

Clough Harbour & Associates LLP





Commissioning Services

for Building Systems






Commissioning is the process of ensuring that building systems are designed, installed, functionally tested and operated in conformance with the *design intent*. Commissioning also plays a vital role in improving building system *energy efficiency*, *indoor air quality* and impact on the *environment*.

Commissioning: New Construction

-  For *new construction*, commissioning encompasses and coordinates traditionally separate functions including:
 - *System Documentation*
 - *Equipment Start-up*
 - *Control System Calibration*
 - *Testing & Balancing*
 - *Performance Testing*
-  Many new facilities are plagued with poorly functioning HVAC and electrical systems because performance, maintenance, and operational requirements were inadequately coordinated during the design and construction phase.
-  A comprehensive post-construction program of *verification and functional testing* will identify such problems for corrective action *before* the owner accepts the facility. An even better approach integrates the design and construction process into the commissioning program.
-  Several building accreditation programs such as the US Green Building Council's rating program *LEED* (Leadership in Energy and Environmental Design) and *New York State's Green Building Status and Tax Credit* require commissioning of energy systems in new buildings.

Retro-Commissioning: Existing Buildings and

-  Most *existing building systems* are likely to have never been commissioned. If they were commissioned at the time of construction, much is likely to have changed since. Equipment degradation, deterioration, and malfunctions often categorize the systems in these buildings, resulting in poor energy performance, poor comfort control and indoor air quality problems.
-  Retro-Commissioning applies a *systematic approach* to assessing the functionality of existing HVAC and electrical systems. This includes:
 - *Physical testing of system controls, interlocks, and programming routines*
 - *Diagnosis of systemic problems*
 - *Testing, adjusting, & balancing (TAB) of airside and waterside systems*
-  All procedures and findings are documented for inclusion in a "Retro-Commissioning Report" to the owner. Minor controls adjustments and corrections to simple problems may be made on the spot by the commissioning team and documented. Major problems or needed repairs are likely to be documented for follow-up corrective action.

Commissioning Services

Clough Harbour and Associates LLP has a core group of senior mechanical, electrical and controls engineers experienced in process systems design, startup and commissioning at commercial and industrial facilities. CHA's commissioning record includes commercial, institutional and industrial HVAC projects as well as industrial process systems.

About Clough Harbour & Associates LLP

Clough Harbour & Associates LLP is a highly diversified, full service engineering firm providing planning and design services in the fields of industrial, structural, electrical, mechanical, environmental, civil, and transportation engineering as well as planning, surveying, construction engineering and technology services. CHA's staff serves clients in the commercial, industrial, institutional, and public sectors from offices across the eastern United States.

Our Building Systems services include:

- Building Foundations & Structures
- Pipe & Equipment Supports
- Material Handling Systems
- Power Generation & Distribution
- Lighting Systems
- Instrumentation & Controls
- Fire Alarm Systems
- Grounding Systems
- Fiber Optic Systems
- Security Systems
- HVAC Systems
- Industrial Ventilation
- Plumbing Systems
- Fueling Systems
- Refrigeration Systems
- Hospital Systems
- Laboratory Gas Systems
- Central Utility Plants



If you have any questions, or would like more information on Clough Harbour's services to the commercial, industrial, governmental, or institutional sectors, please contact **Adam Lawas, P.E.**, at (585) 262-2640 or at alawas@cha-llp.com. More information regarding our services can be found on our website at www.cloughharbour.com.



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"Satisfying our Clients with Dedicated People Committed to Total Quality"