ORAL ARGUMENT SCHEDULED FOR JUNE 2, 2016
Nos. 15-1363 (and consolidated cases)

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

State of West Virginia, *et al.*
Petitioner

v.

United States Environmental Protection Agency, and
Regina A. McCarthy, Administrator,
Respondent.

On Petition for Review of a Final Order of the
U.S. Environmental Protection Agency

BRIEF FOR PEDERNALES ELECTRIC COOPERATIVE, INC. AS *AMICUS CURIAE* FOR REJECTION AND IN SUPPORT OF PETITIONER

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February 23, 2016

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Parties and Amicus

All parties, interveners, and amicus appearing in this Court are listed in the Briefs for Petitioners and Respondent.

Rulings Under Review

References to the rulings at issue appear in the Briefs for Petitioners and Respondent.

Related Cases

Amicus curiae adopt the statement of related cases presented in the Brief for Petitioners.

Corporate Disclosure

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and Circuit Rule 26.1, Pedernales Electric Cooperative, Inc. (Pedernales) declares as follows: Pedernales is a non-profit distribution electric cooperative located in the state of Texas. Pedernales does not have a parent corporation, and no publicly-held corporation owns 10% or more of its stock.

/s/ David Cosson
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Counsel for *Amicus Curiae*

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GLOSSARY OF ABBREVIATIONS

CLEAN POWER PLAN	EPA's "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units: Final Rule." 80 Fed. Reg. 64661 (October 23, 2015)
ERCOT	Electric Reliability Council of Texas
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
GW	Gigawatt
GWh	Gigawatt hour
IRP	Integrated Resource Plan
LNG	Liquefied Natural Gas
MW	Megawatt
MWh	Megawatt hour
NERC	North American Electric Reliability Corporation
U.S. EIA	United States Energy Information Administration
WPA	Wholesale Power Agreement

STATUTES AND REGULATIONS

All applicable statutes and regulations are contained in the Brief for Petitioners and Respondent.

INTEREST OF AMICUS CURIAE

Pedernales Electric Cooperative, Inc. (Pedernales) was granted *amicus curiae* by motion to this Court. Pedernales is the largest non-profit electric distribution cooperative in the United States. As a distribution cooperative, Pedernales is owned by its member-consumers; thus, the owners are the ratepayers. Therefore, Pedernales strives to provide reliable electricity at the lowest rate possible from the most efficient power sources available.

Pedernales provides electric service to more than 230,000 members through serving over 275,000 active accounts in a territory covering 8,100 square miles, a service area larger than the state of Massachusetts. Pedernales provides safe, reliable, fairly-priced electric service to residential and commercial locations in 44 franchised cities across 24 central Texas counties most of which is rural. Pedernales has an aggressive, voluntary policy to utilize renewable energy; however, a large majority of the power Pedernales depends upon from the ERCOT market is produced by fossil-fuel fired generators, with a substantial portion being coal generated.

Pedernales will have difficulty transitioning under the changing regulations imposed by the Clean Power Plan. The Clean Power Plan will have a dramatic

impact on Pedernales; and thus, a dramatic impact on its member-owners who will ultimately face the disruption to system planning, substantially increased and less stable costs of electric power, and risk to reliability and security.

STATEMENT REGARDING AUTHORSHIP, SEPARATE BRIEFING, AND MONETARY CONTRIBUTIONS

Pursuant to Rule 29(c), Federal Rules of Appellate Procedure, Pedernales states that no counsel for a party authored this brief in whole or in part, and no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than Pedernales or its counsel made a monetary contribution to preparation or submission of this brief.

Pursuant to D.C. Circuit Rule 29(d), Pedernales certifies that no other brief of which it is aware addresses the impact that the Clean Power Plan will have on electric distribution cooperatives and their member-owners. Pedernales contends that the other briefs *amicus curiae* supporting Petitioners will focus on questioning the legal authority for the EPA to enforce the Clean Power Plan and the effect the Clean Power Plan will have on individual states and power producing companies.

