Comments to U. S. Environmental Protection Agency

Regarding

Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; and Revisions to New Source Review Program

Commonly Called the Affordable Clean Energy Rule or ACE Rule

Docket Number EPA-HQ-OAR-2017-0355

83 Fed. Reg. 44,746 (Aug. 31, 2018)

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Theresa Pugh
Theresa Pugh Consulting, LLC
2313 North Tracy Street
Alexandria, VA 22311
703-507-6843
pugh@theresapughconsulting.com
703-507-6843
www.theresapughconsulting.com

Introduction

Theresa Pugh Consulting, LLC is a consulting firm representing public power (locally owned or governmental) electric utilities, oil and gas industry companies, pollution monitoring technology, and manufacturing companies interested in natural gas supply, pipeline safety and electric reliability. Theresa Pugh has 30 years' experience before U. S. EPA on behalf of a number of industries. She is a non-paid advisor to North American Electric Reliability Corporation (NERC) and one of the contributing authors of the NERC Single Point of Disruption Study (SPOD) on bulk electric and natural gas infrastructure, Nov. 2017. These comments are submitted by Theresa Pugh based upon years of regulatory advocacy before U. S. EPA. Electric utility clients are filing individual comments in order to address their own state by state approach.

These comments address EPA's proposed "Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; and Revisions to New Source Review Program", commonly called Affordable Clean Energy Rule or (ACE)[1].

Theresa Pugh Consulting has met with EPA technical and senior staff to discuss ACE. These comments are to augment those discussions and preliminary materials provided to the docket.

Background

On October 29th, Energy Information Administration (EIA), a division within the U. S. Department of Energy issued a report showing the U. S. electric sector has reduced CO_2 by 28% since 2005[2]. Or expressed another way, EIA points out that this level of CO_2 emissions from the power sector is now back to 1987 levels. While some of the reasons for this dramatic decline have been due to lower demand for electricity and market pressures to move from coal to gas (especially after 2013), there have also been "regulatory market signals" in the Clean Air Act that pushed the power sector to reduce CO_2. While the outcome of a number of state elections is not yet known as these comments are filed, a number of states are looking at state laws (following referendum or ballot measures) and regulations to mandate as much as 50% of electricity from renewable generation. California appears to be moving to a goal of carbon-free power (without nuclear power) by 2045. The commenter is not confirming whether these goals are practical (or adequately reliable), the point is that many states are moving to reduce CO_2 far faster than the prior rule would have accomplished by 2040. Thus, there is even more justification for following the original statute's 111(d) system where state agencies determine on a unit by unit basis what the achievable measures should be. Unless Congress passes a law to address all GHGs, the EPA is allowed to use the tools it has under Clean Air Act. And when evaluating the Clean Air Act's regulatory options, Section 111(d) is the best provision of the law to address CO_2 for the power sector.

Executive Summary

1) Replacing Clean Power Plan with proposed ACE by keeping the regulatory scope within the fence line is correct. Further, the rule should apply only to coal-fired generating units.
2) EPA is correct that combustion turbines should **not** be regulated under Section 111(d).
3) Timing of final rule must also be coordinated to follow CAA Section 111(b) and 111(d) so that there are no legal concerns leaving final ACE regulation in legal limbo.

[1] 83 Fed. Reg. 44,746 (August 31, 2018).

[2] Today in Energy, U. S. Energy Information Administration; from website dated October 30, 2018; https://www.eia.gov/todayinenergy/detail.php?id=37392

4) Although the application of proposed revisions to New Source Review (NSR) are less likely to be used by the coal-fired power plants over the next ten years as they might have been over the prior ten years, the revisions to NSR are needed. There may be some limited application of short-term expansions of remaining useful life of the plant until the older coal-fired plants are replaced with natural gas plants (NGCC) and NGCC combined with renewables. Comments on this are not an anti-coal sentiment but a reflection of current market forces that mostly lean electric utilities toward natural gas. However, NSR may be needed to allow 'stop gap' measures to extend the coal-fired plants until natural gas infrastructure has been approved by Public Utility Commissions (PUCs) or Federal Energy Regulatory Commission (FERC) and built. Commenter observes it is also needed to expand the application of changes to NSR to the manufacturing and refining industries under other rulemakings.
5) There is no reason to re-address or review the public welfare endangerment which is the basis for the regulations on any greenhouse gasses. While public health is a far stretch, public welfare is accepted by this commenter and can be the basis for legal and responsible regulations.
6) State regulators should make the determinations on 111(d) for each electric utility and their units and always "within the fence". Unit-specific standards reflecting those individual utility generating units are appropriate.
7) **The ACE proposed rule is correct in focusing on heat rate improvements as Best System of Emissions Reduction for existing units.** Heat rate improvements are both technically demonstrated and commercially demonstrated. Further, the market has always motivated power plant owner/operators to improve heat rate and undertake energy efficiency methods where legal and feasible. <u>However, EPA should recognize that heat rates can vary within the same type, year of manufacture or similar operational conditions (coal type, other pollution controls, altitude, humidity etc..).</u> <u>In fact, heat rate improvements may be limited by degradation due to ramping with renewables used under other local regulations or market pressures.</u>
8) States should determine compliance schedules based upon remaining useful life of the plant, planned replacement with natural gas fired generation or other generation resources, etc. In some cases, public power utilities have limitations on whether large capital investments can take place without a bond offering or vote. In those instances, where documented by local laws, those public power utilities should be allowed to meet those financing requirements in the schedule.
9) Emissions averaging across units owned by same electric utility should be allowed under ACE. States should be given freedom to accept lower reductions at some units than others. Unlike human health pollutants the goal should be reasonable ways to reduce CO_2—not be concerned which units achieve the reductions as long as they are within the state
10) Commenter takes no position on emission trading between states.
11) EPA should make certain there are no judiciable review procedures pending in legislation that might pass Congress before this regulation has been promulgated to avoid delays in ACE implementation. This might include HR 50 as an amendment to UMRA if it amends current law before ACE is promulgated as a final rule.
12) Pages 7-15 of these comments give EPA's ACE team an opportunity to understand the connections between the electric power sector and the natural gas infrastructure (pipeline and compressor stations) as most of the nation's coal-fired power plants are replaced with natural gas. The comments are offered even though the ACE proposed rule did not specifically ask for this information. Recommendations are offered on permitting natural gas plants to have Title V operation permits for dual fuel (see pages 5-14) and permitting compressor stations using their own natural gas (rather than electrify) with some flexibility on NOx emissions at compressor stations for electric reliability reasons (see page 12).

