



Ongoing Commissioning OCx Best Practices

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



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4.IMPLEMENTATION PHASE

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



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Learning Objectives

- Introduction to the implementation phase of OCX
- Preparation Sub-Phase
- Execution Sub-Phase
- Implementation Phase Deliverables
- Diagnostic Plan, Findings, Analysis, and Report Document

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The Implementation Phase develops a Diagnostic Plan, applies its duties, and identifies energy conservation measures (ECMs) and facility improvement initiatives (FIMs). Planning and Execution comprise the Implementation Phase. Preparation and Execution sub-phases may require multiple iterations in the Implementation Phase (prior to moving on to the Sustaining Phase).

The CxP engages the OCx team, notably O&M personnel, during both subphases. The Owner prioritises and selects measures from the findings, recommendations, and analysis. The CxP applies metrics and diagnostic tasks and creates the Master List of Findings in the Execution subphase.





The implementation phase includes these activities:

Implementation Preparation Sub-Phase

- Engage the OCx Team Selected During Planning
- Create a diagnostic plan.
- Align the data monitoring with the diagnostic plan.
- Implement Diagnostic Plan
- Create or Update Facility Guide

Implement Execution Sub-Phase

- Coordinate Preventive Maintenance
- Conduct Technical/Technology Application Training
- Update and Prioritize Master List of Findings
- Establish Communication/Coordination Methods and Procedures
- Take Corrective Actions
- Update OCx Plan

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Preparation Sub-Phase

- The Diagnostic Plan outlines frequent commissioning actions to achieve monitoring and assessment goals for the project's scope.
- Before installing data monitoring systems, the diagnostic plan is created. This allows the OCx team to be deliberate in data monitoring configuration, where the number of points to monitor, frequency of data trends, and infrastructure architecture all meet the Diagnostic Plan's OCx analytics requirements. This decreases the possibility of data overload, which can stress the IT infrastructure and prevent the OCx team from prioritising data.
- The Diagnostic Plan replaces the Functional Testing Plan in the New Construction or Existing Building Commissioning Plan and integrates with the OCx Plan. The Functional Testing Plan lists equipment and systems for the Implementation Phase of the commissioning process, while the Diagnostic Plan lists OCx project tasks and activities. This paper lists the physical and digital tools needed for each component and a sequence/checklist for building/system performance evaluation. It also lists activity participants.

Create or Update Facility Guide

- Facility guides (sometimes called systems manuals 2) develop and maintain system performance guidelines and a practise for monitoring building mechanical, electrical, and lighting systems. It refreshes system users. It guides future onboarding.
- Support the design of a building facility guide. The Facility Guide covers the CFR, OCx Plan, Diagnostic Plan, inspection, calibration, operating instructions, and maintenance responsibilities for O&M Employees.
- Update the facility guide with any automatic reporting the owner wants to see. Overriding audit reports, trending primary or vital systems, and probing the network for downed devices are examples.
- This night variance audit describes a commercial facility walkthrough during unoccupied hours to check for out-of-schedule lights, equipment, and appliances:



Execution Sub-Phase

Coordinate the teams for OCx and PM planning. The PM team may have vital insights from building experience and system access. Learn about anecdotes that match OCX anomalies. PM Logs show equipment maintenance history..

Facility Guide.

The Facility Guide referred to in this OCx Best Practises document, and what is sometimes referred to as a Systems Manual in the industry, is what ASHRAE defines as the “Facility Guide: a basic building systems description and operating plan with general procedures and confirmed facility operating conditions, set points, schedules, and operating procedures for use by facility operations to properly operate the facility.” A well-organized and accurate facility guide will greatly enhance the building personnel’s ability to operate the building effectively by providing all of the relevant information in a single location.



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Execution Sub-Phase Activities



1. Coordinated preventive maintenance
2. Improve information and coordinate with facility activities
3. Use OCx Results and Process to Review PM Tasks
4. Conduct technical/technology application training.
5. Update and Prioritise the Master List of Findings
6. Establish communication and coordination methods and procedures.
7. Take corrective action.
8. Track building performance
9. Update on the OCx Plan



Establish and maintain baselines, benchmarks, and comparison metrics. Create utility performance measurements, such as a national standard, Energy Star (which measures energy use intensity, or EUI), or local project metrics to reduce peak demand and utility billing charges. Local goals, national, regional, and industry measurements provide the most thorough building performance review.