Taking into consideration the different perspectives of the other briefs *amicus curiae*, and the importance and complexity of this case, Pedernales certifies that filing a joint brief is not practicable and that it is necessary to submit separate briefs.

SUMMARY OF ARGUMENT

Pedernales contends that the EPA arbitrarily failed to adequately consider the potential impacts the Clean Power Plan will have on rural electric distribution cooperative members. The EPA arbitrarily ignored the overall impact the Clean Power Plan will have on proven planning methods currently utilized within the industry. The EPA failed to consider how the short time frame for compliance with the Clean Power Plan will adversely affect Pedernales, ERCOT, and other rural utility cooperatives. The EPA also arbitrarily ignored the evidence that supports the likelihood of decreased stability and increased vulnerability of the nation's electric grids and power production systems.

ARGUMENT

I. JUDICIAL REVIEW OF AGENCY'S DECISION.

The Administrative Procedures Act regards any agency action unlawful that is found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. §706(2)(A). While the statute does not define "arbitrary and capricious," the courts have routinely held that in order to avoid having a rule declared arbitrary and capricious an agency must consider all relevant factors. *Motor Vehicle Mfrs. Ass'n of United States, Inc.* v. *State Farm Mut. Automobile Ins. Co.*, 463 U.S. 29, 43 (1983).

The Environmental Protection Agency (EPA) must illustrate a "rational connection between the facts found and the choice made," *State Farm* 463 U.S. 29, 43 (citing *Burlington Truck Lines, Inc.* v. *United States*, 371 U.S. 156, 168 (1962)), and in order to be found rational, an agency must consider significant alternatives to the course actually chosen; an agency cannot take action based on speculation, and an agency must engage in the arguments raised before it. *Del. Dep't of Natural Res. & Envtl. Control* v. *EPA*, 785 F.3d 1, 11 (D.C. Cir. 2015).

This Court has determined that it will uphold the EPA's determinations when the "EPA acted within its delegated statutory authority, *considered all of the relevant factors*, and demonstrated a reasonable connection between the facts on the record and its decision." *Nat'l Ass'n for Surface Finishing* v. *EPA*, 795 F.3d 1, 7 (D.C. Cir. 2015) (citing *Ethyl Corp.* v. *EPA*, 51 F.3d 1053, (D.C. Cir. 1995)) (emphasis added). The EPA must also consider cost of compliance before deciding whether a regulation is appropriate and necessary. *Michigan v. EPA*, 135 S. Ct. 2699, 2702 (U.S. 2015).

The EPA's final regulation entitled "Carbon Pollution Emission Guidelines for Exiting Stationary Sources: Electric Utility Generating Units: Final Rule" 80 Fed. Reg. 64661 (October 23, 2015) (Clean Power Plan) either arbitrarily ignores or fails to legitimately consider the impact of the Clean Power Plan on all the relevant factors; specifically on proven planning strategies currently in use throughout the industry, the arguments and alternatives of an extended start date for the Clean

Power Plan, the cost of compliance with the Clean Power Plan, and the failure to adequately address the risk to reliability and security of the power industry under the Clean Power Plan.

II. REGULATORY IMPACT ON SYSTEM PLANNING.

A. ERCOT's Issues with the Increased Dependency on Natural Gas and Loss of Coal Powered Production.

Pedernales is an electric distribution cooperative within the Electric Reliability Council of Texas (ERCOT), the grid operator, which serves the majority of the state of Texas. As a distribution cooperative, Pedernales, is an ERCOT Load Serving Entity that supplies members' electric requirements through ERCOT's wholesale power generation market, ERCOT's transmission system, and Pedernales' distribution system. As such, Pedernales economically hedges and stabilizes its energy costs through power purchase agreements. ERCOT manages the electric power flow to 24 million Texas customers representing about 90% of the state's electric load. As the independent system operator for the region, ERCOT schedules power on an electric grid that connects more than 46,500 miles of transmission lines and more than 550-generation units. ERCOT also operates and performs financial settlement for the competitive wholesale bulk-power market and administers retail switching for more than seven million premises in competitive choice areas. ERCOT's members include consumers, cooperatives, generators,

power marketers, retail electric providers, investor-owned electric utilities (transmission and distribution providers), and municipally-owned electric utilities.[1]

