Alternatives to: Fixed DR Programs

CHASE SANDERS
DIRECTOR, BUSINESS DEVELOPMENT, NEXREV
CHASESANDERS@NEXREV.COM
Problems with Traditional Demand Response

• Comfort
• Execution
  • Manual
  • Controls / Programming
• Validation
Equipment Upgrades – Lighting

<table>
<thead>
<tr>
<th>Type</th>
<th>LED</th>
<th>T8</th>
<th>T12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watts/Fixture</td>
<td>40 Watts</td>
<td>128 Watts</td>
<td>136 Watts</td>
</tr>
<tr>
<td>Demand of 200 Fixtures</td>
<td>8 kW</td>
<td>25.6 kW</td>
<td>27.2 kW</td>
</tr>
</tbody>
</table>

- T8 to LED Upgrade (200 fixture store): 17.6 kW demand reduction
Equipment Upgrades – VFD’s

- HVAC Example

<table>
<thead>
<tr>
<th>Blower Motor Size</th>
<th>Demand pre - VFD</th>
<th>Demand post - VFD</th>
<th>Demand Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>3HP (7.5-12.5Tons)</td>
<td>2.37kW</td>
<td>1.26kW</td>
<td>1.11kW</td>
</tr>
<tr>
<td>5HP (12.5-15Tons)</td>
<td>3.94kW</td>
<td>2.10kW</td>
<td>1.84kW</td>
</tr>
<tr>
<td>7.5HP (15Tons+)</td>
<td>5.92kW</td>
<td>3.1kW</td>
<td>2.82kW</td>
</tr>
<tr>
<td>10HP (25Tons+)</td>
<td>7.89kW</td>
<td>4.19kW</td>
<td>3.70kW</td>
</tr>
</tbody>
</table>

- Eight RTU store with 5HP blower motors: 14.72 reduced kW demand with VFD
Advanced Controls

• Light Dimming
  • Integration of indoor light sensor
  • Automated process

• Cooling Setpoint Float
  • Standard setpoint can be raised based on the reference humidity
  • Enthalpy driven comfort
  • Automated process
On-Site Generation/Storage

- Solar
- Diesel / Natural Gas Generators
- Battery Storage

DAILY DEMAND PROFILE

- Demand w/o onsite generation
- Demand w/ onsite generation
Thanks for your time!

CHASE SANDERS
DIRECTOR, BUSINESS DEVELOPMENT, NEXREV
CHASESANDERS@NEXREV.COM