Con Edison
An Electric/Gas/Steam Utility Point of View

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Director of Gas Supply
Con Edison
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Agenda

• Company Overview
• Demand Growth
• Capacity Additions
• Regional Pricing
• Impact on Generators
• Planning Implications
Con Edison/O&R Statistics (2013)

<table>
<thead>
<tr>
<th></th>
<th>Con Edison</th>
<th>O&amp;R</th>
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</thead>
<tbody>
<tr>
<td>No. of Electric Customers</td>
<td>3.4 million</td>
<td>0.3 million</td>
</tr>
<tr>
<td>No. of Gas Customers</td>
<td>1.1 million</td>
<td>0.1 million</td>
</tr>
<tr>
<td>No. of Steam Customers</td>
<td>1,700</td>
<td>NA</td>
</tr>
<tr>
<td>Service Area (sq. miles)</td>
<td>660</td>
<td>1,350</td>
</tr>
<tr>
<td>2013 Electric Peak Demand (MW)</td>
<td>13,322</td>
<td>1,561</td>
</tr>
<tr>
<td>2013 Winter Gas Peak Day Distribution (Mdt)</td>
<td>1,104</td>
<td>202</td>
</tr>
<tr>
<td>2013 Winter Gas Design Day (Mdt)</td>
<td>1,265</td>
<td>216</td>
</tr>
<tr>
<td>2013 Steam Peak Day Sendout (Mlb/hr)</td>
<td>8,900</td>
<td>NA</td>
</tr>
</tbody>
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Oil to Gas Conversion
Significant Demand Growth in NYC

- NYC Clean Heat Initiative to phase out heavy oil usage and emissions
  - No. 6 Oil by 2015
  - No. 4 Oil by 2030
- Approximately 8,000 in NYC
  - CECONY
    - 7,000 buildings
    - ~600 Mdt/d aggregate peak day equivalent
  - National Grid
    - 1,000 buildings
    - ~150 Mdt/d aggregate peak day equivalent

Source: EDF/NYC DEP
Interstate Pipelines & Purchase Points
Portfolio of capacity provides access to diversified supply

- Niagara (NY)
- Waddington (NY)
- Canadian
- Texas Eastern/Algonquin
- Transco
- Iroquois
- Dominion
- National Fuel
- TransCanada
- Millennium
- Storage
- Marcellus Shale
- Gulf Coast Production Area
- Mid-Continent Shale
- Texas Eastern/Transco
- Texas Eastern/Algonquin
- LNG
- LNG
- Stagecoach Storage/ Marcellus (PA)
- Leidy/ FSMA Storage/ Marcellus (PA)
- South Point (PA, WV)
- M1 (MS, AL)
- Z4 Sta 85 (MS, AL)
- Columbia/Tennessee/
- Texas Eastern/ Transco
- Gulf Areas – (TX, LA, MS)
New York Metro Area Gas System
Regional Capacity Increased by 1,000 MDt/Day beginning Nov. 1, 2013
Expansion of Pipelines Resulted in Change in Regional Flows

- Enhances system reliability
- Supports future demand growth
- Provides diversity of supply
- Reduces capacity constraints into the region
- Provides economic benefits to customers
Con Edison’s Winter Experience Through the “Polar Vortices”

- Overall winter has been volatile and colder than normal by about 14% and winter HDDs have been 89% of design
- Gas customer demand has been up 14% from last year
- Interruptible customers experienced over 20 days of interruption
  - Including almost 10 consecutive days
- Sustained cold resulted in gas deliveries about equal to our design winter for the season
- Winter presented all time throughput records
  - Monthly
  - Daily
  - Hourly

Winter 2013-14 Temperature Departures (degrees in Fahrenheit)

<table>
<thead>
<tr>
<th>City</th>
<th>Departure from normal</th>
<th>City</th>
<th>Departure from normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston</td>
<td>-2.3</td>
<td>Chicago</td>
<td>-7.7</td>
</tr>
<tr>
<td>New York</td>
<td>-2.7</td>
<td>Detroit</td>
<td>-6.3</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>-3.0</td>
<td>St. Louis</td>
<td>-5.1</td>
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<tr>
<td>Pittsburgh</td>
<td>-3.9</td>
<td>Dallas</td>
<td>-2.7</td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>-3.8</td>
<td>San Francisco</td>
<td>+3.8</td>
</tr>
<tr>
<td>Raleigh</td>
<td>-2.4</td>
<td>Los Angeles</td>
<td>+4.2</td>
</tr>
<tr>
<td>Atlanta</td>
<td>-2.2</td>
<td>(As of Dec. 21, 2013 through March 20, 2014)</td>
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Con Edison Monthly and Daily Records

CECONY Top 10 Daily Throughputs

Previous daily record: 1,445 MDt on 1/15/2012

CECONY Top 10 Monthly Throughput Records

Previous monthly record: 36,773 MDt on Jan 2011
2014 Severe Weather Events

Jan 6-7 "Early Jan"

Jan 22 "The $100 Gas Price"

Jan 27 "Persistent Cold"

Feb 6 "West Cold"

Source: FERC Technical Conference, April 1, 2014
January 7th Eastern Gas Prices

- Record gas demand
- Gas prices reached high levels throughout the Eastern region
  - Highest prices in Mid-Atlantic and Southeast regions
- Very cold weather
  - Average 8°F in NYC
- High utilization rates resulted in capacity constraints
- Pipeline equipment malfunctions
- Supply reductions

Source: Platts Gas Daily
January 22\textsuperscript{nd} Eastern Gas Prices

- Gas prices reached EVEN HIGHER levels throughout the Eastern region – broke all previous records
  - Transco Z6 NY and Transco Z6 Non-NY reached record levels
  - Transco Z5 not far behind
  - Average 12°F in NYC
- Continued high utilization of regional capacity
- Supply reductions as a result of freeze-offs
  - At least 1.5 Bcfd of U.S. supply was shut-in due to freeze-offs
  - Northeast gas production down 0.8 Bcfd

Source: Platts Gas Daily
**Impacts of Gas on Generation**

- Gas or dual fuel generating capacity represents 95% of NYC.
- The majority of gas-fired generation stations do not have firm gas service with their pipeline suppliers.
- Dual fuel utilization allows generators to take advantage of the lowest cost fuel.
- Fuel oil was marginal fuel for about 10 days during January for New York City generators who had dual fuel capabilities.

Source: New York Independent System Operator

Source: Platts Gas Daily and Argus Oil
Planning Implications of Recent Experience

- Additional pipeline capacity was a plus
- Significantly higher demand challenged the existing infrastructure
- Storage played a very important role
- Additional infrastructure may be needed
- Continued gas customer demand growth will occur
  - Including power generation
- Customers, including Generators, relying on dual-fuel service will need to review fuel oil availability and their operating capability
- Enhanced electric gas coordination is still needed
  - Alignment of energy day and scheduling cycles