Detailed Comments

It is wise of EPA to re-propose and replace the prior regulation known as Clean Power Plan (CPP) to avoid continuing legal questions about attempting to regulate outside the fence line of a power plant under Section 111(d). Equally important is for EPA to promulgate a replacement rule under Section 111(d) **following** the replacement for 111(b) as the Clean Air Act is clear on the sequencing of the regulations. Section 111(b) must be in place before Section 111(d) can be in place under the law.

Deference on Legal Issues

These comments defer to the Utility Air Regulatory Group (UARG) on the legal issues and technical issues addressing EPA's call for comments on the statutory arrangements between EPA and state agencies if states fail to meet guidelines, whether plans are complete, etc. and how EPA needs to implement its own Federal plan. Further this commenter defers to experts on New Source Review including Utility Air Regulatory Group (UARG), National Association of Manufacturers (NAM), U. S. Chamber of Commerce and National Environmental Development Association- Clean Air Project or NEDA-CAP[3]. Many of these organizations filed comments under the calls for comments on NSR over the last ten years and more recently under Department of Commerce's[4] call for comments on regulatory reform and causes for problems in manufacturing sector. Forty different business entities submitted comments on New Source Review to the Department of Commerce and those comments are directed to the ACE docket through this notation. Further, many business organizations filed comments to the Trump Administration for review and streamlining of environmental regulations.

Best System of Emissions Reductions

ACE proposed rule is correct in proposing heat rate improvements as Best System of Emissions Reductions (BSER). Heat rate improvements are technically and commercially demonstrated to reduce CO_2.

Heat Rate Improvements, Degradation & Candidate Technologies List

Heat Rate Improvements are the right way to regulate for CO_2 emissions reductions. However not all heat rate improvements are equal or can be applied equally. Plant size, fuel use (varieties in coal types), and whether there are other pollution controls or ramping conducted on a coal plant (never very desirable) due to other renewables requirements such as Renewable Portfolio Standards (RPS) regulations, etc. State regulators and power plant owner/operators should be given some latitude to assert why some heat rate improvements might not be feasible or practical. The Clean Air Act does not presume that 111(d) must apply precisely in the same way or achieve the precise same reduction at each unit. Section 111(a)(1) is clear that each unit is to do what is achievable taking into account cost, nonair quality, health and environmental impacts and energy requirements.

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[3] NEDA-CAP http://www.nedacap.org/nedacap-issues/ or Comments submitted to DOC Docket https://www.regulations.gov/docketBrowser?rpp=25&so=DESC&sb=commentDueDate&po=0&dct=P

[4]Commerce Department Final Report on Streamlining Government Permitting and Reducing Unnecessary Regulations on the Domestic Manufacturing Industry. See https://www.commerce.gov/news/press-releases/2017/10/us-department-commerce-releases-report-streamlining-government For comments submitted see Docket ID DOC-2017-0001 or https://www.regulations.gov/docketBrowser?rpp=25&so=DESC&sb=commentDueDate&po=0&dct=P

EPA's candidate technologies list of heat rate improvement is a good way to allow states to select the best and eliminate those that are not feasible, affordable, have disproportionate costs, or are not available or might lead to stranded costs because the utility intends to replace coal-fired generation with other generation types (natural gas or renewables).

EPA must recognize that heat rate improvements degrade over time. EPA should allow states to set each electric utility unit's standard of performance given this anticipated degradation over time. These determinations should consider that unit's ongoing maintenance needs, ramping (with intermittent renewables) and lack of dispatch due to changes in electricity market, and the remaining useful life of the plant or its retirement age.

Slash Biomass is CO_2 Neutral

As expressed in a previous letter to EPA's Science Advisory Board (SAB) in 2017, commenter believes that slash biomass waste should be classified as CO_2 neutral. SAB has languished unnecessarily for almost ten years on this issue. While the other biofuels issues may merit longer SAB and Agency reviews, there is no reason to over analyze the greenhouse gas posed by slash waste. Slash waste burned by power plants have many virtues[5] and should be determined to be carbon neutral. It is a simple issue and EPA should have a simple solution.

