

2014-2015 Winter Capacity Assessment & Winter Preparedness

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Management Committee Meeting

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Rensselaer, NY

Winter Assessment Summary

- ◆ Includes 541MW of net capacity additions & retirements since 2014 Gold Book (Danskammer & others)
- ◆ Excludes Known Forced Outages (959MW)
- ◆ Two Fuel Cases: Base Case & Loss of Gas
- ◆ Two Weather Scenarios: Normal & 90/10 Cold Weather

2014-2015 Capacity Margins - MW

Region	Base Case		Loss of Gas Case	
	Normal Weather	90th Weather	Normal Weather	90th Weather
NYCA	10,536	8,940	6,534	4,938

NYCA Winter Installed Capacity Assessment - Base Case

Line	Item	2014-2015 Baseline Forecast	2014-2015 90th Percentile Forecast
1a	Installed Capacity Resources	39,803	39,803
1b	SCR - ICAP Values	843	843
1c	Net ICAP External Imports	1,078	1,078
1	NYCA Resource Capability	41,724	41,724
2	Total Installed Capacity Derates	4,486	4,486
3	Net Installed Capacity Resources	37,238	37,238
4	Load Forecast	24,737	26,333
5	Operating Reserve Requirement	1,965	1,965
6	Capacity Margin	10,536	8,940

- During last year’s January 7, 2014 (new) all-time Winter Peak Load;
 - Experienced approximately 7000 MW of generator outages
 - Actual peak load was 25,738 MW
 - Did activate Demand Response on a voluntary basis & scheduled supplemental capacity commitments to maintain operating criteria

NYCA Winter Installed Capacity Assessment - Loss of Gas

Line	Item	2013-2014 Baseline Forecast	2013-2014 90th Percentile Forecast
1a	Installed Capacity Resources	39,803	39,803
1b	SCR - ICAP Values	843	843
1c	Net ICAP External Imports	1,078	1,078
1	NYCA Resource Capability	41,724	41,724
2	Total Installed Capacity Derates	4,486	4,486
3 = (1-2)	Net Installed Capacity Resources	37,238	37,238
4	Load Forecast	24,737	26,333
5	Operating Reserve Requirement	1,965	1,965
6 = (3-4-5)	Capacity Margin	10,536	8,940
7a	Subtract All Gas Only Units	7,168	7,168
7 = (6-7a)	Capacity Margin, Loss of Gas	3,368	1,772
8a	Add Back Units with Firm Gas Contracts	3,166	3,166
8 = (7-8a)	Expected Capacity, Loss of Gas Case	6,534	4,938

