

Building Performance Commissioning Services

Bridging the Gap between Building Construction and Smooth, Cost Efficient Operations

Why do so many construction projects *fail* to meet the Owner's expectations?

- Fail to perform as promised.
- Fail to provide comfortable and healthy environments.
- Fail to operate cost efficiently.
- Fail to meet occupant's expectations.
- Fail to last.

What's wrong with the way we design, construct and accept new buildings?

- Architects and contractors generally are not responsible for managing the facilities they construct and therefore have little experience in operational issues.
- Building systems' performance and occupant comfort typically do not become high priorities until the building is occupied.
- During construction, long term (50 years +) operating costs are over-shadowed by short-term (2-3 years) construction costs and project schedules.
- The lack of a clear, bright (operational) finish line makes it difficult for architects, contractors and administrators to have the same definition of "acceptance".

Another problem is that the quality assurance testing comes at the very end of the project, when it is often too late to correct design errors or construction defects easily or inexpensively.

How do you commission for success?

First, the commissioning process must begin during the project design to ensure that the administration's operational expectations are fully understood and incorporated into the design documents.



Second, the requirements of acceptance testing (that defines the project's success) should reflect the administration's design intent and should be clearly spelled out in the contract documents, *before* the bids are let.

Third, the Commissioning Firm performing the acceptance testing should be independent, impartial and working directly for the administration.

Fourth, the Commissioning Firm should have experience and expertise in all three areas of the project, including:

- Design
- Construction
- Operations and Maintenance

Why select the HEA Team?

Forty-five years in the business of designing and managing facilities provides HEA with unique capabilities in this area. Our staff of professional engineers and field technicians can tailor a commissioning plan for your next project that will cost effectively ensure success.

What will the results be?

- Reduced Operating Costs
- Improved Occupant Comfort
- Extended Building/Equipment Life

The commissioning process creates a clear, well-defined standard of care (and operational finish line) for all of the parties involved in the delivery of the project. This results in lower overall project costs, better performance from the facilities, and healthier occupants.

Building Performance Commissioning Services

Start-up, Testing and Acceptance of New Building Systems, Controls and Equipment

Seven Reasons Why new buildings often experience higher operating costs and reliability problems:

- 1) Designer/operator disconnects (designers generally don't operate buildings and vice versa).
- 2) Inadequate understanding and documentation of the administration's intent for the new facilities' operations, comfort and expected performance.
- 3) Numerous operational decisions made by designers, contractors and equipment vendors without the operator's involvement or input.
- 4) Inadequate documentation to operate and maintain the new systems efficiently.
- 5) Insufficient Operations and Maintenance training on the new systems and controls.
- 6) Insufficient *measurable* performance standards for acceptance of the completed systems.
- 7) Over-emphasis on first-costs vs. acceptance of costs.

Typical Problems

- Unreliable system operations
- Comfort/IAQ complaints
- Higher operational costs
- Higher energy costs
- Higher maintenance costs
- Reduced equipment life



A New Model for Success

Part 1:

Develop a Building Commissioning Plan to clearly define the Owner's expectations for system operations, performance and occupant comfort:

- Defines success, and how we get there.
- A strategy document to create continuity, compatibility and reliability for all new systems and equipment.
- A clear guide for future designers, contractors, equipment suppliers *and* operations staff.
- Defined goals of systems' reliability, operating/maintenance efficiencies and extended equipment life.

Part 2:

Implementation of the Commissioning Plan:

- Application of the Commissioning Plan's requirements to each new project.
- Peer review of Project Designs.
- Quality control of construction.
- Proper start-up, functional performance and acceptance testing.
- Systematic and documented transfer of the completed operations to the facility engineer.