Commenter endorses the comments submitted by the Biomass Power Association[6] and encourages the review of their technical papers. Commenter, also submitted comments to the EPA Science Advisory Board (SAB) on August 30, 2017 regarding biomass slash waste.

BACT and Best System of Emission Reduction

EPA's Environmental Appeals Board rules in its Palmdale Energy, LLC case that battery storage could not be determined under BACT as required. The ruling stated *"[E]ven if battery systems exist that could supply power for the length of the PEP facility's peak demand, the Board determined that that fact alone does not show that batteries can replace duct burners at the PEP facility because the purposes and functions of the duct burners are not limited to providing energy during peak demand times."*

This commenter acknowledges that battery technology has made tremendous improvements (and some cost reduction) over the last ten years. So, while there may be electric utilities that might install battery technology for backing up renewables or for other electric reliability purposes (such as voltage support), it not appropriate for EPA to determine that battery technology, even if owned by the electric utility and installed within the fence line, should be widely applicable and determined to be BSER. However, to be fair, state regulatory agencies may want explanations by utilities as to why batteries backing up renewables are not technically feasible, cost-effective or have other nonair issues that are considered under BSER. Unit by unit evaluations are appropriate. Equally, each unit's determinations on battery storage should be based upon its feasibility, cost and nonair issues. However, electric utilities using battery storage for backing up renewables should be allowed to demonstrate compliance with battery storage and renewable generation.

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[5] Reduction in fuel on floor of forests that can contribute to forest fires, description to private property and excessive PM and haze on short term due to the forest fire. While all fires cannot be prevented because not all forests have power plants located within 100 miles or have roads for access, any forest fires prevented is a public good.

[6] Commenter has acted as consultant to Biomass Power Association but is not representing the organization for these comments. Biomass Power Association and commenter Pugh met with EPA staff by conference call on Sept. 25, 2018. However, these comments are not submitted by Biomass Power Association.

It may be the case that battery storage is a contender as a candidate for future EPA evaluations as to what is BSER as the becomes more commercially successful and costs drop. Only ten years ago it was not even possible to think of battery storage in this way. One of the virtues of 111(d) is that BSER may be re-evaluated every eight years. It is far too soon to know if battery technology may merit consideration in the next cycle just as it is too soon to know if theoretical modular coal fired power plants are mature or commercially demonstrated for 111(b). It is far too soon to know about either technology and whether they are commercially demonstrated (at scale) and suitable for 111(d) or 111(b) as BSER.

Compliance Deadlines

EPA asked for comments on the timing for utility compliance under state authority. For those electric utilities that are owned/operated or co-owned by public power or local governmental agencies, there should be some leeway for compliance date to reflect the local law/ordinance's schedule for bond offerings, financing, local capital improvement or bond elections, etc. Not all public power or municipal agencies must raise bonds to make *all* capital improvements or invest in heat rate improvement technologies. But some do. The slightly different timing for those that do have local state regulations on this should be accommodated—but this should not be a loophole. This request is offered under Executive Order 12866 and under Unfunded Mandates Information and Transparency Act of 1995 (Public Law 115-798).

Unfortunately, EPA ignored the compliance deadline issue for many utilities seeking MATS compliance dates reflecting these obligations under the final MATS and 2015 Clean Power Plan regulations. They ignored the compliance date issue despite receiving numerous comments and survey results submitted by American Public Power Association (APPA) on the state/local jurisdictional process. UMRA directs agencies to draft written statement for final rules that impose costs of $100 million or more or are "major rules" on one or more state, local, tribal government or the private sector. If a rule reaches this threshold amount, UMRA also requires agencies to consider less expensive alternatives to achieve the rule's objective. UMRA also requires agencies solicit input of the regulated stakeholders in promulgating a final major rule. Corporate bonds and municipal bonds are not the same and EPA should consider this in the final rule allowing some reasonable flexibility by state agency plans to accommodate these dates. Considerable information was provided to EPA in the proposed rule on Mercury MACT or Mercury Air Toxics Rule and subsequently in the proposed rule comments on proposed 111(d) regulation in 2014 by the American Public Power Association (APPA). These comments defer to APPA on expertise on financing for capital expenditures for public power electric utilities on this point in any comments filed for this proposed rule.

Judicial Review Issue EPA Should Consider for Final Rule

Should HR 50, pending before Congress now, become law it will amend the existing UMRA law from 1995. EPA should follow the status of HR 50, and if it becomes law before promulgation, should comply with the new requirements in HR 50 's Title II and, especially Title IV, for the ACE rule (and perhaps any 111(b) rule). One of the aspects that is pending before Congress is that HR 50 makes UMRA judicially reviewable- including for actions by independent agencies. **This is pointed out to avoid risks of judicial review on procedural matters that could be used to challenge the final ACE regulation. ACE is dramatic improvement to the CPP rule from 2015**.

These comments are **not** an endorsement of pending legislative revisions to UMRA in HR 50 but a reminder to avoid possible legal problems with the ACE rule.

