



August 26, 2019

(Via electronic filing)

Mr. Eugene Blick
Office of Electric Reliability,
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Mr. Bob Stroh
Office of the General Counsel
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Dear Messrs. Blick and Stroh:

Re: FERC Docket: FERC-2019-0737-0001

The Proposed Action would approve Reliability Standard TPL-001-5 (“the Standard”) and direct the North American Electric Reliability Corporation (NERC) to modify the Standard to include corrective action plans in certain additional cases. I support the proposed action based upon almost twenty years working for the electric utility sector and working as a consultant to the manufacturing users of both electricity and natural gas as a fuel.

Generally, the Standard addresses studies to examine both “Planning Events” and more serious “Extreme Events.” Entities subject to the Standard would be required to take steps to address performance issues identified in the studies. However, for cases of serious faults and certain “non-operation of non-redundant primary protection systems” (e.g., single point of failure on protection systems) the Standard only requires “an evaluation of possible actions designed to reduce the likelihood or mitigate their consequences and adverse impacts.” *Fed. Reg.* at 30640. FERC’s Federal Register notice explains why the Commission is not convinced that NERC has adequately “justified categorizing protection system single points of failure in combination with a

three-phase fault as an ‘extreme event’ that only required study, but not a corrective action plan.” Id.

While I do not represent NERC in the filing of these comments, I participated as a non-paid advisor in the 2017 “NERC’s Special Reliability Assessment: Potential Bulk Power System Impacts Due to Severe Disruptions on the Natural Gas System, Nov., 2017 (“Study”) or “Single Point of Disruption” study.¹ I remain an unpaid advisor to NERC on their 2019 Electric Gas Working Group (EGWG) now. **Commenter’s unpaid NERC advisory role is relevant to the filing of these comments to FERC.**

In particular, the NERC Study examined groups of electric generation facilities and its screening results showed that 18 out of 24 of those locations could experience reliability issues “in the absence of additional operational remedies when (>2 GWs) of natural-gas-fired-generation were to be disrupted.” See NERC Study, page 20.

While the exact locations and identifies of those facilities were not provided, they are available to FERC professional staff and to FERC commissioners to review in light of these comments. In my unpaid advisory role, I can see on a less refined review that these locations serve many power plants and industrial factories. These locations are also consistent with DOE’s 2016 study² about natural gas storage—and where DOE never completed that follow up work with FERC, NERC and state agencies. I recommend that FERC review the proximity and size of power plants within these 24 locations based upon the confidential data provided by Argonne National Lab to NERC and DOE in making a final determination on a NERC standard. I believe that the Argonne data (confidential) used for the 2017 NERC study will reinforce the need for making this determination that a NERC standard is needed. Further FERC should look at the number of power plants and industrials that had gas outages in 2015-2019 that did not always trigger PHMSA outage filings. It is also relevant if a utility or manufacturer with a firm contract was curtailed and had to buy from another gas provider at a significant increase in prices as some companies experienced in 2018-2019. While the increased price issue is not relevant to the reliability question, it is relevant for FERC to have a firm understanding of how many industrials have been curtailed over the last five years. Example, does FERC understand the full impact of a loss of power of up to 100 manufacturing plants in Michigan³ during the January, 2019 polar vortex? Even if the Michigan curtailments did not meet the Bulk Electric System (BES) threshold is that six-day curtailment not still relevant to FERC’s overall responsibility? Even if the 2014 Polar

¹ https://www.nerc.com/pa/rapa/ra/reliability%20assessments%20dl/nerc_spod_11142017_final.pdf.

² Ensuring Safe and Reliable Underground Natural Gas Storage, October, 2016, <https://www.energy.gov/downloads/report-ensuring-safe-and-reliable-underground-natural-gas-storage>

³ Fox Business News; <https://www.google.com/amp/s/www.foxbusiness.com/features/deadly-polar-vortex-shutters-gm-ford-plants.amp>

Vortex weather related gas curtailment events were worse than 2019's events, aren't the gas curtailments still relevant as more coal and nuclear plants close? Commenter points out that Michigan's Public Service Commission has its own analysis⁴ of the 2019 curtailment though did not dig into details about the impacts to manufacturing customers.

It is clear from FERC's analysis that the more serious three-phased fault events from 2011-2018 averaged about only one event every 8 months,⁵ --thus considered "rare". However, given additional retirements of coal and older simple cycle gas plants, that a corrective action plan is now necessary. In 2018-2019 alone the U. S. has seen a natural gas curtailment due to gas pipeline ruptures, explosions and extended repairs in TN, MI, and four U. S. states (WA, OR, ID, and northern CA) served by Enbridge's October 2018 pipeline rupture in British Columbia serving Huntington/Sumas Hub. Some of the recent pipeline or compressor station repairs took approximately one week but U. S. or Canadian safety agencies, in at least two events, limited pipeline capacity to 80% of normal natural gas availability for up to five months. This has gotten little attention to date perhaps the industrial and power sector has not been at risk on the bulk electric level (BES). NERC's mission is to focus on Bulk Electric (BES) not to worry about every imaginable power loss due to a force majeure event for gas fired power plants or self-supplying factories with their own power islands. But FERC should ALSO be concerned with sub-BES level reductions in electric generation—especially with so many electric utilities reliant upon interruptible renewables, weather and infrastructure events and where, in some cases, local, state or Federal policies and court cases that create "gas islands".

In appropriate cases and based on detailed analysis, those action plans could include the appropriate degree of redundancy of equipment to ensure reliability. Meeting redundancy needs, however, this should **not** result in an open check book for gas utilities or interstate gas pipeline companies to incur costs for "reliability," nor to add additional equipment beyond what is actually needed for reliability. Cost for these new measures must be justified by the companies in their filings before FERC, state PUCs and clearly explained to customers.

By commenting on this possible action by NERC, I want to point out that firm contracts do mitigate *some* risks to natural gas interruptions. However, firm natural gas contracts do **not** mitigate against service disruptions due to extreme weather events, landslides, corrosion induced pipeline ruptures, explosions, compressor station outages, and natural gas storage disruptions. Nor will they, in the future, prevent risks of new "gas islands" if more communities establish local policies that prevent the building of new

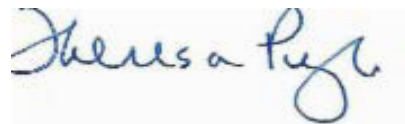
⁴ Michigan Statewide Energy Assessment, July 1, 2019;
https://www.michigan.gov/documents/mpsc/Sea_Initial_Report_with_Appendices_070119_659452_7.pdf

⁵ Fed. Reg. at 30643.

natural gas pipelines or compressor stations for upstream production or to gas service to LDCs. While the emergence of this growing and foolish local city policy issue was not mentioned in FERC's call for comments—it should be clear that local impediments to building gas pipelines and to move to all electric communities is at a minimum foolhardy. Worse, local anti-new natural gas policies and municipal ordinances may create natural gas "islands". Gas islands can cause more safety risks since replacing older pipelines and compressor stations will be more difficult under some city ordinances. FERC and NERC need to anticipate the quickly changing landscape of how reliant the nation will be upon our natural gas transmission system given these changes in local policies that make maintaining reliability more complex.

Thank you for allowing for the opportunity to file these brief comments.

Sincerely,

A handwritten signature in blue ink that reads "Theresa Pugh". The signature is written in a cursive style with a large, looped 'P' at the end.

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