measure static and dynamic pressures in ducts, pipes, and equipment.
- Electrical Measurement Instruments: Measure voltage, current, and power quality in electrical systems.
- Sound Level Meters: Measure noise levels in mechanical systems to ensure compliance with acoustic standards.
- The role of commissioning measurement instruments is crucial in ensuring building systems perform as intended and contributing to successful operation of facilities.





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