Compliance with Executive Orders

In addition, EPA should recognize that former President Obama issued Executive Order 13563 that requires "retrospective analyses of existing rules" as an important component to improve regulation and regulatory review. In that executive order, similar to the Executive Orders issued by President Trump, agencies were encouraged to "modify, streamline, expand or repeal" significant regulations[7] that are "outmoded, ineffective, insufficient or excessively burdensome". In this case the actions of Congress and three Presidents may be called upon as justification to allow some variability in the timing for compliance deadlines if state jurisdictions (city electric utilities) have procedural requirements before acquiring debt or spending money on large capital expenditures.

Trading

Trading within power systems with generation resources within one state should be allowed and encouraged. Comments are silent on interstate trading due to legal issues beyond commenter's experience or possible conflicts between clients.

Compliance Flexibility

States should be allowed to count many CO_2 reduction measures, undertaken for a variety of motivations external to Clean Air Act policies or regulations, for compliance. This should include renewables, nuclear power, hydropower generation, back up battery technologies, etc. **However, allowing these for compliance is not the same as using these requirements for setting BSER.**

Many municipal utilities own municipal waste combustor plants, water treatment plants, and other municipally owned units that emit CO_2. These comments encourage EPA and states to be flexible in allowing compliance to use other non-power plant reduction methods if the electric utility owner-operator may demonstrate reductions through those co-owned and co- managed locations. Example new municipal government agencies that engage in Community Aggregator organizations where non-electric utilities are allowed under state law to sell electricity into the market. Or a municipal governmental electric agency may have invested into a landfill gas to energy program after the promulgation of the ACE rule due to changes in export of solid waste and recycling materials that are no longer acceptable in international markets. Those CO_2 or CO_2E reductions made and fully documented to U. S. EPA and states might need special accommodation in the ACE rule. States should give maximum flexibility for reductions made through these and the more obvious renewable energy projects that result in verifiable CO_2 or CO_2E reductions. Some states may push early adoption of these renewable energy actions for compliance and the commenter recognizes that all states may take a different view on how to manage this flexibility.

Relationship Between EPA's Reconsideration of the OOOOa[8] Methane Regulation for Natural Gas Midstream Pipelines and ACE Proposed Rule's Consideration of "Remaining Useful Life of the Plant"

States should be given flexibility in 111(d) on what determines the "remaining useful life" of the electric power plant's coal-fired unit. For some electric utilities the remaining useful life is a simple decision

[7] Executive Order 13771 issued January 30, 2017

[8] Comments due December 17, 2018 for Oil and Natural Gas Sector Emissions Standards for New, Reconstructed and Modified Sources Reconsideration; Federal Register, October 15, 2018

based upon electric demand and how much electric demand can be met through Demand Side Management, Combined Heat & Power with industrial/commercial customers, replacement with natural gas or combined renewables with natural gas for peaking. Currently electric load is flat in most states and at most electric utilities. This may change over the next few years—although EIA has predicted electric load to remain flat for at least ten years. Perhaps the greatest unknown is the future of electrified vehicles to replace liquid fuel vehicles. This commenter has no expertise on electric vehicles and when, or if, they will be commonly used by consumers and indirectly increase electricity demand.

For some electric utilities planning to replace older coal-fired plants with natural gas the "remaining useful life" might be affected by the permit approval by FERC or states for the **natural gas infrastructure** (mostly pipelines and compressor stations) to deliver the natural gas to the electric sector. This did not seem like a significant issue in 2013-2015 when EPA was considering the NSPS regulation. At that time the focus was on the tremendous new volume of natural gas supply and changes in the electric market. However, the delays in building gas infrastructure to serve the power sector are often caused by challenges at the state or Federal level under National Environmental Protection Act (NEPA), Clean Water Act Section 404, right of way authority, noise, or other statutes. Moving forward, there will be an increase in the relationship between the readiness of the natural gas infrastructure delivery system to the power sector—regardless of the overall abundant supply of natural gas in North America. This commenter asks EPA to give consideration in the ACE final rule to unexpected delays in natural gas pipeline and compressor stations needed for making the closures of a coal plant and the timing of a NGCC plant when utilities and state agencies contemplate "remaining useful life of the plant". Perhaps state agencies will expect verification of plans to build gas pipelines or sign firm contracts to show sincerity if this is used to ask for more time or leniency in the 111(d) process. In some cases, these may need to be submitted confidentially as some power companies seek to negotiate best financial terms with multiple gas providers and do not want public notice of this action.

Further, this commenter will address in more details the related timing for methane leak detection monitoring and timing for methane leak repairs of pipeline or compressor station methane leaks in subsequent December 17, 2018 OOOOa comments. There is a "handshake" or connection between these two rulemakings and U. S. EPA and states need to consider that methane leak repairs on new compressor stations and new pipelines might have some impact when serving existing power plants if the timing for repairs are not scheduled properly (i.e. during shoulder season for both segments of the energy sector). Further, it is not clear from this reviewer of the OOOOa reconsideration if the new date is pipelines and compressor stations that commence construction from the original September 18, 2015 date or from October 15, 2018 date.

