Dominion Proposal

January 24, 2005

Initial Request R04016

"***Develop a Standard Energy Day (SED) that would apply to both the natural gas and electric industries. The Energy Day should be standardized as midnight-midnight. Conforming changes to WGQ gas standards should also be done."***

- Standards Request R04016 was the first request in the SED Trilogy
  - R04020 Electric Market Timeline has been included in most discussions of SED
  - R04021 Pipeline and Generator Communications is waiting for work to begin after SED

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FERC Letter

- “The January 2004 cold snap highlighted the need for better coordination between natural gas pipelines and the electric grid, including ISO/RTO and gas fired generators.”
- “I am concerned that we may go yet another year without the improvements in communications between the pipelines and generators and the necessary coordination of business practices of both industries.”

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“Traditional” Problem Statement

- Standardization between Gas and Electric Industry is desired by some parties on both sides of the aisle.
- Increased dependence on gas fired generation requires better coordination between the commodity suppliers.
  - Especially during extreme weather events as in the Northeast last winter

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Today's Situation

- Midnight preference by electric industry
- 9:00 am CCT preference by gas industry
- Current RTO market timelines aren't standard by design
- Gas Day splits electric on-peak product
- Gas and electric peaks are split by gas day
- Timely nomination occurs before RTO markets close (scheduling issues)
- Several other issues from prior GECTF and SED meetings

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How Did We Get Here?

- The Gas Day was developed by GISB prior to Wholesale Electric Markets (RTOs) existence and the need for close coordination with wholesale electric generators.
- Later, RTOs developed their own schedule requirements based on existing midnight to midnight scheduling characteristics of the electric accounting practices.
- Finally, wholesale electric market participants developed effective work practices and mitigation strategies to handle the scheduling differences.

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The Real Issue

***The difference in nomination and scheduling periods for the natural gas and electric power generation industries, while problematic, is not the major issue that needs to be addressed*.**

- The real issue is the volumetric uncertainty for gas used in electric power generation that occurs as a result of the difference in the liquid trading period for physical natural gas and the time in which an electric power generator will have certainty about their market requirements.
  - For example:
    - Physical gas market is liquid typically between 7:30 am CCT and 10 am CCT
    - Someone looking to sell generation into PJM will typically not know their market requirements until 3 pm CCT and therefore will not know exactly how much gas they need to buy for that generation until this time

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Volumetric Risk

Because of the lack of market liquidity someone looking to buy gas outside of the 7:30 am to 10 am CCT period could either have some difficulty in finding the market for the gas, pay a large premium, or experience difficulty in finding transportation capacity.

- Decisions that the person purchasing gas for generation faces
  - Buy less than what may be needed and look to buy the difference and any corresponding transportation capacity outside of the liquid trading period or for intraday delivery
  - Buy more than what may be needed and look to sell the difference and any corresponding transportation capacity outside of the liquid trading period or for intraday delivery.
  - No matter which decision is made the person buying gas for generation in this situation faces some risk(s).

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Managing The Volumetric Risk

The volumetric risk and its related financial risk can be managed.

- If the generator owns natural gas storage they could draw additional volumes, when needed.
- The generator could purchase natural gas options to hedge their risk.
- The generator could draw on other's physical natural gas storage, if available.
- While all of these methods can manage the volumetric risk they can come at rather significant cost, which may or may not be able to be included in the price of generation.

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Will an SED Solve This Problem?

Changing the nomination deadlines for the natural gas market or going to an SED will not solve the problem with volumetric uncertainty.

- The real answer lies within making it possible for the electric power generation industry to have access to a liquid natural gas market when they know their market requirements.
- This would have to involve either:
  - Changing operations in the various ISO/RTOs so market participants would know their requirements before the end of the natural gas market's liquid trading period
  - Or somehow extending the period where natural gas is liquidly traded

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Moving ISO/RTO Market Timelines

Requiring ISO/RTO markets to clear prior to the end of the most liquid gas trading period at 10 am CCT presents real issues.

- East Coast RTO markets closing by 10 am CCT would require day ahead bids due by 6 am.
  - Introduces reliability concerns
- Retail suppliers would have less accurate next day load forecasts subjecting them to a greater likelihood of expensive imbalance charges.

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Liquidity Period for Natural Gas

The time period of 7:30 am to 10 am CCT is not a hard and fast rule.

- The actual times will vary slightly depending on market conditions, however this time period is typically the average.
- The various factors that will determine this period are: number of market participants, NYMEX market liquidity, trading habits of market participants.

Extending the Liquidity Period

Changing the nomination deadlines will have little, if any effect on the physical market.

- The decrease in the number of market participants has decreased the period of liquidity.
- Many market participants link their trading activities to the NYMEX market.
  - Decreases in liquidity on the NYMEX market for natural gas have resulted in a need to get trades done earlier in the day.
- Many of the market participants trade the way they do out of habit.
  - Because of this market participants would have to have some incentive to change how they trade.

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Conclusions

- Mandating an SED is not the best first step.
- Perceived costs for changing gas day, nomination periods, electric market timelines or electric day accounting would be large for little incremental benefit.
- The bigger issue is volumetric certainty for gas bought for use in electric generators.
- Most gas trading occurs too early in the day.
  - Timing of physical gas purchases is the major problem
  - Changing gas or electric market timelines or days will do little to affect the physical purchase of gas
  - Changing the trading period is not within NAESB's purview

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Conclusions Continued

- The real problem is in incenting most of the physical gas purchasing to be done at different times than what is presently being done.
- Solving many of the issues accompanying “Traditional” problem statements may be accomplished without altering existing gas or electric timelines as suggested by Request R04016 and R04020.
  - Balancing options mandated by FERC Order 637 address many issues.
- NAESB should focus it’s SED efforts on Request R04021 Improving Communications between Pipelines and Generators.
  - Better communication would help to prevent Northeast issue from re-occurring.

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Dominion Recommendation

NAESB should focus it's SED efforts on Request R04021 Improving Communications between Pipelines and Generators.

- Better communication would help to prevent the Northeast issue from re-occurring, for example:
  - Estimated burn rates by generators
  - Expected curtailments by gas suppliers
  - Real time changes in generator output
  - Others?

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