Demand-Side Management Programs

June 23, 2006

By Xcel Energy
Conservation Programs Background

- Programs were authorized as a result of a settlement agreement regarding Xcel Energy’s least cost plan.
- Programs will run from 2006 through 2013.
- Overall goals are 320 MW and 800,000 MWH (Previously only kW reductions).
- Authorized to spend up to $196 million.
- Annually: 40 MW, 100,000 MWH, $25M.
Conservation Programs for Businesses

• Available Jan. 1, 2006
  – Lighting Efficiency
  – Motor Efficiency
  – Cooling Efficiency
  – recommissioning
  – Energy Design Assistance

• Available Feb. 15, 2006
  – Custom Efficiency

• Additional programs by year end
  – Energy Management Systems
Program Overview

• Cash rebates – checks sent, not credits
• Available for existing facilities or new construction Weekday on-peak operation
• Purchased and installed after 12/31/05
• Prescriptive Rebates offer pre defined rebate amount for type of equipment
• Custom Rebates offer up to $200/kW
• Maximum rebate 50% of cost
Rebate Process

• Must be Xcel Energy Electric customer
• Submit application
• Enclose itemized invoice
• Within 12 months of the invoice purchase date (24 months for motors)
• Mail or fax information to Account Manager
• *Custom Rebates require pre-approval
Measurement and Verification

• Random verification audits
  – Fixture counts
  – Verification of nameplate information
  – Monitoring on large Custom projects
  – Inconsistencies can delay or reduce rebate
Program Overview

Lighting Efficiency
Sample Rebates

- T12s → T8s
- T12s → Super T8s
- T12s → T5s
- 400W HID → 6 or 8 lamp T8 or T5 HO
- CFLs
- Inc Exit sign → LED Exit sign
- Reflectors
- Occupancy Sensors
Program Overview

Motor Efficiency
Rebate Requirements

• New motors from 1-200 horsepower
  – No rewound or repaired motors
• Must meet or exceed National Electrical Manufacturers Association (NEMA) Premium® motor efficiency standards
Rebate Amounts

- 1 HP $10
- 1.5 HP $15
- 2 HP $20
- 3 HP $25
- 5 HP $35
- 7.5 HP $50
- 10 HP $65
- 15 HP $75
- 20 HP $100
- 25 HP $125
- 30 HP $150
- 40 HP $200
- 50 HP $250
- 60 HP $300
- 75 HP $350
- 100 HP $450
- 125 HP $500
- 150 HP $550
- 200 HP $600
Variable Frequency Drive (VFD) Rebate Requirements

• New VFDs only
  – Prescriptive rebates for 1-200 horsepower
    • At least 4,000 hrs. per year
    • Two or more operating points < 55% loaded, 75% of the time
    • Automated control system
  – True PF ≥ .90
VFD Rebates – Qualifying Equipment

- VFDs included
  - HVAC fans
  - Pumps
  - Cooling towers
  - Process equipment
  - Industrial fans

- VFDs not included
  - Chillers
  - Refrigeration compressors
  - Air compressors

Non-included VFDs may qualify for Custom Efficiency rebates (available starting Feb. 2006)
VFD Rebate Levels

- $30/HP for all qualifying VFDs between 1-200 HP
- Examples:
  - 20 HP VFD * $30 = $600 cash rebate
  - 125 HP VFD * $30 = $3,750 cash rebate
Program Overview

Cooling Efficiency
Qualifying Technologies

- Packaged Terminal Air Conditioners (PTACs)
- Water source heat pumps
- Rooftop A/C units
- Condensing units
- Split systems
- Variable air volume (VAV) boxes
- Cooling towers
- Chillers
Rebate Structures

• All rebates are based on the same formula
  – $/ton
  – Plus $/ton for incremental efficiency
• Encourages customer to buy higher efficiencies
Sample Rebate Calculations