Details on these issues will be provided in later comments for CAA Section OOOOa methane rulemaking reconsideration for midstream gas infrastructure serving electric power plants. While the commenter will address the general improvements in the proposed OOOOa reconsideration, the commenter will point to some concerns where some power plants are currently supported by service from one gas "trunk" pipeline or one major compressor station with no secondary or re-routing capabilities or one significant gas storage location serving the power plant. In those cases, leak repairs should be timed well. But perhaps in those few locations where the gas infrastructure will serve a power plant with no rerouting the methane leak detection requirement should remain more frequent in OOOOa as under the original rule. Electric utilities may also want to have firm or non-interruptible contracts to minimize spikes in natural gas prices and predict natural gas prices for electric generation, **but firm contracts to not bypass or avoid force majeure events at a pipeline, compressor station or gas storage location serving a power plant.** Should that gas compressor station or pipeline add secondary or re-routing

pathways to deliver natural gas to the power plant, the compressor station and pipeline should be able to move to the less frequent mode as proposed in the reconsideration of OOOOa.

North American Electric Reliability Corporation (NERC)'s November 2017 study[9] offers documentation, diagrams, charts, and maps showing that there are many operational connections. While it is easy to assume there is no connection between the two energy segments (provider of gas and customer of gas), there is a clear connection. Any rulemaking to mandate the repair of leaks on subsurface gas storage from PHMSA and regulations from EPA or PHMSA on methane leak repairs and the timing of those repairs should also allow state regulators to consider impacts on the power customers. Commenter observes that EPA may discuss NERC's study with NERC staff and see confidential maps developed by Argonne National Lab for NERC to demonstrate how many power plants are currently served by only one pipeline, a compressor station with no redundancies, or a storage location in direct proximity to the power plant.

The September 13, 2018 pipeline explosion events in Boston suburbs demonstrate the relationship between electric power distribution and natural gas transmission. The September explosions due to over-pressurization[10] on Columbia Gas (MA) forced National Grid to shut off electric service to many thousands of homes in three communities for safety reasons. While the weather was mild in September and the electricity was restored to the homes within approximately three days, this event demonstrates that the two sectors will be more intrinsically connected—even though National Grid's generation portfolio was untouched by the natural gas explosions. One can only imagine how difficult it would have been to move many thousands of households to emergency response shelters after 5:00 PM if the tragic accident, requiring National Grid to shut down electricity for almost three days, if the event had happened between December 2017-Jan. 2018.

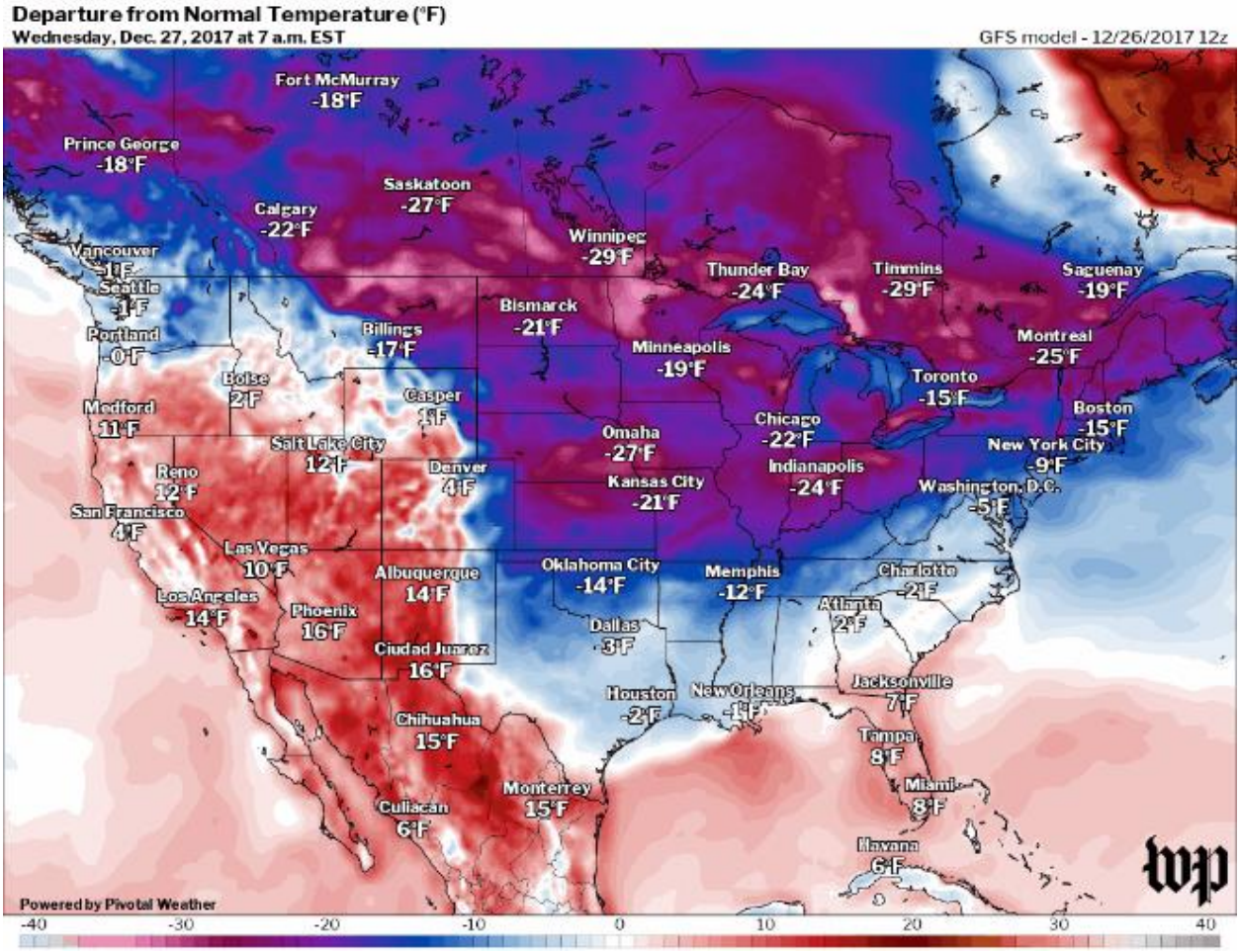
To prove the point, see Washington Post's weather map from December 26, 2017 showing extreme cold temperatures that ultimately lasted for almost one week across most of the U. S. A power loss due to generation force majeure or a force majeure event on a leak repair for natural gas pipelines, compressor stations or even natural gas storage locations could be very dangerous for electric utilities during wintertime peak use. Perhaps the event could be less dangerous for summertime peak—but still very dangerous in states such as Arizona, Texas, South Carolina, Florida and other states with intense heat or humidity during summer electric peak if, in the future, most electrical generation is gas-fired with no secondary fuels on site. Thus, EPA's OOOOa rule should allow for the leak repairs on the gas transmission (pipelines) system to be coordinated during shoulder season and during times of other repairs. Most power plants are not dependent upon one pipeline but where they are, leak detection and repairs schedules should be retained as under the prior rule unless redundancies are provided. Those redundancies could mean pipelines redundancies, local natural gas storage such as Liquified Natural Gas (LNG), or permitting dual fuel if the generating unit has the ability to burn an alternative fuel