The ERCOT system operates as an "island" which is electrically isolated from neighboring grid systems. Over time, ERCOT has worked to achieve the ability to provide economical and reliable power which meets system-operating requirements. The ERCOT system is continually planning and forecasting needed resources. However, ERCOT has faced periods of declining generation reserve margins, become increasingly dependent on intermittent resources, and is challenged to assure the deregulated market design will support investment in new generation needed for resource adequacy.

Natural gas has historically played a significant role in power generation in Texas. Since the 1950's Texas has added approximately 75,000 MW's of natural gas generation capacity. Since the restriction on using natural gas for power generation was lifted, ERCOT has added over 30,000 MW of new natural gas generation capacity.[2]

The growing dependence on natural gas generation became an extreme economic concern during the period between 2005 and 2009 when natural gas prices

[1] Electric Reliability Council of Texas, http://www.ercot.com/about (last visited Feb. 18, 2016).
[2] Powerplant and Industrial Fuel Use Act, 42 U.S.C. § 8312 (repealed1987).

climbed significantly which ultimately impacted power prices. At the time the only suitable replacement for the declining supply of natural gas consisted of Liquefied Natural Gas (LNG) imports. In 2009, the economic downturn and the availability of unconventional sources of natural gas caused a significant drop in natural gas prices. Since that time, there has been little concern for the availability or price of natural gas as a primary generation fuel for Texas, but the Clean Power Plan will introduce those concerns again.

Texas has already experienced the retirement of older, less efficient coal plants because these less efficient plants are unable to compete and earn sufficient revenue from low market power prices driven by natural gas prices. The Clean Power Plan, in its current form, will further decrease ERCOT's ability to rely on coal generated power by forcing a portion of existing coal capacity to prematurely be retired and replaced with alternate forms of power generation — with the most likely alternative being natural gas.

The growth and dependency of natural gas generation in ERCOT will increase as capacity is required for both new demand growth and to meet loss of supply from coal-plant retirements. Under such a scenario, ERCOT and Texas are over-exposed to natural gas and will lose the predictability and security of a diverse generation mix. The correlation between natural gas prices and energy prices will undoubtedly increase. This could be favorable with relatively low natural gas prices, but could

quickly become unfavorable with escalating natural gas prices. In the short-term, financial hedging mechanisms may be used to offset high natural gas prices; however, in the long-term high natural gas prices, driven by higher demand, would create a financial burden as the development of dispatchable alternatives, such as new coal or nuclear, require decades to develop.

The benefits of generation diversity to mitigate the cost impacts of over-exposure to a single supply, such as natural gas, have been thoroughly demonstrated and proven through many historic economic cycles. The electric power industry overwhelmingly recognizes that a diverse, balanced generation portfolio is best for the economy.

By implementing the Clean Power Plan, ERCOT, as well as the rest of the power industry, must now turn to natural gas generation to meet the majority of the nation's energy needs. This is exacerbated because of the need for firm backing of intermittent sources, including solar and wind. This increased dependence on natural gas will remove a competing fuel and create basic economic supply-and-demand mismatches. Such disruptions may spur a dramatic increase in the cost of natural gas and, in turn, is expected to cause a significant increase in energy costs which are passed down to Pedernales and its member-owners.

