Monitoring-Based Persistence Commissioning (MBPCx) Program for Existing Buildings
Monitoring-Based Persistence Commissioning Program (MBPCx)

- Overview and Program Goals
  - Monitoring-based retro-commissioning
  - Fault detection & diagnostic (FDD) tools
  - $1.55 million program funding
  - Customer incentives
  - Target buildings:
    - 250,000 sqft or larger
    - 4 M sqft
    - +/- 13 sites
    - 15 kWh/sqft or higher
  - Savings goals:
    - 4.38 million kWh
    - 96,000 therms
    - 737 kW
Program Rationale

- 2004 LBNL RCx Study (Bourassa, et al.)
  - SMUD’s 1998-2002 RCx Program
  - Savings increase to 4 years then decline
  - IOU energy programs require longer-lived measure life
  - Operator training was a primary benefit
  - MBPCx addresses persistence and training
Program Eligibility

Requirements

- PG&E service territory
- Customer pays PGC
- Non-residential building
  - Office, retail, hotel, school, high-tech, etc.
  - Automated central plant
  - Municipal facilities generally cannot participate
  - Buildings included in other 3rd party and partnership programs cannot participate
- Modern, robust building automation system
- Financial resources to implement measures
- Implementation completed by Oct. 31, 2008
Services Included

- Engineering, FDD installation, training & customer support
  - Facility evaluation
  - Energy benchmarking
  - Retro-commissioning
    - RCx Scoping Audit
    - Detailed Investigation Report
    - Measure impact analysis
  - FDD toolset installation and calibration
  - Operator training on FDD toolset
  - Implementation assistance
  - Verification of measure implementation
Incentives Offered

- Two potential incentive payments
  - 1st incentive available after initial RCx measure implementation
  - 2nd incentive available following a period of approx. 6 months after first measures are implemented and FDD toolset continues to run, identifying additional measures
- Cash incentives are:
  - $0.083/kWh saved
  - $0.624/therm saved
  - No cap on individual sites
- Typically, incentives will buy down payback from 1-1/2 years to 1 year
FDD Toolsets

- Potential FDD toolsets include:
  - Performance and Continuous Re-commissioning Analysis Tool (PACRAT)
  - NIST VAV box Performance Assessment Control Charts (VPACC)
  - NIST AHU Performance Assessment Rules (APAR)
  - AEC ENFORMA® Building Diagnostics
  - Enovity custom FDD tools
Performance and Continuous Re-commissioning Analysis Tool (PACRAT)

- **Features**
  - Automated tool for HVAC system performance
  - Mines trend data from BAS
  - Analyzes data through custom written algorithms
  - Produces anomaly reports for specific HVAC systems
Enovity FDD Experience

- Phillip Burton
  Federal Building
  - PACRAT running since early 2005
  - VPACC running since mid 2005
  - PACRAT is tied to building CMMS
  - Enovity is the O&M service contractor
Program Update

- Current activities and milestones
  - Identified five potential sites totaling 2.7 M sqft to date
  - Access agreements completed for approx. 1.4 M sqft
  - FDD toolsets to be installed within next 90 days at two large sites
  - Marketing materials nearing completion
  - Looking for 5-10 additional sites
Presentation Wrap

Contact Info:

- Principal in Charge: Jonathan Soper
- Program Manager: Randy Despain
  - (415) 974-0390 (ext. 110)
  - rdespain@enovity.com
- Website: www.enovity.com/programs/mbpcx.html

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