

September 9, 2015

NATURAL GAS

# Gas Electric Interdependency

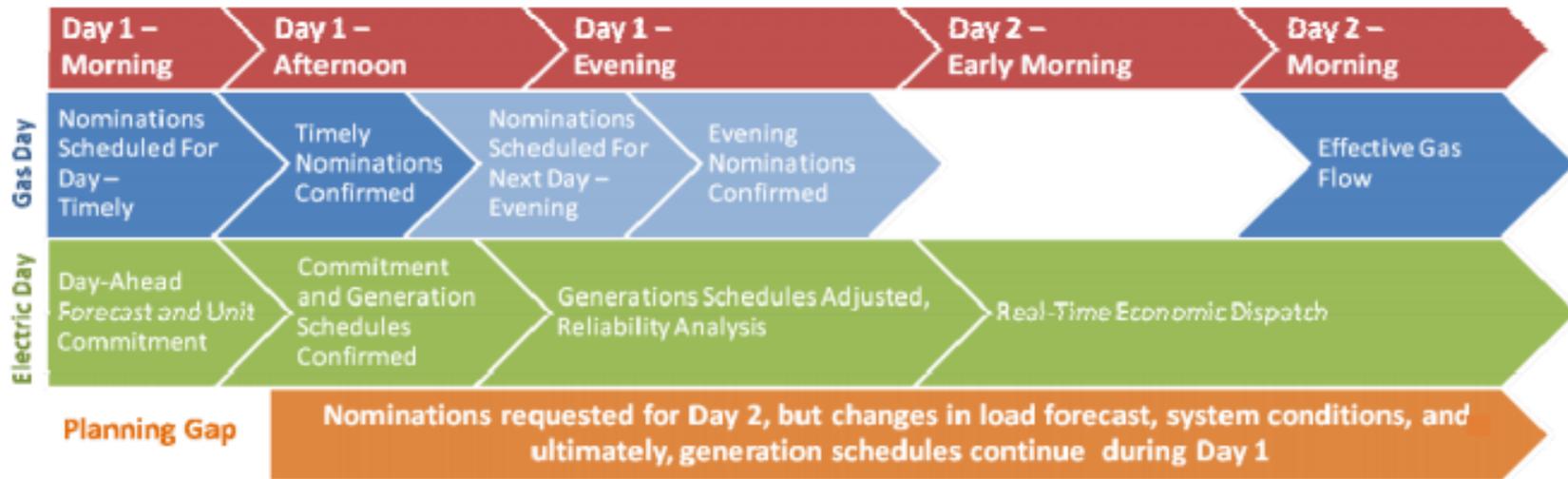
Issues and implications of FERC Order No. 809



# Natural Gas Increasingly Fuel of Choice to Generate Electricity

- Abundant Natural Gas Supply
  - Continued development of shale gas resources and long-term projected “relatively low” natural gas prices
- New environmental regulations and fuel cost pressures causing coal-fired power plants to retire and be replaced by gas-fired generation
- The increasing presence of renewable energy sources
  - Intermittent in nature and require quick dispatched backup generation

# Scheduling Discontinuities



Source: NERC

# Current Gas Day

<b>Gas Nomination Timeline (all times Central Clock Time)</b>						
<b>Cycles</b>	<b>Nomination Deadline</b>	<b>Confirmations</b>	<b>Schedule Issued</b>	<b>Start of Gas Flow</b>	<b>Remaining Gas Day</b>	<b>Firm Bumping Rights</b>
Timely	11:30 a.m.	3:30 p.m.	4:30 p.m.	9:00 a.m.		n/a
Evening	6:00 p.m.	9:00 p.m.	10:00 p.m.	9:00 a.m.		Bumpable
Intraday 1	10:00 a.m.	1:00 p.m.	2:00 p.m.	5:00 p.m.	2/3 (16 hours)	Bumpable
Intraday 2	5:00 p.m.	8:00 p.m.	9:00 p.m.	9:00 p.m.	1/2 (12 hours)	No-Bump

# Scheduling Issues

- Electric interests identified three issues
  - Timely nomination deadline occurs before electric dispatch – more acute in capacity-constrained markets
  - Limited scheduling opportunities to manage intraday changes in electric load
  - Too many hours between the last opportunity to schedule and the end of the gas day

# Natural Gas Considerations

- Changes to the gas day will not solve the lack of available capacity. New pipeline infrastructure is needed.
- Physical operations remain a prevalent part of the structure of the gas industry.
  - Much of the natural gas infrastructure to support producers is in remote locations.
  - The natural gas network does not have the ability to make instantaneous changes like that electric network.
- Regional differences in the markets must be considered. There is unlikely a single solution that works nationwide. A solution for one region could be to the detriment of another region.

