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MODULE
13 - B

Completing Warranty Phase Activities

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PRE- AND POST-OCCUPANCY PHASE COMMISSIONING PROCESS OVERVIEW

Pre- and post-occupancy typically commence at Substantial Completion, when the building is turned over to the Owner, although some construction phase activities may continue. In the Occupancy and Operations Phase, project closeout activities and long-term building performance maintenance and performance processes are developed and implemented.

Learning Objectives

- Introduction
- Warranty Activities
- Optimisation and Adjustment
- Acceptance Phase Overview
- Monitoring ,Ongoing CxA & Recommissioning

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INTRODUCTION

- The final phase of the building systems commissioning procedure was determined to be the pre- and post-occupancy CxA phase.
- The commissioning process outlined in the commissioning specialist manual consisted of five phases, with the final two being acceptance and post-acceptance.
- The Occupancy and Operations Phases are made up of these two phases.
- Some commissioning providers (CxPs) may still refer to occupancy and operations as acceptance and post-acceptance.
- If the owner decides to keep the CxP for ongoing commissioning (OCx), the Occupancy and Operations Phase can last indefinitely.

WARRANTY ACTIVITIES





- The warranty period for most of the equipment and workmanship is one year after substantial completion has been accepted and the owner's staff has assumed responsibility for building operations.
- The 12-month warranty period seems to elapse very quickly, largely because the contractor may remain actively involved in the completion of the work for several months after claiming substantial completion.
- The systems manual provided for the project includes a warranty summary worksheet for all of the equipment in the project.
- The owner's operations staff should copy this worksheet and keep it handy for reference.
- The worksheet is a valuable basis for recording and accumulating operational issues that might later be recognized as warranty issues.

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WARRANTY ACTIVITIES+

- The commissioning authority should schedule a meeting with the owner and the design professional ten months after substantial completion (assumed to be a one-year warranty period) to review all potential warranty issues and determine which ones are genuine warranty issues that merit confirmation by follow-up investigation.
- During this period, some commissioning testing may be repeated to evaluate the performance of various systems or features that are considered very important or have exhibited faulty or suspect behavior.
- The warranty issues should be catalogued, clearly defined, and transmitted via a letter from the design professional to the contractor no later than the end of the eleventh month after substantial completion.
- The letter must clearly state the owner's expectations with regard to the contractor's response and proposed corrective actions.





WARRANTY ACTIVITIES+

- In addition, the owner should invite the contractor to witness any end-of-warranty commissioning tests (which the contractor may choose not to attend).
- Resolution of warranty issues tends to be more timely and less contentious when the contractor attends these tests.
- The objective of this process is to resolve whatever deficiencies may exist during the twelfth month.
- In some instances, it may not be possible to entirely resolve all issues during the twelfth month.
- In that case, all parties should agree on the final resolution of the issues and the time frame for doing so.

OPTIMIZATION AND ADJUSTMENT

In addition to contractually required deferred commissioning tests and warranty evaluation, the building's operation must be adjusted to actual operating conditions.

The following list provides examples of such adjustments:

- Lighting and HVAC control schedules must be coordinated with actual patterns of use.
- Control loops should be tuned to provide the best response with minimal hunting.
- Pressure and temperature reset schedules should be adjusted to meet load requirements with the minimum use of energy.





OPTIMIZATION AND ADJUSTMENT +

- Daytime lighting controls may need to be adjusted for actual use in specific spaces.
- Air distribution within a space may need to be adjusted to accommodate unanticipated internal loads or the impact of furnishings.
- Building pressurization should be adjusted so undesirable infiltration is not corrupting intended operation and energy consumption.

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