Winter Preparedness

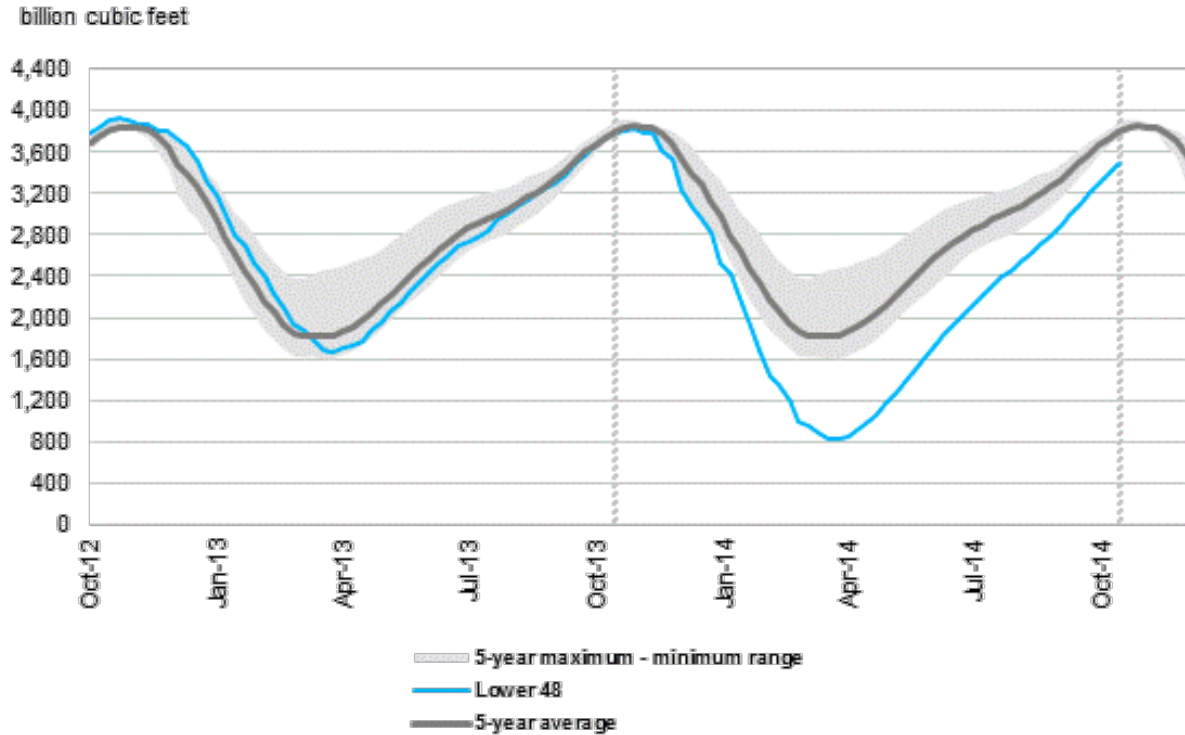
- ◆ Issued the winter preparedness fuel surveys and reviewed the status of starting oil inventories, oil replacement arrangements, and gas transportation arrangements
- ◆ Created a new Control Room gas-electric support position to:
 - *Monitor status of gas pipeline system*
 - *Monitor alternative fuel inventory*
 - *Monitor potential emissions limitations*
- ◆ Established capability to allow generators to provide expected costs for day-ahead reference level developments
- ◆ Developing a communications protocol to improve speed and efficiency of generator requests to the NYSDEC for emissions waivers if needed for reliability

Winter Preparedness

- ◆ **Filed tariff revisions consistent with FERC Order 787; Code of Conduct Modifications**
- ◆ **Implemented Min Oil Burn procedures as associated with NYSRC IR-3 and IR-5**
- ◆ **Made improvements to the daily fuel inventory solicitation process on cold days**
- ◆ **Monitored gas storage injections**
- ◆ **Communicating how gas balancing during non-OFO time periods can be allowed in reference level developments**

Natural Gas Storage

Working gas in underground storage compared with the 5-year maximum and minimum



Source: U.S. Energy Information Administration

Actual East Gas Storage at 1,913 bcf as of October 24
East Gas Storage projected at 5-Year Average (2,100) by November

Adjacent Reliability Coordinators

◆ ISO-NE

- ***+ 1,287 MW Projected Capacity Margins for 50/50 Peak Load Conditions***
 - 1250 MW of non gas-fired generation retirements since last winter
- ***Tariff modifications***
 - Allow capability for increased generator bids in real time
 - Increased reserve shortage pricing
 - Re-Instituted Fuel Purchase Program (Fuel Carrying Cost Recovery)

◆ PJM

- ***+50,000 MW Projected Capacity Margins for 50/50 Peak Load Conditions***
 - Last Winter Peak: Exceeded 50/50 forecast, incurred 44,000 MW of capacity derates
 - +2,300 MW of new gas-fired generation since last winter
 - Winter 2013-2014 Peak (144,700 MW) exceeded Summer 2014 Peak (144,400 MW)
 - Pre-winter generator testing voluntary basis, eligible to receive cost recovery
 - Expecting 12,000 MW of coal retirements by May 1, 2015 (EPA MATS regulations)

◆ IESO & Hydro Quebec

- ***Projecting Sufficient Winter Capacity Margins***

New Pipeline Infrastructure

◆ Winter 2014-15

▪ *Transco Northeast Connector*

- 100 MDth/d additional compression at Transco Station 195 (Pennsylvania/Maryland state line)

▪ *Transco Rockaway Delivery Lateral*

- 3 mile, 647 MDth/day lateral from the Lower NY Bay Extension to National Grid on the Rockaway Peninsula