Utilize All Utility Metering and Submetering

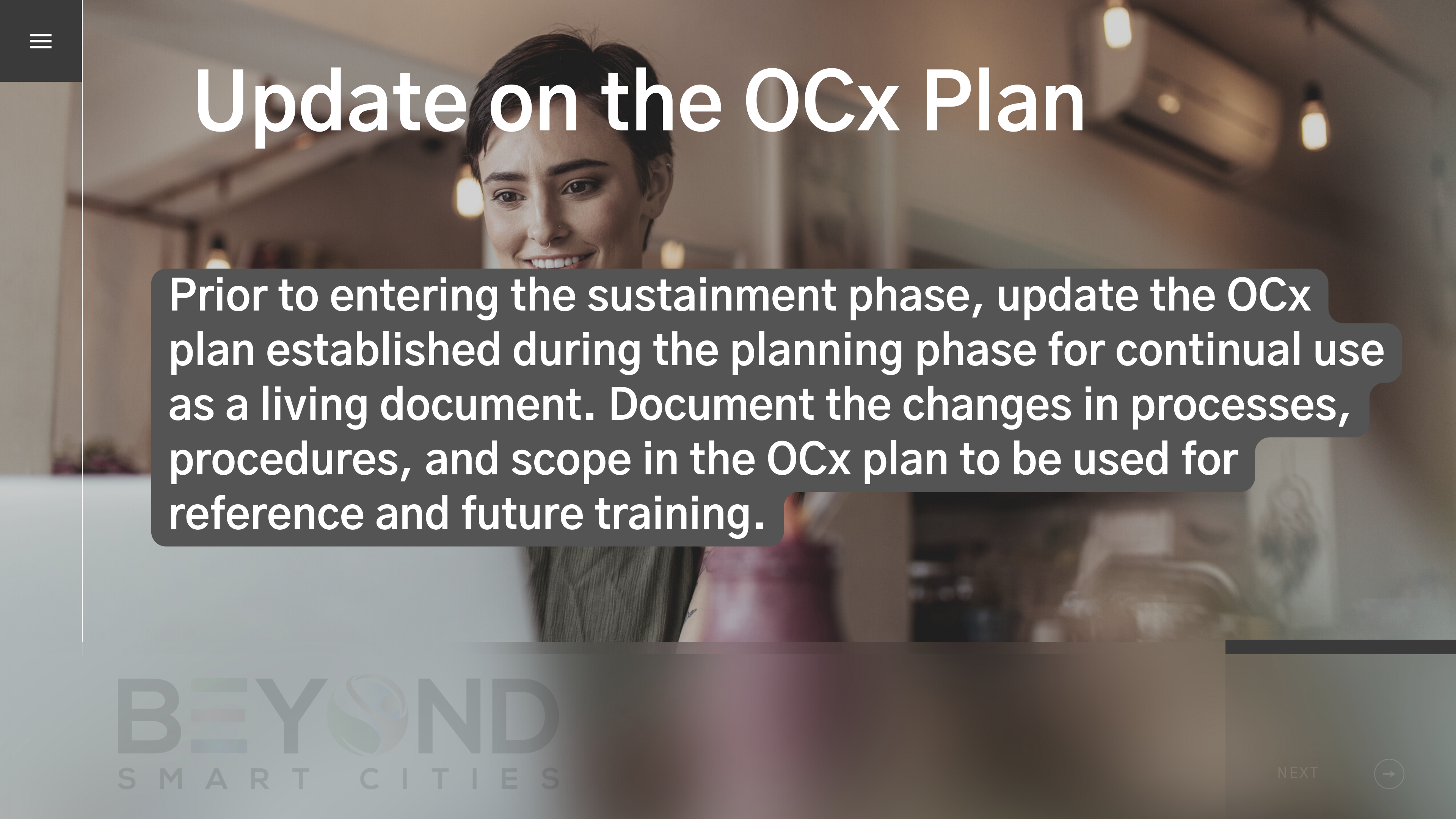
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An M&V plan can complement excellent practises. M&V can be developed for owners or programmes. The CxP can write and update the M&V plan, using earlier commissioning paperwork and data to track energy use and building parameters.



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Update on the OCx Plan

Prior to entering the sustainment phase, update the OCx plan established during the planning phase for continual use as a living document. Document the changes in processes, procedures, and scope in the OCx plan to be used for reference and future training.



Implementation Phase Deliverables

- Diagnostic Plan, Findings, Analysis, and Report Document
- Updated OCx Plan
- Updated Facility Guide
- Master List of Findings

Execution of the diagnostic plan, technology installation, testing, and verification, personnel training, and coordination, and

- Maintain baselines, benchmarks, and comparison metrics.
- Refresh hands-on preventive maintenance training.
- Train and give trained personnel access to technology.
- Track performance, collect data, analyse, and correct.
- help maintain and improve performance.
- Define and share effective communication and coordination mechanisms.
- Review procedure periodically.
- Plan system enhancements and new technology adoption.





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KRISHNAJI PAWARI
SUSTAINABILITY SPECIALIST



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