Comments to NERC

December 18, 2019

Draft Reliability Guideline for

Fuel Assurance and Fuel-Related Reliability Risk Analysis for the Bulk Power System

North American Electric Reliability Corporation

Submitted by

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Background of commenter

Commenter has worked for electric utility sector since 2001 representing >2.000 electric utilities in 49 states (approximately 350 with generation). Commenter has participated in several NERC reviews in prior comments submitted by a national trade association between 2001-2014. These comments represent only submitter's views with no presumption that they represent current industrial clients, current electric utilities or upstream natural gas producers. However, the comments reflect many years of experience with and knowledge of upstream production, midstream transmission of natural gas, local gas distribution utilities and gas-fired power plants.

General overview:

Commenter will provide specific comments about sections with page numbers under NERC's official comment form. However, there are several general points worthy of simple description in these comments. These comments reflect the draft voluntary NERC guidance found at https://www.nerc.com/comm/PC_Reliability_Guidelines_DL/Reliability_Guideline-Fuel_Assurance_and_Fuel-Related_Reliability_Risk_Draft.pdf

1) Despite NERC's efforts to evaluate fuel assurance and fuel-related reliability issues following its 2017 Single Point of Disruption[1], this draft guidance is a disappointment. Commenter has great respect for NERC but believes that NERC did not thoroughly evaluate what the electric utility sector must do in order to determine what the reliability concerns might be with both increasing gas-fired power plants and intermittent renewables. NERC's draft guidance offered excellent information on PJM Regional Transmission Organization (RTO). While commenter has not always been enthusiastic about RTOs for market design (financial incentives) there is no question that PJM has conducted a very thorough reliability study. PJM's use of modeling and analyses on many contingencies are precisely what NERC (and perhaps FERC) need to look at for electric reliability guidance or standard.
2) NERC's draft guidance accepts too many general descriptions about duplications or redundancies in the natural gas market or infrastructure at face value despite more than 100 significant force majeure manufacturing curtailment events at sub-Bulk Electric System (BES) levels in 2019 in Michigan[2], Oregon, Washington, Idaho, western Canada, Tennessee and California[3]. While NERC believes that its mission is only dedicated to looking at BES level problems, commenter believes that these force majeure events experienced by industrial users of natural gas are evidence of "canaries in the mine". As a result, the electric utility sector should be more concerned about heavy reliance by electric generators with little knowledge of

[1] Commenter worked on the fuel and dual fuel issues for that report in 2017.

[2] Michigan alone lost natural gas either directly to or via electric utilities to >100 manufacturing plants for six days due to the Macomb compressor station fire. Details found at https://www.detroitnews.com/story/news/local/macomb-county/2019/02/07/fire-fuels-concerns-over-consumers-energy-natural-gas-system/2748326002/ and https://www.consumersenergy.com/news-releases/news-release-details/2019/01/30/consumers-energy-issues-public-call-for-all-customers-to-voluntarily-reduce-gas-usage and https://www.mlive.com/news/jackson/2019/07/state-orders-further-study-after-consumers-energys-255-million-january-fire.html

[3] These events were the results of gas pipeline ruptures in western Canada (Enbridge), compressor station failure in Michigan by (Consumers Energy), and two compressor station/pipeline events in Kentucky, Tennessee and electric utility problems in northern and southern California due to a variety of safety problems.

the many energy segments in transmission, distribution, storage, etc. In several of these cases the safety agencies in U. S. or Canada determined that the pressure (volume) had to be reduced by 20% following accidents. In some cases, these 20% reductions have been required for 11 months. These types of events along with risks of more rare cascade events, were not fully analyzed by NERC. In the case of the Consumers Energy compressor station fire, that compressor station represents 65% of the utility's natural gas supply in that region. This is a perfect example of electric-gas reliability issues. Unfortunately, NERC did not study this event or its consequences.

3) Commenter believes that to meet the mandate to watch for electric reliability assurances given to NERC by FERC and Congress, NERC should set a **standard (or obligatory guidance)** that, for year one, mimics the thoroughness of the PJM program. After NERC and all planning authorities have a better sense of the results of that depth of analysis, NERC should revisit whether a guidance should be as flexible as has been proposed or as firm as what PJM has already done on an annual or every two- or three-year basis. Frankly without a baseline of knowledge about gas-related issues, it is not possible to recommend how often the guidance or standard be met. If NERC does not believe it has adequate staff, budget or expertise to address electric reliability standards then it should speak to FERC in its oversight function to address these limitations. Congress mandated that electric reliability be monitored by NERC originally in 1968 (under slightly different name) and expanded after the 2003 blackout affecting approximately 50 million people. Since 2006 FERC has set mandatory standards to protect the electric grid from reliability failures across North America. NERC's purpose has changed as the industry has changed. This is appropriate.
4) Commenter agrees with Foundation for Resilient Societies'[4] recommendation on language. Their recommendation is that the following language be adopted in the draft guidance. (Commenter observes that she is not qualified to offer opinion on cybersecurity issues but agrees with their view on electric reliability pertaining to natural gas). Their language is:

> ***The term "reliability standard" means a requirement, approved by the Commission under this section, to provide for reliable operation of the bulk-power system.***
>
> ***The term "reliable operation" means operating the elements of the bulk-power system within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements.***

Conclusion

Commenter is pleased to be affiliated with NERC as a non-paid committee member. Commenter is determined to continue to work with NERC to improve reliability guidance (or standard). However, this proposed draft guidance does not go nearly far enough. It is a disappointment that NERC, like many, accepts assumptions about natural gas infrastructure reliability that are simply not yet true. Commenter

[4] Background on Foundation for Resilient Societies https://www.resilientsocieties.org/about-us.html

hopes that one day all natural gas fired power plants will be served by gas pipelines with redundancies in design for gas re-routing during curtailments, inline inspections, sophisticated pipeline and compressor station corrosion detection, remote sensors and remote shut offs, and that all compressor stations that should be gas-generated rather than electric. Commenter would also like more clear-cut directions to utilities identified in the at-risk locations in the 2017 Single Point of Disruption report by NERC. To commenter's knowledge no utility only webinars or communications were issued directly to the utilities in those locations identified on map for at risk.

Commenter hopes that more cities and states will not place arbitrary regulations or policies preventing or banning new natural gas pipeline and compressor stations from being built. Commenter hopes that many new gas infrastructure projects will not be stalled in court and at FERC under NEPA challenges. Until that time, far more needs to be done that what was attempted here, through a binding industry standard, to ensure a robust electric reliability system. NERC's website appropriately points out that all electric utilities have responsibility for "periodic review of their internal processes and procedures and make any needed changes to their system design, configuration and business practices". But it is NERC's obligation to make sure they have all the tools and guidance needed to help them make the best decisions possible. Mirroring the PJM approach for year one to establish a baseline is an excellent step. **After such a "year one" baseline is established NERC may be right that a voluntary guidance similar to what has been proposed is all that is needed. Thus, the commenter will be proven wrong that a standard is needed**. Commenter would like to be wrong because that simply means the gas-electric system is more reliable than it appears.

Thank you.