

H.F. Lenz Company - providing cutting edge engineering solutions for *RETRO-COMMISSIONING*

H.F. Lenz Company has been providing commissioning services for over 15 years and is registered as a Full Member Provider Firm with the Building Commissioning Association.



H.F. Lenz Company has over 180 employees, including 47 professional engineers, registered in a total of 40 states and the District of Columbia. Our commissioning projects vary across our market sectors and consist of office buildings, research facilities, data centers, healthcare facilities, green buildings, childcare facilities, visitor centers, manufacturing facilities, K-12 schools and college & university facilities, including both residential and classroom buildings.



Why Retro-Commission...?

Retro-Commissioning is a systematic process applied to buildings that have not previously been commissioned. This process is designed to improve the current conditions and operations of an existing building, to ensure the functionality of equipment and systems, and also to optimize how they operate together in order to reduce energy waste and improve building operation and comfort.



A Lawrence Berkeley National Laboratory (LBNL) study of 60 buildings of different types showed that over 50% had control problems, 40% had HVAC equipment problems, 25% had BAS with economizers, VFDs, and advanced applications that were simply not operating correctly. In addition, 15% of the buildings actually had missing equipment!

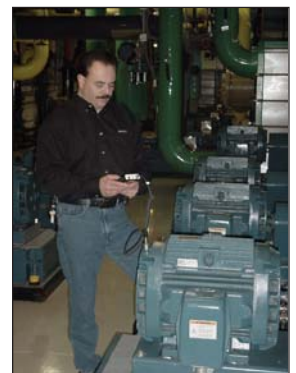
Benefits of Retro-Commissioning

- Improved system operation: beyond preventive maintenance
- Improved equipment performance
- Increased O&M staff capabilities and expertise
- Increased asset value
- Energy savings
- Improved Occupant Comfort
- Improved indoor environmental quality (IEQ)
- Improved building documentation



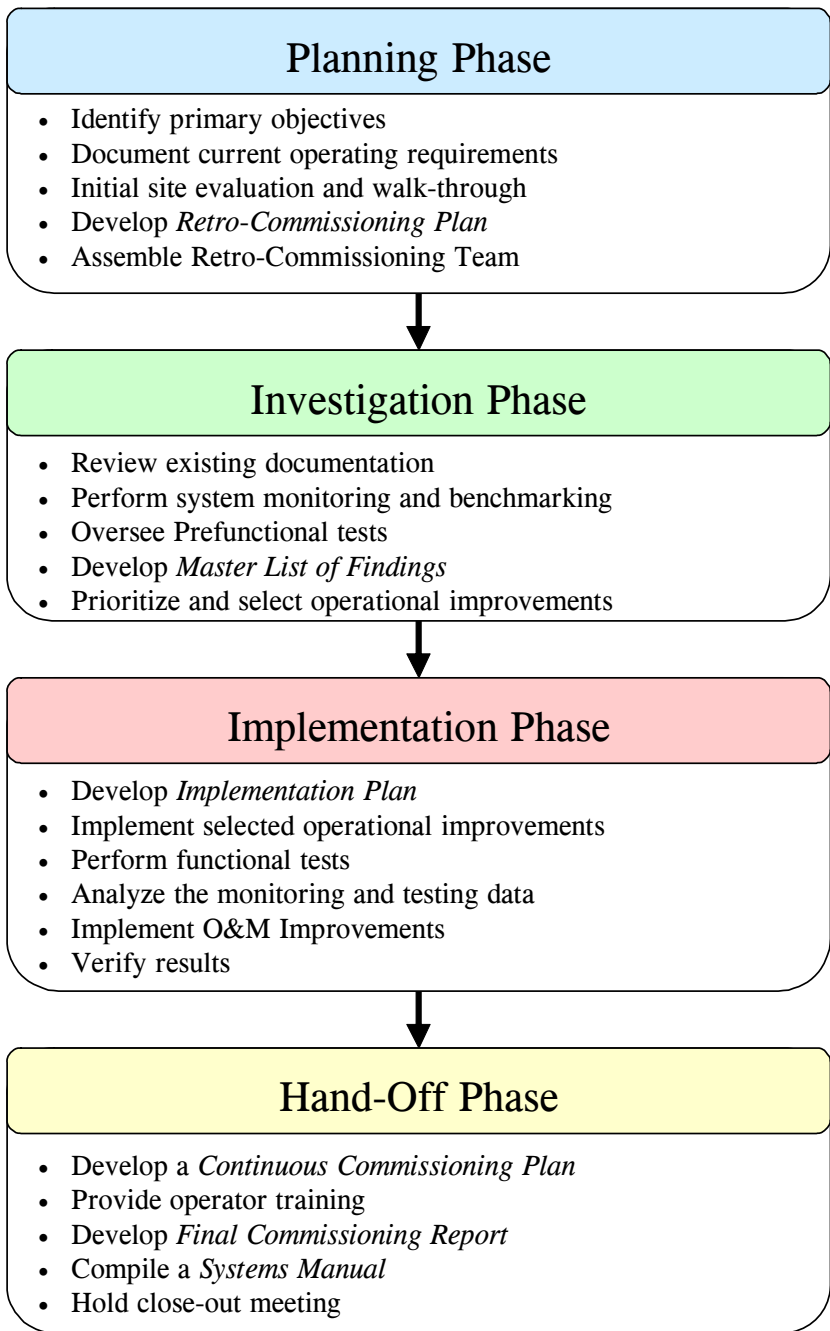
How much will it save...?

According to Portland Energy Conservation Inc. (PECI), typical energy savings range from 5% to 20% with payback periods of less than one year. In addition, since Retro-Commissioning is primarily concerned with lost-cost energy savings, an efficient Retro-Commissioning Process is usually more cost-effective than the installation of capital-intensive equipment.



Services we provide

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| ➤ Owner's Program Development | ➤ Data Logging, Trending, and Analysis |
| ➤ Basis of Design Documentation | ➤ Measurement and Verification Plans |
| ➤ Commissioning Project Plan | ➤ Energy Modeling and Analysis |
| ➤ Prefunctional Checklists | ➤ System Performance and Benchmarking |
| ➤ TAB Review | ➤ Continuous Commissioning Plan Development |
| ➤ Functional Performance Testing | ➤ Commissioning Authority Findings and Recommendations |
| ➤ O & M Manual Review and Recommendations | ➤ Commissioning Report |
| ➤ Owner/User Training and Education | ➤ Re-Commissioning Management Manual |



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