In developing the Clean Power Plan: (1) EPA failed to sufficiently take into account market planning and portfolio resource management, such as ERCOT has

developed despite the federal government's roller-coaster of changing energy regulations; and, (2) EPA arbitrarily created aggressive deadlines which force entities to scrap capital-intensive, long-lived generation assets as well as proven planning and resource management strategies. This will ultimately lead to construction of a new generation of carbon-producing, natural-gas-fired power plants. The opposite of EPA's regulations' intent.

B. Clean Power Plan's Impact on Pedernales' Resource Planning and Pedernales' Response to Changing Energy Needs.

The Clean Power Plan deadlines did not reasonably take into account current and ongoing rural electric utility resource planning. Nor did EPA take into account the lack of maturity of distribution-level technology for customers that could offset the undesirable impacts of the regulations. Pedernales' challenge is supporting rapid consumer and infrastructure growth, including increasing annual electricity demand. Pedernales added more than 10,000 new active accounts in 2015 and sustains an annual growth rate of over 3.7%. In recent years, new technologies and systems have allowed Pedernales to support growth, strengthen its system reliability, improve operational efficiencies and offer its members modern services at affordable rates. Pedernales is an industry leader in innovation and member responsiveness. Despite years of resource planning and strategic management, the EPA's Clean Power Plan exposes Pedernales members to certain new risks of resource and price volatility.

Pedernales has voluntarily adopted an aggressive strategic plan focused on a portfolio of low cost energy which is reliable, environmentally aware, and provides financial risk management for its members. Pedernales' resource plan provides for reliable energy services using a "least cost" mix of resources to meet the demand for energy. In determining the lowest reasonable cost, Pedernales considers all direct costs of an energy resource over its life-span, including capital costs, the cost of production, distribution, transportation, utilization, availability, and waste management. These costs are considered along with a wide range of other economic, financial, and policy factors such as technology, finance, fuel supply, economic factors, market structures, and regulatory requirements.

As a low-cost high-reliability provider, Pedernales develops innovative business models. Pedernales' innovation and operating excellence allow it to insulate itself from the many inherent risks that face the industry – risks such as fuel supply and price volatility, technology maturity, weather, market structures and dynamics, economic factors, and regulatory policies.

Pedernales' 2015 long-term Integrated Resource Plan ("IRP") utilizes the benefits of flexibility and a diverse, balanced portfolio in providing the least cost, reliable supply across a wide range of economic conditions and potential market futures. In order to maintain and improve its low cost position, Pedernales is: (1) continuing to rely on the third party power suppliers and the ERCOT power market;

(2) identifying new cost beneficial options to expand solar and wind power supply; (3) developing innovative and cost-beneficial distributed solar generation projects; (4) enhancing its energy efficiency program; (5) implementing new demand management programs and technologies to reduce demand during critical times; and (6) creating innovative distributed generation business models.

Pedernales maintains its low, stable cost through a balanced energy portfolio which mitigates potentially high-cost and volatility single-source energy supply. Pedernales does not currently own any generation and provides for members' electric requirements through power purchase contracts. Pedernales' main power purchase contract, which currently provides for 80% of Pedernales' energy requirements, is its Wholesale Power Agreement (WPA) with the Lower Colorado River Authority whose generation resources include four natural gas fired plants, two coal-fired facilities, six hydroelectric dams, and a long-term wind power contract.

Through this portfolio approach Pedernales' energy mix is made up of approximately 1,205 MW of coal-fired capacity, 1,812 MW of natural gas fired capacity, 295 MW of hydroelectric capacity, and 306 MW of wind power capacity. This portfolio produces power of approximately 48% from coal sources, 47% from natural gas sources, 4% from wind sources, and 1% from hydroelectric sources. In comparison, the overall Texas ERCOT market produces power of approximately

38% from coal sources, 41% from natural gas sources, 11% from nuclear, 11% from wind sources, and 1% from hydroelectric sources.

Pedernales contends the Clean Power Plan will dramatically disrupt Pedernales' delicate balance of diversified power sources and the use of innovative power technology that Pedernales uses to continually provide reliable and economic power to its members. Under the Clean Power Plan, Pedernales arbitrarily will be forced to obtain a much greater percentage of power from natural gas, thus reducing Pedernales' current insulation from market fluctuation.

