RETRO-CX
WITH CHIEFS:

TRAINING OPERATORS TO SUSTAIN THE PROCESS
BUILDINGS THAT LEARN —
THE ROLE OF OPERATORS

• 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
OPERATIONS (PAST)

**Operations:**
- Occupant Focus
- Respond to comfort complaints
- Repair of & maintenance on existing systems

**Ownership**
- Bottom Line Focus
- Avoid cost increases
- Variance Based
- Vacancy
Operations (Today)

- Operations
- Efficiency
- Ownership
RETRO-CX MILESTONES

• Site orientation & documentation review
• Define the Current Facility Requirements (CFR)
• Energy Analysis / Benchmarking
• Trending/ Data logging
• Design/ Installation reviews (DIRs)
• Functional checks (FCs)
• Performance tests (PTs)
• Reporting & Issue Resolution
• Persistence Strategy
REMEMBER: KNOWLEDGE IS POWER.

SO NEVER TELL PEOPLE ANYTHING BECAUSE THEY MIGHT USE IT TO CRUSH YOU.

DO YOU UNDERSTAND?
I'M NOT SAYING.
“Teamwork begins by building **trust**. And the only way to do that is to overcome our need for **invulnerability.***

**Patrick Lencioni**
“NEVER MISS A GOOD CHANCE TO SHUT UP.”

Listening = Learning
RESULTS OF GOOD COMMUNICATION

• 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
A rising tides lifts all the little boats
“Many ideas grow better when transplanted into another mind than the one where they sprang up.”

Oliver Wendell Holmes
“8 ½ X 11 GLOSSIES”

- Involvement in Project Development
  - Aware of existing building issues & common problems
- Can often develop a list of potential improvement
  - Help focus the analysis
- Sustain improvements after resolution & implementation
  - Know what can and will be done…
  - Is it worth doing?
If everyone is moving forward together, then success takes care of itself.

Henry Ford
INVOLVED IN PROJECT IMPLEMENTATION

• How will I maintain this?
• Where do I get spare parts?
• How do I use this now?
• What mode is it supposed to be in?
• What about when this happens?

• Forget this, I’m putting it in hand…
“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.”
We’re still talking about Retro-Cx right?
SUSTAINING KNOWLEDGE

• BINDER & SYSTEMS MANUAL
  • 20-30% of our time searching for information

• RCX PLAN
  • Test Sheets

• PERSISTANCE PLANNING
  • Improve efficiency and encourage communication

• TRAINING PROGRAM
  • High turnover
  • Leverage wisdom to prevent re-inventing the wheel
“YOU ARE NOT A TRUE SUCCESS UNLESS YOU’RE HELPING OTHERS BE SUCCESSFUL”