# FERC's Role in Gas Electric Coordination

- FERC became active in improving natural gas and electric coordination.
  - Goal of balancing both industries scheduling preferences and regional differences
- During 2012 and 2013, FERC held a series of regional technical conferences to discuss various aspects of gas-electric coordination
  - Highlighted need for greater alignment of natural gas and electric scheduling practices

# Natural Gas Council Efforts

- The Natural Gas Council embarked on a process to consider changes to the gas day and gas nomination schedule that would improve coordination with the electric day and electric commitment and dispatch schedules, without imposing undue costs on gas customers.
  - Technical working group, comprised of gas traders, schedulers, system operators, and regulatory professionals.
- Consensus Recommendation
  - Timely Nomination Cycle begin at 1:00 p.m. CCT.
  - Maintain current 9:00 a.m. CCT gas day
  - A third intraday cycle would be added in the evening.

# FERC's Proposed Rule

- FERC Docket No. RM14-2-000
  - Move the start of the gas day to 4:00 a.m. CT
  - Extend Timely Nomination Deadline to 1:00 p.m. CT
  - Provide for 4 standard intraday nomination cycles at
    - 8:00 a.m.; 10:30 a.m.; 4:00 p.m.; and 7:00 p.m.
  - Directed the natural gas and electricity industries, working through the North American Energy Standards Board (NAESB), to reach consensus on modifications to the gas nomination schedule

# NAESB Modified Standards

<b>Modified Gas Nomination Timeline (all times Central Clock Time)</b>					
<b>Cycles</b>	<b>Nomination Deadline</b>	<b>Confirmations</b>	<b>Schedule Issued</b>	<b>Start of Gas Flow</b>	<b>Firm Bumping Right</b>
Timely	1:00 p.m.	4:30 p.m.	5:00 p.m.	start of gas day	N/A
Evening	6:00 p.m.	8:30 p.m.	9:00 p.m.	start of gas day	Bumpable
Intraday 1	10:00 a.m.	12:30 p.m.	1:00 p.m.	2:00 p.m.	Bumpable
Intraday 2	2:30 p.m.	5:00 p.m.	5:30 p.m.	6:00 p.m.	Bumpable
Intraday 3	7:00 p.m.	9:30 p.m.	10:00 p.m.	10:00 p.m.	No-bump

# FERC Order No. 809

- *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Electric Utilities*, Order No. 809, Docket No. RM14-2-000 (April 17, 2015).
  - Adopted NAESB Modified Standards
  - Declined to change the start of the gas day
  - Directed interstate pipelines to implement changes by April 1, 2016
  - Ordered RTOs/ISOs to file within 90 days changes to their tariffs to coordinate their schedules with the changes or show cause why their existing scheduling practices need not be changed
  - Directed gas and electric industries working through NAESB to explore the potential for faster, computerized scheduling when shippers and confirming parties all submit electronic nominations and confirmations, including a streamlined confirmation process if necessary

# Next Steps

- At FERC
  - Clarifications of Order No. 809
  - Pipeline tariff filings to incorporate NAESB Standards
  - RTO/ISO filings to make conforming changes
- At NAESB
  - Additional Wholesale Gas Quadrant standards to implement Order No. 809
  - Dialogue between gas and electric industries on streamlining scheduling processes

# Key Takeaways

- As more natural gas is used to generate electricity, investments in a robust natural gas infrastructure must be made to meet all customer demands
- FERC has taken steps to improve the efficiency of the existing natural gas system, but little more can be gained in terms of electric reliability without investment in the gas infrastructure



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