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GEAR TASK FORCE
GAS STORAGE OPPORTUNITIES RECOMMENDATION

Storage has long played an essential operational and reliability role in acting as an effective tool for bridging differences in supply and demand across many different time periods and will remain essential in managing our energy system for decades to come. It is also effective in mitigating the effects of price spikes, which supports greater affordability. Storage development is underpinned through long-term financial commitments which can present a challenge for generators that lack scale and regular opportunities to operate. While there are significant costs and operational limitations to the deployment of new storage facilities, it remains the best method to mitigate situations where there are spikes in demand and/or disruptions to fuel gas supply. Therefore, it is critical for all stakeholders to evaluate and implement sufficient storage options of all types.

Storage can mean many different things to many different people. The use of the word herein is meant to be construed as broadly as possible. Among the qualifying uses of the term are, of course, underground natural gas storage, but it should also incorporate other forms of back up alternatives including alternate fuel/diesel/oil tanks at a power plant, LNG or CNG to the extent it is usable by a generator in lieu of natural gas transported via pipelines, batteries, compression storage, and other methods for storing electricity, thermal energy storage, and any other technology that allows the grid to stay reliable when the natural gas demand is high.

This context considers storage as a solution to effectively manage short-term supply and demand issues, namely unexpected surges in demand. Storage is also a great derisking asset that offers multiple operational and economic benefits to natural gas storage holders and gas and electric system operators, even during normal operations.

Recommendation

GEAR recognizes the critical role of storage in supporting energy system reliability and recommends that states and organized power markets evaluate a wide array of solutions that affect the investment in, development of, and use of storage of all types, including associated infrastructure, to support the electricity grid and end use customer reliability under high energy demand conditions.

Regulators and RTOs/ISOs, namely those with resource adequacy and/or siting authority, should apply a strategic approach to expand opportunities for increased or new storage investment consistent with empowering end-users to exert greater control over supply needs. The following questions are intended to help assess the current state of and guide planning for future storage options, as well as help assess and compare current and projected energy demand/supply portfolio, specifically in relation to storage. State commissions may consider:

1. How much storage does your state/region have? What type is it? Where is it vis-à-vis market centers? What existing storage (and related gas transportation capacity) is available? Take an inventory of existing storage (both inter and intrastate), including the mapping of current storage capacity and deployment. This can help guide planning for future storage options.

2. What storage does your state/region need? The next step of this analysis would be to understand the capacity, deliverability, location and connectivity of storage required to meet reliability requirements. This would be scenario-based in response to possible percentage reductions in gas and power under stresses to the system. Looking at regions that suffered outages and applying those reductions as appropriate to identify gaps.

3. What new or expanded storage facilities are available at what cost? Publish a request for proposals (RFP), request for information (RFI), or request for solutions (RFS) (depending on the jurisdiction) to get a supply curve and construction timeframe for consideration. These requests should be technology agnostic to allow for the maximum number of potential projects and thereby the maximum amount of competition and information. Bidders may propose contracting for underground storage services, new tanks at their plants for back up fuel, etc. The more participation the better, as the commissions and/or other appropriate authorities can then analyze and evaluate across technologies based on cost, size, speed to market and any other relevant attributes. This approach is not intended to replace or frustrate existing storage development and contracting practices but rather serve as a supplement to ensure that opportunities are appropriately assessed and maximized.

4. What does it take to execute? Timing (e.g., urgency and development), permitting (e.g., construction constraints), cost/investment recovery (e.g., RTO products/ancillary services) are all critical considerations that may require additional regulatory support.

This analysis would need to account for possible differences in regulated jurisdictions, where regulators consider prudency or other features of storage as part of integrated resource planning, and other jurisdictions where it might require consideration outside of business-as-usual market frameworks that incentivize generators to invest in gas storage options (LNG, dual fuel, underground, etc.) as part of their overall supply portfolio.

Most new storage requires development and long-term commitments, up to a decade or more. Similar to the above actions taken by state commissions. Organized power markets should examine the role of storage in meeting reliability requirements and how changes to market rules can support generator's underwriting new or additional storage and firm contracting. This contracting can be either direct with storage providers or indirect through no-notice or non-ratable pipeline services or through marketers that hold storage. New ancillary services, changes in capacity accreditation or other solutions could be considered as ways to solve the problem of paying for the reliability needed, even in years when it is not called upon.