

RETRO-COMMISSIONING

RD³

Commissioning
Solutions

A
SOLUTION
NOT JUST A
SERVICE...

“Stop thinking in terms of limitations and start thinking in terms of possibilities”

Terry Josephson,
20th/21st-century
motivational author

Optimizing Existing Building Performance

Retro-commissioning is the process that improves building equipment and systems functional performance, including resolving problems that occurred during design / construction, or that have developed throughout the building's life improving the operations and maintenance (O&M) and enhance overall building performance and energy consumption.

Retro-Commissioning is important because in today's complex building systems and equipment frequently have operational and occupancy changes that compromise the mechanical, electrical and controls systems which hinder optimal performance; small problems have big effects on performance and energy consumption.

Planning Phase	Investigation Phase	Implementation Phase	Hand-off Phase	Persistence Phase
<ul style="list-style-type: none"> • Select Project • Set objectives • Obtain support • Select Cx Lead • Document current operating requirements • Initial site walk-through • Develop RCx Plan • Assemble RCx Team • Project kickoff 	<ul style="list-style-type: none"> • Review Facility documentation • Perform diagnostic monitoring • Perform Functional Performance Tests • Perform simple repairs / alternations • Develop Master Issues Log • Prioritize Issues Log • Select improvements 	<ul style="list-style-type: none"> • Develop Implementation Plan • Implement Selected improvements • Test & verify results 	<ul style="list-style-type: none"> • Develop Final RCx Report • Create Systems Manual • Develop Re-Cx Assemble RCx Plan • Delivery Training • Close-out meeting 	<ul style="list-style-type: none"> • Develop Persistence Strategies • Develop Persistence Plan • Implement & Train Persistence Strategies • Integrate with PM Program • Periodic M&V • Re-Commissioning

The benefits of retro-commissioning often include:

- Reduced energy consumption
- Identification of energy conservation measures
- Improve operational efficiency and productivity
- Improved systems reliability and life
- Improve IAQ / IEQ
- Reduced occupant / tenant trouble calls / complaints
- Identify and correct hidden issues
- Brings systems back to best operational condition possible
- Eases overall management of building and occupants

Everyone benefits from retro-commissioning: owners, building managers, building maintenance staff, occupants, and the environment.

Retro-commissioning can produce significant cost savings in existing buildings; many times more than comprehensive capital energy projects. Although the savings vary depending on a number of factors, a comprehensive study⁽¹⁾ found average cost savings in the following ranges:

Description	Range of Values	Simple Payback
Value of Energy Savings	\$0.11 - \$0.72/ sqft	0.2 to 2.1 years
Value of Non - Energy Savings	\$0.10 - \$0.45/ sqft	

(1) Mills, E., H. Friedman, T. Powell, N. Bourassa, D. Claridge, T. Haasl, and M.A. Piette. 2004. "The Cost-Effectiveness of Commercial-Buildings Commissioning," Lawrence Berkeley National Laboratory. <http://eetd.lbl.gov/EMills/PUBS/Cx-Costs-Benefits.html>