[9] https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SPOD_11142017_Final.pdf

[10] NTSB Preliminary Accident Report for Merrimack, MA pipeline explosions https://www.ntsb.gov/investigations/AccidentReports/Pages/PLD18MR003-preliminary-report.aspx; October 12, 2018

(oil, biomass). Redundancy does not mean being reliant upon line packing the pipeline for "storage' for power plants >50 MW.

Map 1 Illustrating Winter 2017-2018 Temperature Issues Supporting Why the Gas Pipeline Infrastructure Readiness and Local Reliability Matters in ACE Proposed Rule

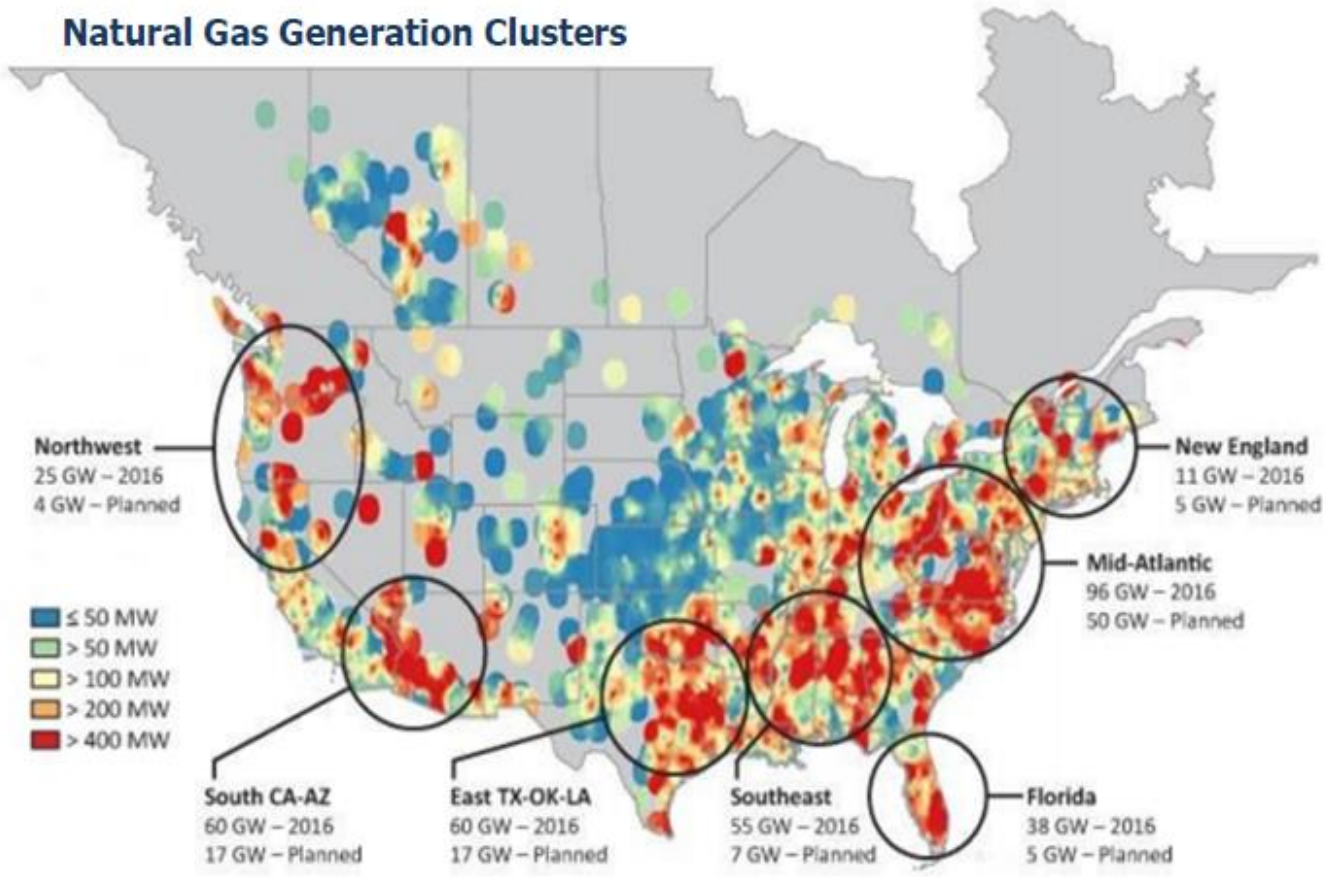


Source: Washington Post, "Unforgiving Cold Snap Will Engulf Eastern-Two-Thirds of the Nation Through New Year's Day, December 26, 2017; Washington Post online, 1:57 PM

More comments on these issues will be addressed under the separate comments called for by EPA on reconsideration of OOOOa for midstream natural gas transmission (pipeline transport) to natural gas-fired power plants.

NERC Single Point of Disruption Study, November 2017 Illustrates Areas Where NERC Believes There Could be Localized Natural Gas Infrastructure Problems Resulting in Localized Electric Reliability Problems

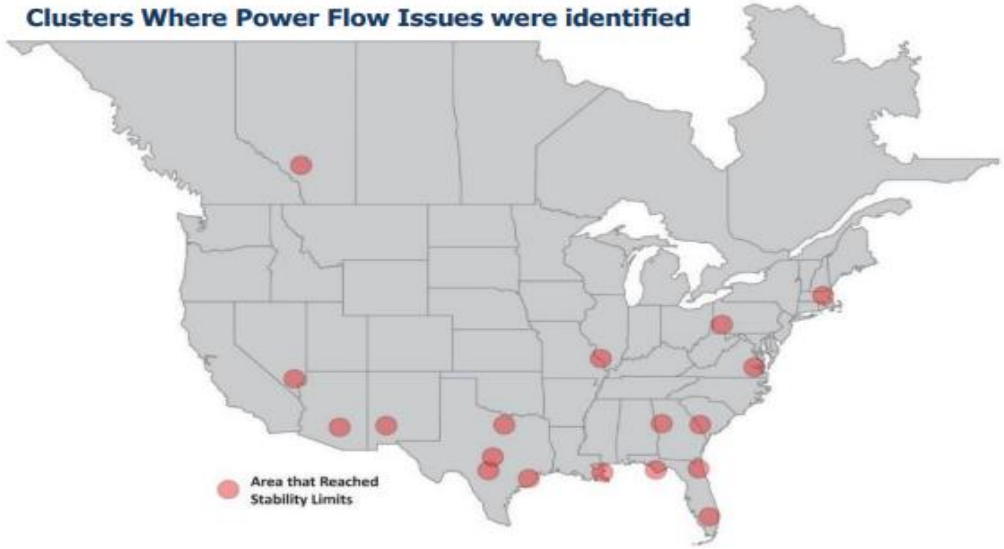
Map 2



NERC, Special Reliability Assessment: Potential Bulk Power System Impacts Due to Severe Disruptions on the Natural Gas System, Page 17
https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SPOD_11142017_Final.pdf

(Figure 2 from NERC provided on page 8 of comments)

Map 3



NERC, Special Reliability Assessment: Potential Bulk Power System Impacts Due to Severe Disruptions on the Natural Gas System, Page 20
https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SPOD_11142017_Final.pdf