• Scroll chiller example
  – $10/ton
  – $3/ton for each increment below base
    • Assume 75 ton scroll chiller at 0.61 kW/ton
    • 75 ton x $10/ton = $750
    • \((0.65-0.61)/0.01 = 4\)
    • 75 ton x 4 x $3/ton = $900
    • Total: $750 + $900 = $1650
Program Overview

Recommissioning
Recommissioning Objectives

• Fix what is there
• Make what is there operate better
• Give the building a tune-up

• *Buildings must be >50,000 square feet
Process – Standard Recommissioning

Incentives

- Three phases
  1. Preapproval
  2. Investigation
  3. Implementation
    - Verification
    - Incentive
Diagnosis/Engineering Study

• Thorough assessment of customer’s existing equipment in their facility
  – Customer chooses Recommissioning service provider
  – P.E. or provide acceptable qualifications

• Funding
  – We pay a portion of the study cost, up to 50%, not to exceed $15,000
  – Funding based on study cost and estimated savings
Systems Assessed

• Existing systems
  – Central heating/cooling
  – Air handling units
  – Heat pumps/rooftop units
  – Pumping
  – Outside air
  – Central chilled water loop
  – Economizers
Controls Assessed

• Existing controls
  – Sequence of operations
  – Resets
  – Start/stop times
Sample Measures

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*Equipment replacement may be recommended by the study, however is not considered Recommissioning
Implementation

- Customer decides what to implement
- Incentives calculated for kW and kWH savings
  - $200/kW or $0.0175/kWH
  - If both kW and kWH savings, rebate for highest
- Limitations
  - Maximum 50% of implementation cost
  - Within 1-15 year simple payback
    - We track even if outside these parameters
Program Overview

Energy Design Assistance
Energy Design Assistance Overview

• We work with commercial building owners, architects and engineers
• Evaluate potential energy-efficiency improvements
• For new construction, major renovations or additions
• Start when designing plans
Requirements

- >50,000 sq. ft. for commercial facilities
- >150,000 sq. ft. for housing
- Early enough to influence decision-making
  - Schematic design or design development Stages
Features

• Free energy modeling and verification
• Owner incentives for implementation
  – Based on performance better than International Energy Conservation Code (IECC) 2003
  – Paid on a sliding scale from $175/kW to $275/kW
  – As the building becomes more efficient, the $/kW saved increases
    – Incentive increases in $/kW from 27% up to 50% better than code
• Payment to architectural and engineering team
Program Overview

Custom Efficiency
Custom Efficiency Requirements

• Pre-approval required prior to purchase
• Simple paybacks between 1-15 years
• Rebate amount offered valid for 1 year from pre-approval date
• Rebates cannot exceed 50% of the project cost
• Rebates apply to new equipment
  – Leased equipment may qualify
  – Used equipment does not qualify
Custom Efficiency Project Examples

- **Lighting**
  - Retrofits or replacements that are not one-to-one

- **Cooling**
  - Economizers

- **Motors/Drives**
  - Individual motors greater than 200 HP
  - VFDs greater than 200 HP

- **Compressed Air**
  - Reduce HP of compressors

- **Custom Examples**
  - Elevator modernization
  - Window Film
Custom Efficiency Application Process

- Customer submits Custom Efficiency Application to Xcel Energy
- Xcel Energy reviews the project and performs energy-savings and cost effectiveness calculations
- If approved, Xcel Energy send a pre-approval letter to customer detailing the expected incentive amount
- Customer orders and installs new equipment
Custom Efficiency Application Process

• Once project is complete, customer contacts Xcel Energy
• Xcel Energy performs verification and energy-savings monitoring, if necessary
• If project scope has not changed and savings is close to expected, then incentive is paid
• If costs or savings vary by more than 10%, then incentive may be recalculated (could go up or down)
Contact Information

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The Business Solutions Center
1-800-481-4700
Program Information on Xcelenergy.com

• Enter your CO zip code
• Press GO
• In the search box enter the program name:
  – Lighting Efficiency
  – Cooling Efficiency
  – Motor Efficiency
  – Recommissioning
  – Energy Design Assistance
• Click GO
QUESTIONS?