◆ Winter 2015-16 or Winter 2016-17

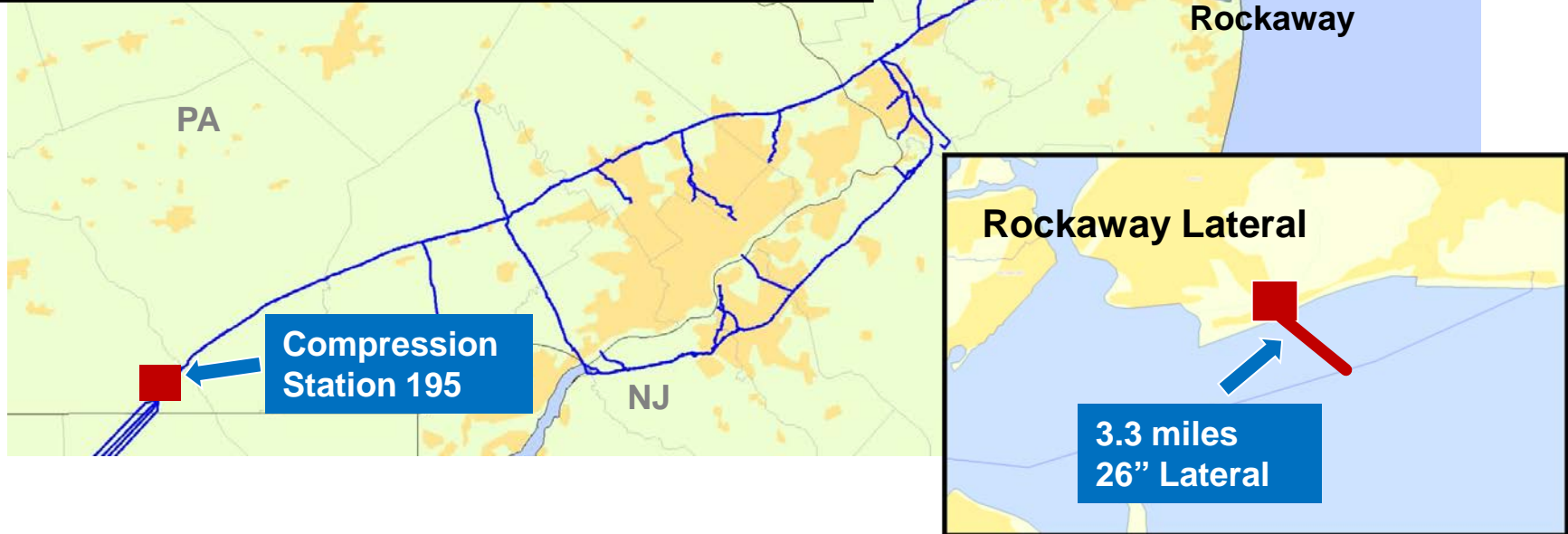
▪ *Constitution Pipeline*

- 124 mile, 650 MDth/day new pipeline from northern Pennsylvania to NY Capital district
- On October 24, FERC published its final environmental review of the proposed 124-mile Constitution Pipeline (*Action is a key step toward FERC decision on the project --which is expected as early as late November*)
- Awaiting final NYSDEC approvals