Further, should EPA implement 111(d) rulemaking on methane from the natural gas delivery system (transmission pipelines and compressor stations) for existing sources, the inter-relatedness of the two industry segments will be even more significant. Another way of seeing the potential local reliability issues when considering "remaining useful life of plant" is to review NERC's Table 1.3 on page 7 from their Nov. 2017 report.

A "Heads Up" on Title I Ozone and PM 2.5 Emissions Considerations

Where EPA and states regulate natural gas compressor stations for NOx (as PM or ozone precursors), they should consider the electric reliability issues as well as the pollution concerns. Compressor stations powered by electricity may have fewer emissions but there may be some legitimate reasons from an electric power reliability perspective to allow those compressor stations to be powered by their own natural gas. These are the types of issues that EPA needs to consider as the power sector and the natural gas infrastructure sector become more connected.

(See Table 1 and Conclusion on page 10)

Table 1

Table 1.3: Natural Gas Supply Characteristics by Area			
Region	Number of Generators with One Connection	Generation Capacity with One Connection (MW)	Number of Major Supply "Trunk" Lines Serving Area
Northwest	16	4,963	24
Southern California and Arizona	20	11,430	13
East Texas, Louisiana, and Oklahoma	40	17,965	60
Southeast	68	46,124	35
Florida	38	31,049	7
Middle Atlantic	22	12,244	9
New England	35	13,103	6
Northeast	49	21,903	20

Source: NERC, Single Point of Disruption Study
https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SPOD_11142017_Final.pdf

Recommendation for Dual Fuel Permitting Allowances in Title V Permits and Relevance to ACE Rule