C. The Clean Power Plan Calls for an Unrealistic Timeframe for Compliance.

The EPA has not adequately considered the time needed to upgrade both distribution and transmission assets. ERCOT's analysis of the Clean Power Plan estimates the forced retirement of coal fired generation units will cause thermal capacities to be exceeded on hundreds miles of transmission lines. To ensure continued reliability and quality of service, ERCOT would have to build new transmission lines at a cost of $1 Million to $3 Million per mile and an estimated completion time of roughly five years. [3]

[3] Electric Reliability Council of Texas, *ERCOT Analysis of the Impacts of the Clean Power Plan, Final Rule Update* at 12 (Oct. 16, 2015). http://www.ercot-com/news/presentations/index.html (Click the link "ERCOT Analysis of the Impacts of the Clean Power Plan").

ERCOT could experience periods of energy grid instability and unreliability after the Clean Power Plan forces the retirement of coal powered generation units. The time frame to plan and construct the new transmission lines after the Clean Power Plan goes into effect is measured in years, not months; and during this time period, ERCOT will not be able to guarantee stability and reliability. Additionally, ERCOT will most certainly not absorb the costs of the new transmission lines on its own but will pass the financial burden to Pedernales and the other rural electric cooperatives in the region.

Pedernales and other rural electric cooperatives serve some of the most rugged, sparsely-populated and challenging service territories in the nation. On a per consumer or per kilowatt hour basis, electric cooperatives are confronted with overcoming the challenges of increased weather and operating exposure, higher ongoing maintenance expenses, increased line losses and longer truck rolls. On average, each electric cooperative serves about 22,000 members, while municipal utilities serve around 10,000, and investor-owned utilities serving nearly 550,000 consumers. Per mile, that translates to about seven consumers for cooperatives, 35 for municipal utilities and nearly 50 for investor-owned utilities.

Electric cooperatives also face significantly different revenue challenges. Per mile, electric cooperatives average approximately $15,000 in revenue, in comparison with investor-owned utilities at $75,000 and municipal utilities at nearly

$115,000. Electric cooperatives, therefore, must rely upon innovation and operating excellence to remain competitive. As a result, electric cooperatives have been early and consistent adopters of technologies that help overcome these challenges and enhance performance.

Pedernales and the other electric cooperatives are not in financial position to carry the expected financial burden that the Clean Power Plan will likely force upon them.[4] Pedernales must always plan long term in undertaking the expense of building new transmission and distribution lines. The Clean Power Plan's extremely short time frame for implementation will cause a huge burden for Pedernales and most other electric cooperatives that are ill prepared for the unforeseen costs.

D. Clean Power Plan Cost to Pedernales' Members.

In Pedernales' 2015 IRP to identify the best mix of generation resources for Pedernales to pursue to achieve the goal of a low-cost, reliable, power portfolio balanced with fuel and generation technology diversity. Pedernales' IRP study considered the potential impact of carbon dioxide emissions regulation and factored in the results of an ERCOT study analyzing the EPA's Clean Power Plan.

[4] Electric cooperatives serve in 327 of the nation's 353 "persistent poverty counties" (93%). Of the 42 million Americans served by cooperatives, an estimated 4 million live in persistent poverty counties. The Economic Research Service of the USDA defines these counties as those where the poverty rate has exceeded 20% of the population for the last 30 years; the vast majority of these counties (85%) are non-metropolitan counties as defined by the OMB. The National Rural Electric Cooperative Association. http://www.nreca.coop/about-electric-cooperatives/map/ (Click "view visualization" button below heading "Electric Cooperatives Serving Persistent Poverty Counties").

