



Using retro-commissioning to verify your systems' performance

From saving energy and conserving water to reducing carbon dioxide emissions and improving indoor environmental quality, retro-commissioning (RetroCx) is a quality-oriented process that documents the performance and energy efficiency of an existing building's systems against defined objectives and criteria.

This systematic process can help building owners identify low-cost operational and maintenance improvements in existing systems as a method of bringing the systems up to the design intentions and improving usage performance.

When you are ready to verify your building's performance, let Hanson's experienced team help you.

The Retro-Cx Process

The Retro-Cx process consists of four phases: planning, investigation, implementation and hand-off/acceptance.

Planning Phase

- Select in-house team
- Define scope, objectives and deliverables
- Engage RetroCx provider
- Develop RetroCx plan
- Hold a kick-off meeting

Investigation Phase

Data Collection

- Collect as-built building documentation
- Collect utility bills – typically monthly bills for past three years with charges broken down where possible (i.e., consumption, demand, fuel charge, tax, etc.)
- Complete a site assessment
- Obtain trend logs from Building Automation System and/or field-installed data loggers
- Complete functional performance testing
- Analyze trend logs, reviewing equipment status and compare against schedules, identifying analog readings that appear out of range, checking for alignment with sequence of operations, etc.
- Determine interactivity of various measures
- Consider all costs for implementation: capital, O&M, replacement
- Include projected escalation in utility rates
- Calculate payback/return on investment
- Develop master list of findings

Analysis

- Analyze utility bills (calculate benchmark numbers, compare against database averages, establish weighted unit cost for utilities)

Implementation Phase

- Meet with client to select measures from those recommended under the investigation phase
- Develop a detailed implementation plan, defining scopes of work, budgets and schedules
- Engage internal O&M personnel or outside contractors to perform work
- Verify and document results

Hand-Off/Acceptance Phase

- Develop persistence strategies
- Offer building operator training
- Engage staff, explain roles and responsibilities
- Learn to spot “energy saving opportunities”
- Train senior operators to be future trainers
- Determine supporting documentation, including re-commissioning plan
- Provide final RetroCx report

Highlights of our experience

Our Retro-Cx project experience includes services for:

- Duke University, Levine Science Research Center MER Phase II, Durham, N.C.
- Orlando Health Main Campus, West Central Energy Plant, Orlando, Fla.
- Brevard County Schools, Brevard County, Fla.
- Koke Mill Medical Complex, Springfield, Ill.
- Turlington Building, Tallahassee, Fla.
- Eastern Illinois University, 14 facilities on campus, Charleston, Ill.
- Memorial Health Systems, data center upgrade, Springfield, Ill.

