



NGA Regional Market Trends Forum

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The Case for LNG in New England

- In the near to mid-term, New England has a peaking gas supply issue; not a baseload issue
- Even with current pipeline expansion plans, LNG has an important role to meet this peak demand
- Pipeline expansions are largely designed to meet LDC heating load requirements; LNG provides the necessary flexibility to meet both LDC peaking and the needs of power generation
- LNG provides the necessary real-time volume/pressure flexibility to accommodate changes in system demand



2017 Price Highlights ISO-NE*

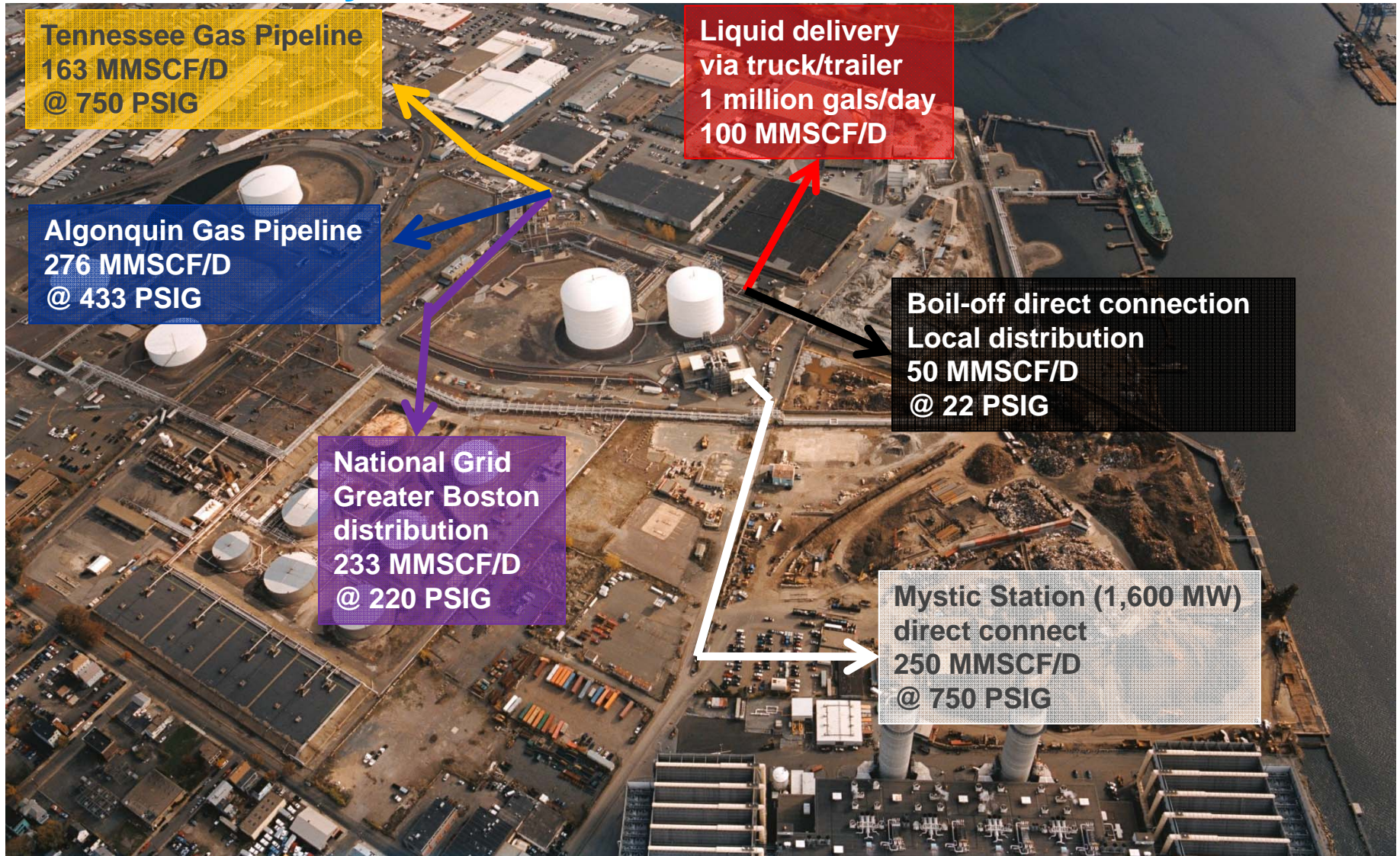
- Average annual electricity and gas prices are LOW. “Second-Lowest since 2003”
- “Second lowest annual average price of wholesale energy in 15 years: \$33.94/MWh”
- “Second lowest annual natural gas price; \$3.72/MMBtu”
- “August and June 2017 were among the 10 lowest-price months since 2003: \$23.77/MWh during August and \$23.93/MWh during June”
- Prices suggest there is not a baseload issue

