Retro-Cx: Achieving Carbon Reduction Goals through Training and Collaboration

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Retro-Cx: Working through Conflict with Collaboration

achieving energy/carbon reduction goals through training and a culture of collaboration
Retro-Commissioning (RCx)

• Systematic process
• Investigating, analyzing & optimizing
• Identification & implementation of low/no cost measures
• Ensuring continued performance

- Excellent ROI (return on investment)
- Reduces energy costs/ budget
- Verifies/ validates environmental criteria
- Reduced maintenance
- Increased system reliability
- Improved occupant comfort
- Solve long term operating problems
Adapting RCx

Mission Critical Facilities

- Healthcare
- Data Centers
- Trading Floors
- Television Studios
- Museums
- Labs / Validated Systems
- Emergency Power

Similar Process, Different Concerns

- Stringent patient requirements
- Patients’ needs, comfort and safety take priority
- Complex energy and HVAC systems
- Delicate system balance between space types
- Critical nature of the services provided; patients served
- ECMs need to be easy to implement & sustain
- Focus on energy without impacting patients’ quality of stay and comfort
- Risk / Protection of Valuables (Life)
KEY: Collaboration & Understanding

• Upfront understanding…
  • Facility operational requirements
  • Existing controls capabilities
  • Project goals, expected outcome
  • Personnel involved
  • Coordination & access

• Constraints & Challenges
• Communication protocol
• Issue Remediation Process
Building operators negotiate between users, technologies and the building, and thus, their understanding of and knowledge about the building is vital for reaching goals of energy efficiency.

- Margrethe Aune & Robert Bye

The solutions may already exist!

It just needs to be shared...
Hesitancy & Hurdles
“Teamwork begins by building trust. And the only way to do that is to overcome our need for invulnerability.”
Results of Good Communication

- Identify Current State of Performance
- Occupants & Usage
- Environment to be Achieved
- Planned / Unplanned Capital Expenses
- Utility Budget / Management
- Operating Schedules / Strategies
- Setpoints & Resets
- Seasonal Constraints
- Past Experiences (Successes & Failures)
  - Information vs. Knowledge

"NEVER MISS A GOOD CHANCE TO SHUT UP."

-will rogers
Northwell Health

Launching of an Energy Program
Northwell Retro-Cx Pilot & OsEM Program

Overall Project Goals

• Retro-Cx across 9 Sites
  • NYC, Queens, SI, Long Island
• Develop training program
• Connect to a larger portfolio initiative
• Develop tools for utility tracking, site analysis
Validated Proof of Concept

$1.3M goal achieved at 20% of expected cost!

$157k incentive for OsEM Program – largest & most expansive to date

Further solidified RCx as part of a larger Energy Program

Established a phased approach for 13+ sites
## Key Takeaways

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<th>Clearly defined goals &amp; understanding of the process</th>
<th>Heavy Input from Operations Team</th>
<th>Written plan, roles, responsibility &amp; scope</th>
<th>Agreed upon functional testing programs &amp; requirements</th>
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<tbody>
<tr>
<td>RCxA provides input to resolve deficiencies</td>
<td>Implementation Team(<em>work</em>)</td>
<td>Incorporate a Persistence Strategy at first meeting</td>
<td>Training Tools</td>
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*RCxA* provides input to resolve deficiencies
“Many ideas grow better when transplanted into another mind than the one where they sprang up.”

Oliver Wendell Holmes
“The best teachers show you where to look, not what you should see”
Our overall impression from the data is that end-users in buildings seldom hamper the process of making buildings energy efficient.

More common challenges are the small socio-technological adjustments that are necessary in order to make the building work and make the end-users satisfied.

Building operators are in many ways what we can call ‘super-users’ in the sense that they mediate between the buildings and the users.”
YOU ARE NOT A TRUE SUCCESS UNLESS YOU’RE HELPING OTHERS BE SUCCESSFUL

A Successful Retro-Cx Program…

- Impacts the culture
- Goes beyond just the financials
- Opens the pathway to greater communication
- Empowers others to do more after you’re gone

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