Maintaining Power System Reliability

BIA 2018 New Hampshire Energy Symposium

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Northeast Gas Association
Topics

- Overview: Regional Gas System
- Last Winter
- Power Market Issues
About NGA

- Non-profit trade association
- Local gas utilities (LDCs) serving New England, New York, New Jersey, Pennsylvania
- Several interstate pipeline companies
- LNG importers, suppliers and trucking companies
- Over 400 “associate member” companies, from industry suppliers and contractors to electric grid operators
- www.northeastgas.org
NGA’S ANTITRUST COMPLIANCE PROCEDURES

Adopted by the NGA Board of Directors on June 20, 2018

Objective

The Northeast Gas Association (NGA) and its member companies are committed to full compliance with all laws and regulations, and to maintaining the highest ethical standards in the way we conduct our operations and activities. Our commitment includes strict compliance with federal and state antitrust laws, which are designed to protect this country’s free competitive economy.

Responsibility for Antitrust Compliance

Compliance with the antitrust laws is a serious business. Antitrust violations may result in heavy fines for corporations, and in fines and even imprisonment for individuals. While NGA’s attorneys provide guidance on antitrust matters, you bear the ultimate responsibility for assuring that your actions and the actions of any of those under your direction comply with the antitrust laws.

Antitrust Guidelines

In all NGA operations and activities, you must avoid any discussions or conduct that might violate the antitrust laws or even raise an appearance of impropriety. The following guidelines will help you do that:

- Do consult counsel about any documents that touch on sensitive antitrust subjects such as pricing, market allocations, anti-employee poaching practices, refusals to deal with any company, and the like.

https://www.northeastgas.org/compliance_docs.php
Regional Natural Gas System
New England Natural Gas System

Gas = 29% of primary energy

Gas = 39% of home heating

Gas = 48% of power gen

2.7 million gas customers
Northeast region producing \(~29\ Bcf/d\). Further growth expected.

PA is now 2\textsuperscript{nd} largest gas producing state in U.S., behind Texas.
Since 2010, there are over 1 million new household natural gas customers in the 9 Northeast states.

In the last decade, natural gas utilities in New England added over 250,000 new Residential & Commercial customers.
Most New Capacity Added in 2018 Went Outside the NE Area

Map: U.S. EIA, 5-18
Last Winter
Multiple Gas Utility Sendout Records Set

- New England natural gas utilities collectively set 3 new sendout records that week – with new all-time peak set on 1-6-18, at close to 4.4 Bcf.
- Good gas-electric communication during winter and cold snap.
Key Role of LNG as Supply Input

From December 19, 2017 to January 28, 2018, Distrigas (now Everett LNG) imported six cargoes, totaling ~ 16 Bcf.

Canaport LNG provided LNG inputs into the Maritimes & Northeast Pipeline during the period. It imported three cargoes in Jan. 2018, ~9 Bcf.
Impact on Gas & Power Spot Prices

FERC report, 4-19-18: “Natural gas prices in New York City, New England, and the Mid-Atlantic all set all-time record highs, with next-day trades reaching as high as $175/MMBtu in New York City on January 4. Although Operational Flow Orders limited shippers’ flexibility to exceed their contractual obligations to meet varying natural gas demand, there were no pipeline outages or firm service curtailments.” [emphasis added]
Various Gas Hub Prices, Recent Winters

Average Day-Ahead Natural Gas Prices, Recent Winters ($/MMBtu)

- Algonquin
- Citygates
- Transco Zone 6 NY
- Columbia Appalachia
- Henry Hub

2012-13 2013-14 2014-15
2015-16 2016-17 2017-18

Source: U.S. FERC, data as of 2-14-18

Note: Algonquin = New England proxy; Transco Zone 6 NY = New York City area; Columbia Appalachia = Marcellus; Henry Hub = national benchmark in Louisiana
Power Market in Transition
New Gas Generation Capacity in Region

Footprint Power
Salem Harbor
Salem, MA
674 MWs
Online June 2018

CPV Towantic Energy Center
Oxford, CT
805 MWs
Online June 2018

PSEG Power
Bridgeport Harbor Station 5
Bridgeport, CT
485 MWs
Expected online, June 2019

"The region's reliance on natural gas will only intensify... While some argue that the region is too dependent on natural-gas-fired power plants, the future hybrid power system will require reliable, flexible back-up power - exactly what efficient natural-gas-fired generators provide."

- Gordon van Welie, ISO-NE, 2017
### Annual Emissions of NO\textsubscript{X}, SO\textsubscript{2}, and CO\textsubscript{2}, 2001 to 2016 (kilotons)

<table>
<thead>
<tr>
<th>Year</th>
<th>NO\textsubscript{X} kilotons (short)</th>
<th>NO\textsubscript{X} kilotons (metric)</th>
<th>SO\textsubscript{2} kilotons (short)</th>
<th>SO\textsubscript{2} kilotons (metric)</th>
<th>CO\textsubscript{2} kilotons (metric)</th>
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**Percent Reduction, 2001-2016**

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<th>SO\textsubscript{2}</th>
<th>CO\textsubscript{2}</th>
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<td>2001-2016</td>
<td>73</td>
<td>98</td>
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*Source: ISO-NE, 1-18*
Observations

- Gas utilities in New England continue to see growth on systems and to plan incremental infrastructure investments to meet that growth.

- Natural gas continues to be essential part of region’s power system – and helps balance / enable increasing renewable additions.

- Key role remains for LNG and compressed natural gas (CNG) in this region.

- Region remains at a price disadvantage for its energy market with uncertainty over / limitations on access to nearby supply.