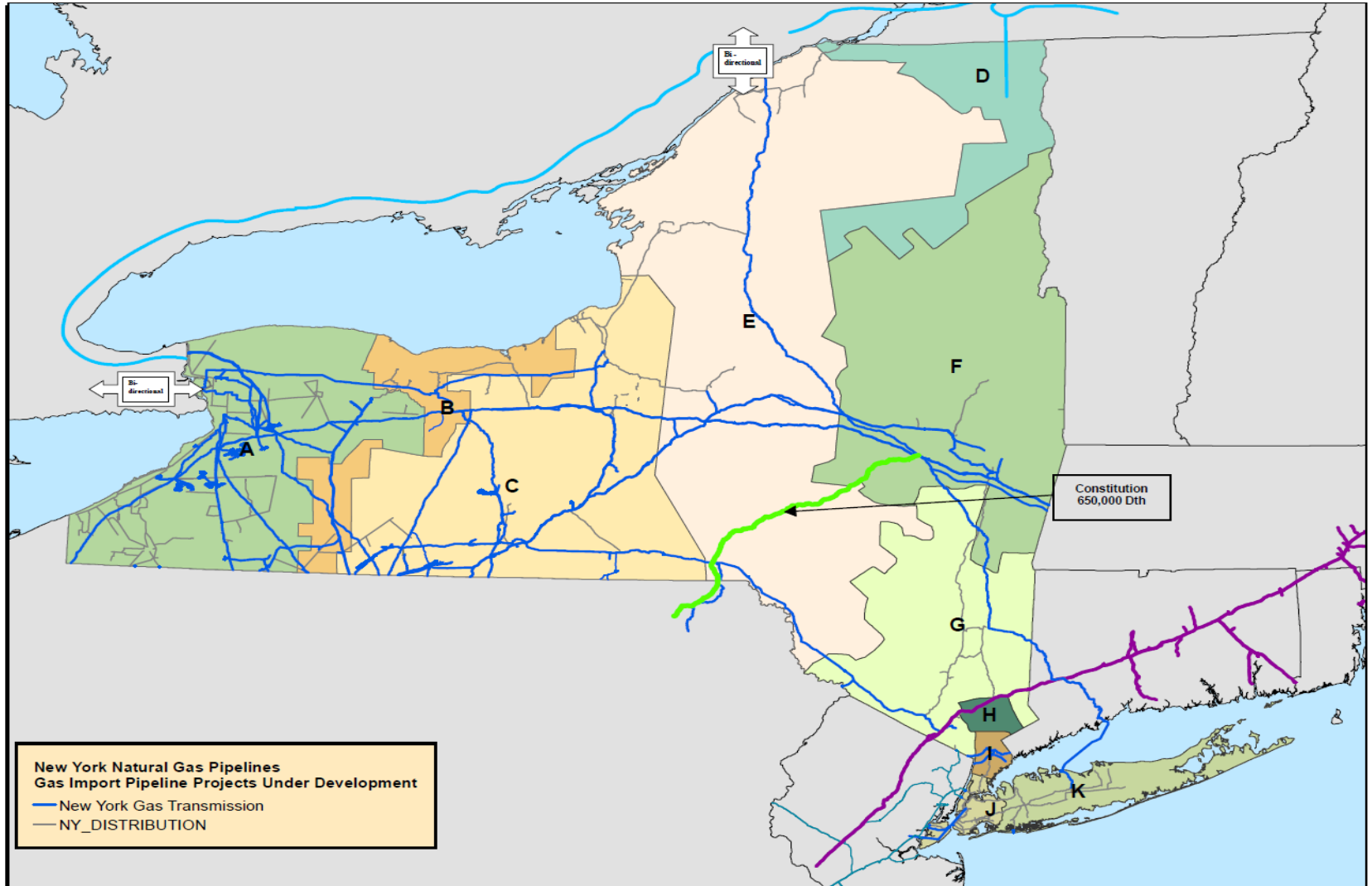
▪ **Two related projects that expand Transco's system and add a new lateral into the NYC area**

○ *Northeast Connector – 100 MDth/d expansion from Station 195 to the Rockaway Delivery Lateral*

