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WELCOME TO ADVANCED NEW BUILDING CONSTRUCTION COMMISSIONING - NBCX

ONLINE TRAINING

KRISHNAJI PAWAR - CEO & FOUNDER





7. Commissioning Challenges And Emerging Issues

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

COMMISSIONING SPECIALIST CURRICULUM

Learning Objectives

- Introduction
- Commissioning Challenges And Emerging Issues

Today's challenges across the building industry are the precursors of tomorrow's solutions. As technologies and complexity in the built environment trend toward better design, construction and operation, the following represent high-visibility issues that affect commissioning as an increasingly broad cross-functional practice.



Code Applications for Commissioning

- Several local, state, and national energy laws and green building codes now mandate commissioning and documentation.
- In some of these rules, the level of commissioning that must be incorporated into the project varies.
- These needs should be analysed at the pre-design phase and incorporated into the OPR and commissioning procedures in order to meet jurisdictional and specific programme requirements.

Increasing Building and Construction Technologies

- In recent years, the design and construction of buildings and systems have become increasingly complex, particularly with respect to the systems and controls included in commissioning requirements.
- These complex systems make the OPR process and the application of commissioning critical to the successful completion and operation of facilities and systems. This will also increase the technical specifications in the OPR and the commissioning process and require even more careful requirements for the design, verification, and documentation.



Building Performance Reporting

Legislation and market demand for measuring and reporting facility resource efficiency, such as through voluntary rating programmes such as the U.S. DOE Energy Star Programme, LEED®, Green Globes, WELLTM, BREEAM, and many others, have made the design, construction, and performance measurement of high efficiency building systems increasingly important. These certification programmes are often complex and require OPR and commissioning documentation for verification and credits. As concern for energy and carbon reduction grows, these requirements will also continue to increase.



Cx Reporting Technology — Digital Documentation Systems

- The OPR and commissioning process require extensive documentation and reporting. Digital systems are available in the marketplace to facilitate that process.
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- The functionality, ease of use, and accuracy of many of these programs vary; careful analysis of reporting system capabilities is essential before and during application.
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Integration Of Health Requirements With Energy And Sustainability

- In recent decades numerous sustainability, green building, and health-related programs for buildings and occupied spaces have been established, promoted, and even mandated. Some directly require commissioning.
- Most are sufficiently complex that they require building system performance and reporting that makes commissioning essential. These programs and requirements will continue to gain attention and regulatory consideration, particularly in terms of safe and healthy facilities.

Integrating AI Into FDD And Operation

- The introduction of Artificial Intelligence (AI) automation and analytics into various fault detection and diagnostic (FDD) systems is opening the door to allowing building systems to make minor systems adjustments on their own (e.g., temperature set points, reset downed equipment, etc.). This can significantly reduce the amount of time operators or consultants need to spend making these adjustments. The technology is currently being tested and piloted.

Advanced Training For Operations And Maintenance Personnel

- As technical and technology-based building commissioning and even regulatory requirements for sustained high performance depend increasingly on data analytics, facility staff will require new knowledge, skills and abilities to be capable of operating and maintaining their buildings' systems. Current training sources for ongoing commissioning are scattered at best, and vary widely in scope and scale.



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KRISHNAJI PAWAR
SUSTAINABILITY SPECIALIST

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