

Improving Existing Building Performance and Efficiency

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Why Focus on O&M and Retrocommissioning (RCx)?

- Significant performance problems in commercial buildings of all sizes
- RCx and O&M improvements address many performance and efficiency issues
- Growing interest in program development promoting HVAC O&M services and RCx



Target: Packaged HVAC O&M

- Dominate equipment in small- and mid-size low-rise bldgs
- Installations growing 6% per year
- More than 50% of cooling & 25% of heating energy consumption in commercial buildings



Packaged HVAC Systems

- Common problems result in wasted energy estimated at up to 30%
- Problems impact comfort, IAQ, energy costs, reliability
- New diagnostic tests/protocols enable cost-effective optimization services
- Barriers include awareness, technical and marketing skills, owner skepticism



Target: Retrocommissioning

- Large buildings -- over 100,000sf
- Good candidates typically have EMS, high energy use, large mechanical systems in relatively good condition



Retrocommissioning

- Common problems in target buildings
 - equipment, controls, documentation, O&M staff training
- RCx benefits include reduced energy & O&M costs, improved occupant comfort and IAQ, longer equipment life & reliability
- Cost-effective energy savings of 5-20%
- Barriers include awareness, costs, technical skills, owner skepticism



Growing Interest & MT Activity

- Small HVAC O&M
 - ongoing research and documentation
 - pilot programs in CA and Pacific NW
- Retrocommissioning
 - Programs proliferating: CA, CO, MN, NY, TX, New England, Pacific Northwest
 - Increased recognition and emphasis
 - state government
 - building labeling and certification programs