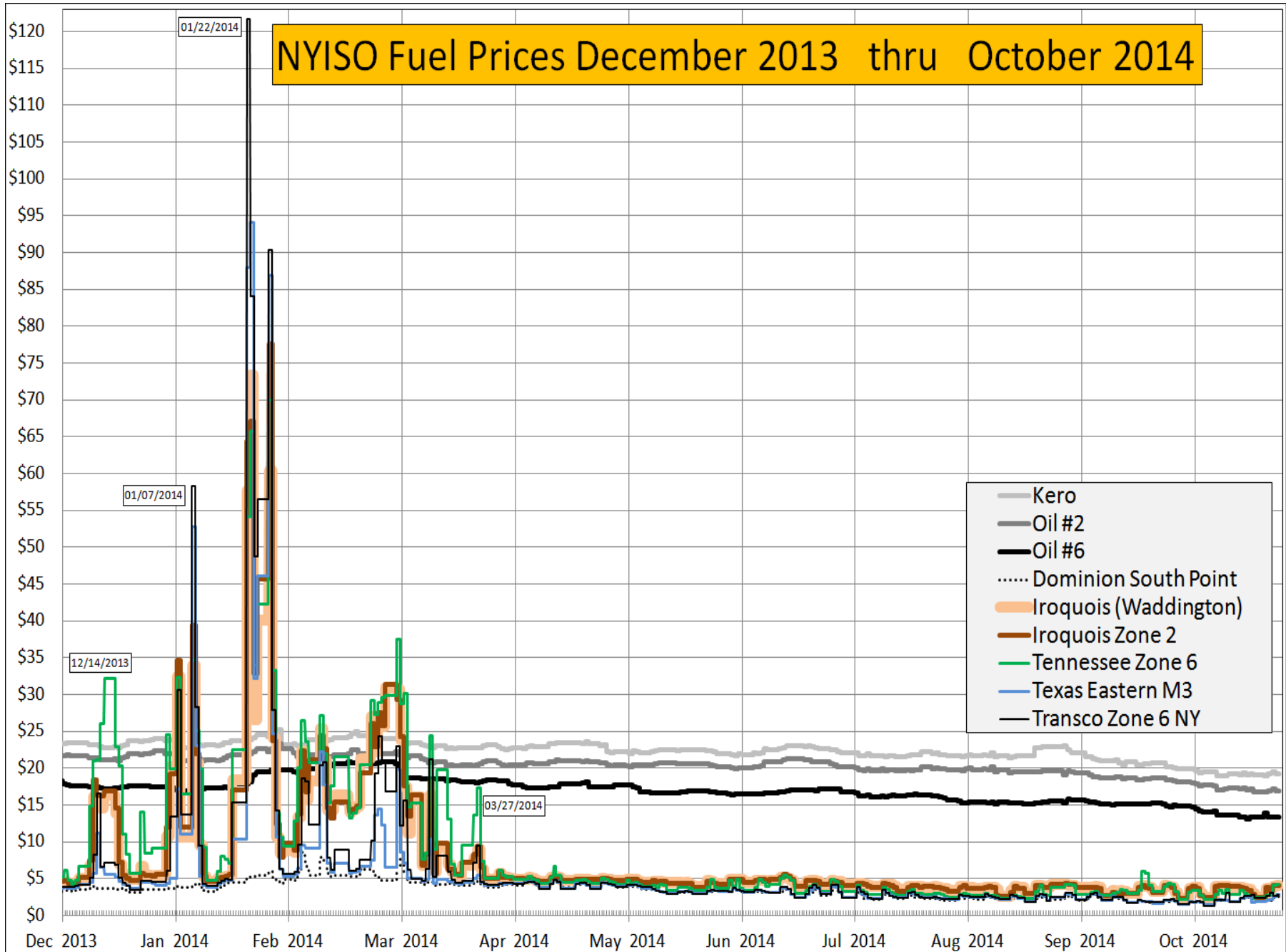
○ *Rockaway Delivery Lateral – 3 mile, 647 MDth/d lateral from the Lower NY Bay Extension to National Grid on the Rockaway Peninsula*



Constitution Pipeline



NYISO Fuel Prices December 2013 thru October 2014



- Kero
- Oil #2
- Oil #6
- Dominion South Point
- Iroquois (Waddington)
- Iroquois Zone 2
- Tennessee Zone 6
- Texas Eastern M3
- Transco Zone 6 NY

