



BEYOND
SMART CITIES

LEARN.BEYONDSMARTCITIES.IN



WELCOME TO ADVANCED NEW BUILDING CONSTRUCTION COMMISSIONING - NBCX

ONLINE TRAINING

KRISHNAJI PAWAR - CEO & FOUNDER



2. What is NEW Building Commissioning?



KRISHNAJI PAWAR, LEED AP BD+C, GSAS CGP, ISO 14001:2015, GCP
COMMISSIONING SPECIALIST CURRICULUM

NEXT



Commissioning is the most cost-effective way to reduce building energy, cost, and greenhouse gas emissions. Commissioning has gained popularity in recent years, although its awareness is still low. Commissioning ensures that new buildings work as designed and save energy.

A golden opportunity for reducing energy costs and greenhouse gas emissions in the World



Preparing Countries & Tomorrow's Commissioning Specialists



Learning Objectives

- Brief Introduction
- Definition of New Building Commissioning (NBCx)
- Why Building Commissioning
- Objectives and goals of new Building commissioning
- New Building commissioning process
- Benefits of New Building commissioning

Introduction

- Building commissioning (Cx) helps plan, design, build, install, test, document, and operate facilities and systems to meet Owner's Project Requirements (OPR).
- New and existing building commissioning involves certain phases and operations. Commissioning new or existing buildings involves several incremental, team-based actions that yield project-specific benefits and documentation.
- Only Cx, other than the owner, is involved in facility design, building, delivery, and optimisation.
- CxPs need a lot of information, abilities, and experience to identify, solve, and even fix issues and building/systems performance through the eyes of every team member and throughout the project.



Definition of New Building Commissioning (NBCx)

The background of the slide features a construction worker in a yellow hard hat and a dark suit, looking down. Behind him is a city skyline at night, with several skyscrapers illuminated. A network of white lines connects various points across the image, creating a digital or interconnected feel.

A quality-focused process for enhancing the delivery of a project. The process focuses on verifying and documenting that all of the commissioned systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the OPR.

New Building Commissioning

- A quality-focused process for enhancing the delivery of a project. The process focuses on verifying and documenting that all of the commissioned systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the OPR.
- New construction commissioning has matured as an industry practice. Codes, standards, guidelines, protocols and certifications have been created to define and clarify the commissioning process. Some fundamental elements of the process have been enhanced, modified, redefined or de-emphasized and new elements added. Some elements are not well implemented or understood.
- Beyond Smart Cities is committed to defining best practises in the building commissioning industry and to providing documents, such as example templates for RFQ/P, commissioning plans and specifications, that describe these practises and offer practical solutions to issues that are prevalent in the industry. In addition, Beyond Smart Cities is dedicated to fostering the development of smart cities as a whole.



Why is NBCx important?

Energy and Carbon Reduction

- Buildings account for 40% of the total energy usage and more than 30% of the Greenhouse Gas Emissions in the US. The Commissioning Process makes sure that buildings only use the energy they really need, thus maximizing the efficiency of operations.

Workforce Efficiency

- While real estate costs are considered a necessary expense in the business world, the impact of the space on people's work productivity is often overlooked. The rule of thumb is that for every dollar spent on utilities, you spend 10 dollars on rent and 100 dollars on payroll. Using this metric, you can see how important it is that everyone in the space is comfortable, has good lighting, and has good air quality.

Occupant Health

- Since we spend so much time in buildings, it is important that they do not negatively impact our health. Whether we are in a residence, school, hospital, or office, the indoor air quality, including outside air levels, filtration quality, and potential air pollutants, impacts us all.



NEXT



- New building construction and substantial renovations (including replacing mechanical, electrical, and plumbing systems) are complex operations with numerous competing demands.
- Commissioning providers can hear and comprehend the owner's priorities, document those related to energy and building operations, and join the Design Team at the outset of this process. As the building is only "on paper" during design, the commissioning provider can have a big impact for a minimal cost by reviewing and offering recommendations.
- In the design phase, a valve proposed for easy maintenance is "free." A change order for that construction recommendation would cost more. After the project is finished, a change order entails paying for materials, draining and filling the system, everyone's compounded overhead and profit, downtime, and more.
- After construction, the commissioning provider begins fieldwork. The commissioning provider uses checklists to document installation, field reviews to monitor installation, functional testing to validate operations, and owner follow-up to qualify maintenance personnel training during commissioning meetings.
- The commissioning provider keeps the owner and operations team in mind: can I access the equipment for maintenance, repair, and replacement? Do my operation sequences work? Do building schedules match programmes? Am I meeting energy goals efficiently?



Commissioning Benefits And Goals

- Include the project requirements including the commissioning process in the OPR document.
- Verify that the OPR requirements, including commissioning, are in the project design and construction documents for new projects.
- Facilitate delivery of buildings and construction projects that meet the Owner's Project Requirements.
- Prevent or eliminate problems in a cost-effective manner through proactive quality techniques.
- Verify systems are installed and working as intended and benchmark that operation.
- Provide and collect documentation and records on the design, construction, and testing to facilitate operations and maintenance of the facility.
- Facilitate training functions and system operation documentation and Cx tools for O&M staff performance and implementation of ongoing Cx.
- Lower overall first costs and life-cycle costs for the Owner.
- Maintain facility performance for the building's entire life cycle.





Commissioning is an intensive quality assurance process that ensures that a building “operates as the owner initially intended and that building staff are prepared to operate and maintain its systems and equipment.” Beyond being a final systems check, commissioning has evolved into a progressive process that includes systematic verification and testing, staff training, and thorough documentation of all systems.



Commissioning Process Management

- The facility or project owner or representative controls the process and reviews the paperwork. The owner specifies the commissioning process's scope and basic team duties during project planning. The Commissioning Process Roles and Duties outline such functions.
- CxPs report to owners or their representatives. The project must start with this relationship and contract. Commissioning ensures that owners receive full benefit from commissioned systems. Hence, reporting to the owner eliminates CxP conflicts of interest.





Thanks

Learn From Beyond Smart Cities
Online professional courses led by
the world's top specialists


KRISHNAJI PAWAR
SUSTAINABILITY SPECIALIST

LEARN.BEYONDSMARTCITIES.IN