Outstanding Energy Optimization Case Study – HVAC Controls Focus

DTE Retro-Commissioning Program

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Thomas Duke Company Participation in RCx

• Motivation to participate
• Ease of participation
• Teamwork
  – Thomas Duke resources
  – DTE team
  – Kode Labs
  – De-Cal
Retro-Commissioning Program

• Systematically identifies & implements operational and process improvements

• Optimizes equipment controls rather than fixing or replacing inefficient equipment

• Three tracks: Standard, Express, and Virtual (VCx)
RCx Express Process to Identify & Implement Measures

**Application and Prequalification**
- Prequalification process
- Customer Signs Application
- Controls Contractor Provides Proposal to Customer
- Customer signs Proposal to proceed

**Find and Fix Day**
- “Find” day on-site with controls contractor
- “Fix” on the spot

**Verification**
- Incentive checks are sent to the customer once savings are verified
- Controls Contractor is paid $2,000 fee
Case Study: Express Track
Thomas Duke Troy Liberty Center

Building Size: 298,813 sq. ft.

HVAC Systems:
- AHUs with Chilled water-cooling coils serving core VAVs
- Heating Units with Natural Gas heat serving perimeter VAVs

Normal Business Hours of Operation
On-Site Find and Fix Day

- One day on-site to “Find” issues
- “Fix” issues on the spot

What We Discovered:

- Equipment running long before and after business hours
- Mechanical cooling taking over at an OA temp of 55 deg F
- Undesirable DAT reset
- High Static Pressure Setpoints
Results

What We Adjusted:
- Runtimes adjusted to match occupancy
- Allowed independent operation of Economizer and mechanical cooling
- Adjusted reset values to more reasonable ranges

Annual Estimated Savings: 610,803 kWh
Annual Estimated Cost Savings: ~$62,000
Express Track Incentives

• The Express track is basically a “Find and Fix” process

• Free study referred to as “Find” part of the process

• The program pays you or the controls contractor of your choice $2,000 to help find and implement the measures based on a defined scope of work

• The program bonus incentive is $0.04 per kWh for verified savings over the minimum target of 50,000 kWh/yr

• If you are a DTE Gas customer, the incentive is $0.30 per Ccf for verified savings over 10,000 Ccf/yr
**Other RCx Tracks - Standard and Virtual (VCx)**

**Standard Track**
- Free BAS/BMS study (valued up to $80,000)
- Building owners receive **incentives for participating**
- Buildings that use 5-15 million kWh annually (typically)
- Target savings is at least 250,000 kWh/yr

**VCx (Virtual) Track**
- Buildings that use less than 1 million kWh annually (typically)
- Data is analyzed remotely, and recommendations are made for low-cost/no-cost energy savings measures
Questions?

Thank you for taking time to learn about the RCx program. Contact the team any time!

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