EPA's ACE proposed rule did not call for comments on ancillary permitting issues, commenter wishes to point out that some power plants are reliant upon single trunk line, compressor station or gas storage location with no secondary or re-routing of pipelines for delivery. This is one reason some of these power plants have been reluctant to move from coal to gas—although the natural gas is environmentally preferable and inexpensive. These power plants may need a Title V permit provision allowing the use of dual fuel option (presumably oil) during situations with risks of force majeure in the natural gas infrastructure sector. Some power plants in New England already have dual fuel permitting as required under state law that allows the secondary fuel (usually oil) to run during winter-time use for emergency conditions now. However, all power plants in ozone/PM nonattainment areas are subject to summer ozone season limitations and cannot run oil-fired units unless an emergency has been given by Governor or President. But Governors and Presidents do not declare emergencies unless there is a grid problem. These reliability concerns are much smaller in focus—although significant for those utilities affected. Commenter suggests that dual fuel (oil, biomass, and even to burn tires for CFB plants), be allowed to run (even during ozone season) to make certain that there are no local power disruptions. NERC's report explains in detail what the needs are for dual fuel. Further, some power plants may offer this information to state agencies when expressing their needs for flexibility in Title V permit and in the 111(d) "remaining useful life of plant" concerns.

As there is no other opportunity to file comments on this issue in an open docket, commenter offers these suggestions here. Commenter urges EPA staff both working on ACE program and with Title V

permit issues to read the NERC report regarding recommendations for running dual fuel during these localized and perhaps short events.

Conclusion

Comments are provided to show support for ACE proposed rule to replace the 2015 final CPP rule to regulate electric utilities for CO_2. Commenter does not oppose GHG regulations nor question validity of endangerment for public welfare. (Public health endangerment determination was not warranted but commenter presumes this issue is settled). There is no reason to take excruciating time required to re-litigate the question pertaining to EPA's authority to regulated CO_2 and other GHGs under Clean Air Act since Congress did not pass a new law to address GHGs.

Commenter believes that CO_2 should only be regulated under Section 111(d) after first promulgating the 111(b) new source regulation consistent with the statute's prescribed sequencing. Further, all NSPS for Section 111(d) should be done within the fence line of the plant. For the first setting of BSER it is entirely **appropriate for EPA to set BSER as heat rate improvements at the source**.

States agencies should determine, in consultation with the affected electric utilities, the appropriate heat rate improvements that are achievable, feasible and cost-effective as allowed under the statute. The considerations for "remaining useful life of the plant" should consider a wide variety of issues including the permit approvals and financing for natural gas infrastructure to assist in retiring older coal plants.

While NSR reform is needed, it is not expected that there will be a wide application of new NSR policy use for the power sector since many of the coal-fired power plants will soon be 70 years old. **Commenter hopes that NSR will be reformed for other industries through separate rulemaking(s).** Further, other state statutes (Renewable Portfolio Standards) or equivalent other regulations have pressured utilities to move heavily to intermittent renewables which need natural gas fired generation for back up. Those intermittent renewables are much easier to manage with natural gas fired generation—not coal fired plants- since coal-fired plants do not ramp. While progress has been made on battery storage at power plants that sustains the plants for a few hours there is no feasibility determination that battery storage should meet BACT/BSER determination with renewables during this time based upon early adoption with a few hours of back up.

States should be given tremendous flexibility to allow intra-state trading and inter utility trading where electric utilities have more than one unit located in one state. Commenter is silent on interstate trading questions. Biomass, hydropower, nuclear power and intermittent renewable generation should be allowed to be considered for compliance and intrastate trading.

States should set compliance dates suitable for public power utilities with consideration as to whether the utility will have to follow the local jurisdiction's timing or procedures for bond elections before spending capital or raising taxes. This flexibility is allowed under Unfunded Mandates Reform Act, Executive Orders and CAA for setting compliance dates for 111(d). This should reflect local laws and not function as a loophole for noncompliance. State agencies should also consider and approve electric utility requests for **Title V permits to allow dual fuel** back up (and for voltage support) during ozone season. The need for dual fuel may be needed due to force majeure events where natural gas fired power plants (replacing coal generation) may not have sufficient distribution redundancies. These

needed redundancies may be built out over time but may not be adequate in the first years of implementation of ACE rule as plants move from coal to natural gas.

Similarly, state agencies may want to consider the power and natural gas compressor station permitting issues when evaluating acceptable NOx emissions from natural gas compressor stations. While electric utilities may always want gas compressor stations to be electrified, there may be legitimate reliability reasons justifying that natural gas compressor stations might be better to be powered by natural gas even if NOx emissions might be slightly higher.

Separate comments will be filed on EPA's proposed reconsideration of OOOOa ("Quad Oa") final rule that requires methane leak detection and repair in December, 2018. Clearly there are some issues that cross sect this ACE rulemaking and OOOOa rulemaking for natural gas-fired power plants.

While these natural gas-electric utility ACE issues might appear to be far off the request for ACE comments—in fact they are examples of some "remaining useful life of plant" operational problems. EPA and state agencies can take the initiative to address some of these issues to help those coal-fired power plants move to natural gas. Natural gas is a needed fuel for electric generation for the foreseeable time period and will reduce CO_2, NO_X and other pollutants.

Thank you for consideration of the comment.

Contact:
Theresa Pugh
pugh@theresapughconsulting.com
703-507-6843