Everett Marine Terminal: Peaking Service

- The Everett LNG Import Terminal aka Distrigas opened in 1971 as a peak shaving facility to help meet New England's natural gas demand
- Distrigas is the longest-operating import terminal in the US, and the only continuously operating one
- Storage capacity:
 - 3.4 Bcf
- Vaporization capacity:
 - 715 million cubic feet/day – sustainable
 - 1 billion cubic feet/day – maximum installed
- Trucking capacity:
 - 100 million cubic feet/day
 - 4 Truck Racks
- Open 24 hours a day 7 days per week



Everett Marine Terminal: Capability to serve key systems simultaneously



Winter 2017-18 LNG Recap

- This winter's peak day was Saturday, January 6
- During the peak, the combined vapor sendout of the Everett and Canaport facilities provided New England with 1.21 Bcf of gas...a volume greater than the largest proposed pipeline project
 - In addition, Everett loaded out 20 trucks or 18,600 MMBtu bring the total LNG contribution to 1.23 Bcf
 - This number does not account for local LDC vaporization
- For the winter season, the Everett and Canaport facilities provided New England pipeline system a total of 21.5 Bcf of gas; nowhere near the historic record of 60+ Bcf
 - This number does not account for Mystic 8-9 gas or trucked LNG
- Additional capacity is available even on peak days; existing facilities' capacity should be used prior to building incremental capacity

Everett Marine Terminal: Winter Flexibility and Reliability

- The terminal has inherent short-term flexibility in its connections to AGT, TGP, and Boston Gas; Gas can be sent where it's needed the most
- In the mid-term, the terminal can also adapt to extraordinary situations like this winter's "bomb cyclone" where New England experienced two weeks of sustained below freezing temperatures
- During the bomb cyclone, ENGIE quickly adjusted and moved up inbound 2018 cargos to December and January to meet the unexpected demand bringing in four cargos (~11 Bcf) around that event alone!
- ENGIE quickly acquired two additional spot cargos which it brought in on behalf of customers.
- Our own peak day was January 6th where we sent out a total of 657,000 MMBtu
- Additional gas was on hand and vaporization was available had we known if Mystic 8-9 was going to be dispatched
- The total gas brought in for this winter was 32.5 Bcf on 13 ships



Everett Marine Terminal: Facility Flexibility

- Installed Vaporization with redundancy is 1.04 Bcf/day
 - Hourly capability into Algonquin Gas Transmission:
 - 19.2 MMSCF/hr
 - Hourly capability into Tennessee Gas Pipeline:
 - 20 MMSCF/hr
 - Hourly capability into National Grid:
 - 13.4 MMSCF/hr
- Flexibility is helpful as Power Generation Facilities looking for uneven hourly deliveries

Going Forward

- We're continuing to sign short and long term contracts for Winter and Summer Firm Peaking Gas:
 - Winter Firm Vapor and/or Liquid Services
 - Combination Vapor/Liquid Services
 - Summer LNG Refill
- Our customer mix:
 - LDC's to ensure reliable service for their customers
 - Power Generators ISO-NE in light of "Pay for Performance"
 - Marketers with AMA agreements for LDC's
- We have recently extended contracts for our firm transportation quantity on TGP/AGT
- We are continuing to serve the Mystic Power Plant

Final Thoughts – the Case for LNG in New England

- Fundamentally, NE has a winter peaking problem - true 47 years ago as today
- ENGIE believes strongly that New England should first unlock potential of underutilized existing natural gas infrastructure to help solve winter peak issue
 - Long term contracts for firm service rather than seasonal
 - ISO-NE Winter Reliability Program rightly includes LNG as well as oil, dual fuel, DR
 - 20 Bcf of stored LNG in New England
 - ISO-NE Pay for Performance proposal should go a long way toward resolving these issues
 - Market should pursue policy to ensure pipes full East to West to better assess real needs West to East
 - New pipe solves baseload growth issue; LNG solves peaking problem.
- LNG can be economically delivered to the New England market during peak periods provided commitment is made with enough time to facilitate logistics
- The market needs proper mechanisms in place for power generators to recover the cost of flexible fuel supply during peak demand periods
- LNG is available on a short-term, seasonal basis or on a longer-term basis as needed