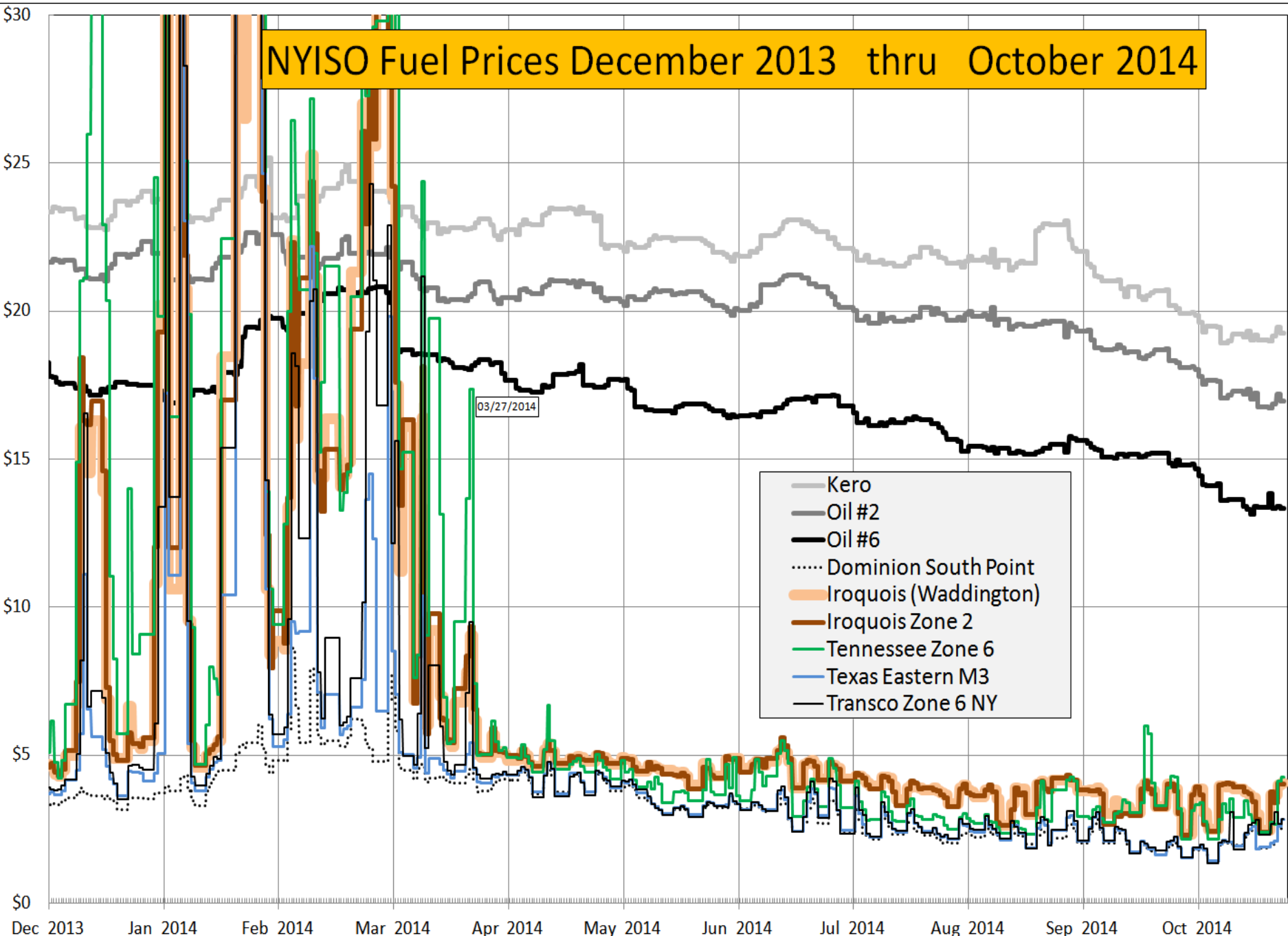
12/14/2013

01/07/2014

01/22/2014

03/27/2014

NYISO Fuel Prices December 2013 thru October 2014



FERC Office of Enforcement Review - High Gas Prices Winter 2013-14

October 16 FERC Office of Enforcement Report to FERC Commissioners

www.ferc.gov/media/news-releases/2014/2014-4/10-16-14-A-4

- ♦ *“Because of the extreme price spikes during the “polar vortex” events, OE conducted an extensive review in addition to its regular surveillance efforts. The objective of our review was to determine if market manipulation was a cause of historically high natural gas and electric prices.”*
- ♦ *“The review team included participants from the Division of Energy Market Oversight, the Division of Investigations, and the Division of Analytics and Surveillance”*
- ♦ *“Due to the high volatility in the market and in some cases reduced trading volumes on certain days, we did see a number of surveillance screens trip particularly for natural gas price movements in the Northeast, Mid-Atlantic, and MidCon regions prompting us to interview market participants whose trading behavior tripped our screens.”*

FERC Office of Enforcement Review Findings (Cont.)

October 16 FERC Office of Enforcement Report to FERC Commissioners

www.ferc.gov/media/news-releases/2014/2014-4/10-16-14-A-4

- ♦ *“One reason was the extreme and universal nature of the cold weather which extended into the Southeast region”*
- ♦ *“The depletion of natural gas storage was also a factor”*
- ♦ *“Market psychology was also important as the price spikes were unprecedented. For example, market participants feared significant price premiums and lack of adequate counterparties”*
- ♦ *“Finally, PJM committed certain natural gas-fired generation in advance of the normal process to ensure natural gas availability particularly after weekends. These commitments created additional demand for natural gas during periods with already high demand”*
- ♦ **“...Having conducted our extensive review, staff found no evidence of widespread or sustained market manipulation in either the gas or electric markets...”**

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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