

Commissioning

Why Commission...?

An ASHRAE study of 60 commercial buildings found that more than half suffered temperature control problems, 40% had HVAC equipment problems and 30% had sensors that were not operating properly.

Amazingly, 15% of the buildings were actually missing specified equipment!

Commissioning (Cx) verifies that equipment operates as the design intended, as a System not as separate Stand-alone pieces of Equipment.

Commissioning provides the building Maintenance Staff with Training and Education on how systems are intended to operate and how they should be maintained. Systems Manuals and Continuous Cx Plans are developed to maintain a database of knowledge for future staff training.



Benefits of Commissioning...

- Third-Party Verification and Oversight
- Overall Quality Assurance and Quality Control
- Integration between Systems and Phases of a Project
- Functional Performance Testing of the System
- Energy Conservation and Performance
- Less Contractor Callbacks
- Reduced O&M and Equipment Replacement Costs
- Document and Analyze Existing Systems Operation
- Improve the Life-cycle cost of a Facility



Experience...

H.F. Lenz Commissioning Experience:

- Office Space = Over 500,000 Sq Ft
- Student Housing = Over 1-Million Sq Ft
- Mission Critical = 750,000 Sq Ft
- Lab / Research = 50,000 Sq Ft

The Type of Commissioning for your Project...

- **New Building Commissioning** – Achieve System Performance according to the Design Intent.
- **Continuous Commissioning** – Systematically Identify and Correct Problems before they become Problems.
- **Retro-Commissioning** – The Cx of an Existing Building or Campus of Existing Buildings.
- **Re-Commissioning** – Commissioning of a building that has previously been Commissioned.
- **LEED™ Commissioning** – Cx of the Energy using systems to qualify for LEED™ Pre-requisites and Additional Credits.



H.F. Lenz provides:

- 180+ Employees
- Over 60 years of Engineering Design services
- Proven Technical Knowledge and Experience
- 47 Professional Engineers registered in 40 states and the District of Columbia
- Fourteen (14) LEED™ Accredited Professionals



H.F. LENZ COMPANY is registered with the Building Commissioning Association™ as a Full Member Provider Firm



Commissioning

Services...

- Commissioning Authority
- Basis of Design Review
- Commissioning Project Planning
- Design Reviews
- Construction Submittal Reviews
- Equipment Installation Observation
- Equipment Start-up Observation
- TAB Observation
- Functional Performance Testing
- O & M Manual Review and Recommendations
- Owner/User Training and Education
- Data Logging, Trending and Analysis
- Measurement and Verification Plans
- Energy Modeling and Analysis
- System Performance and Benchmarking
- Continuous Commissioning Planning
- Re-Commissioning Management Manuals
- Systems Manual



**Case Western Reserve University
North Residential Village**



**West Virginia University
Agricultural Science Building**



**Allegheny College
North Quad Student Housing**



**TYCO Electronics
2901 and 3101 Fulling Mill Road**



**Indiana University of Pennsylvania
New Student Housing Complex**



**Siemens Westinghouse
Fuel Cell Manufacturing Facility**

Who can Afford it...?

Who Can't?

Typically 0.5% to 1.5% of total Construction costs.

Median Payback of less than Five (5) years for Commissioning New Construction Projects.

Cx of Existing Buildings was found to produce an average energy savings of 5-19%.

Intangible savings such as occupant comfort and increased productivity.



**Case Western Reserve University
CCSB/PPO New Research Building**