In addition, Pedernales' IRP relied upon industry standard methods to forecast a range of possible outcomes based on fuel and power market forecasts, technology options, economic conditions, load forecasts, and regulations. The Pedernales IRP study focused on two areas: (1) cost of power; and (2) transmission cost of service. Together these two costs compromise 40-60% of Pedernales members' total annual cost of service.

Pedernales' cost of power and transmission cost of service for 2016 are estimated to be $340 million; 81.5% or $277 million of which is attributed to cost of power with 18.5% or $63 million associated with transmission cost of service. Pedernales anticipates serving an estimated 5,600 GWh in members' energy requirements resulting in an effective power and transmission rate of $60.70/MWh with $49.50/MWh associated with the cost of power and $11.20/MWh associated with the transmission cost of service.

Pedernales' IRP provided a forecast of the cost of power to the year 2034. The forecast was based on reasonable assumptions for power, gas, and coal pricing and other economic factors. The baseline forecast for the cost of power predicts that by 2034 Pedernales will be serving a system load of approximately 8,000 GWh, a growth of 220% from 2016 or about 2% per year. The cost of power under the reasonable baseline assumptions in 2034 is forecast to be $450 million or an effective rate of $56.25/MWh an increase of $6.75/MWh or 13.6% compared to 2016.

When the cost of power was forecast while considering the potential impact of the EPA's Clean Power Plan, the estimated cost of power in 2034 is estimated to be $570 million or an effective rate of $71.25/MWh, and an increase of $21.75/MWh or a 43.9% jump from Pedernales' 2016 cost estimates. Within the 43.9% increase, 30.3% of the increase is *directly attributable* to the EPA's Clean Power Plan impact.[5]

The IRP study considers the impact of the Clean Power Plan on the price and cost of power in ERCOT. Based on the study ERCOT power pricing is expected to increase 44% by 2030. Pedernales' access to a diversified generation portfolio helps mitigate the impact that would otherwise be realized if Pedernales were fully dependent on the market for the supply of power. The ERCOT impact study does not incorporate or include the potential cost associated with expected costs for "transmission upgrades, higher natural gas prices caused by increased gas demand, procurement of additional ancillary services, and other costs associated with the retirement of decreased operation of coal-fired capacity in the ERCOT region. Consideration of these factors would result in even higher energy costs for customer."[6]

[5] The assumptions used for the potential impact associated with the Clean Power Plan are based on the assumptions used by ERCOT. ERCOT *Analysis of the Impacts of the Clean Power Plan, Final Rule Update* (Oct. 16, 2015).

[6] *Id.* at 1.

Since the Clean Power Plan relies significantly on the expansion of solar and wind power in ERCOT, ERCOT will have to further invest in a changing and expanding high-voltage transmission system. Since 2010 Pedernales' transmission cost of service rate has already grown 89% because of required infrastructure. The primary driver for this growth is the addition of the Clean Renewable Energy Zone transmission projects built directly to support wind and solar projects in ERCOT. Pedernales contends further transmission expansion is required in order to accommodate the Clean Power Plan; as such, transmission costs will leap another 89% by 2022, which the EPA failed to adequately consider.

This rate increase would result in a total cost increase to Pedernales' members from $63 million in 2016 to over $220 million in 2034. This $157 million increase would be 350% higher than the 2016 estimated cost. In contrast, without the Clean Power Plan, Pedernales' likely transmission cost of service would increase only to $131 million in 2034 for an increase of $68 million. Therefore, the Clean Power Plan impact to transmission cost is an $89 million cost impact in 2034 which equals a 68% increase which would cause the effective transmission cost of service rate to increase $11.10/MWh from $16.40/MWh to $27.50/MWh.

The potential impact of Clean Power Plan on Pedernales' members is substantial. In 2034, Pedernales' cost of power and transmission without the Clean Power Plan is estimated to be $581 million ($450 million for power and $131 million

for transmission). Pedernales' cost of power and transmission with the Clean Power Plan is estimated to be $790 million ($570 million for power and $220 million for transmission). This significant cost impact represents a 36% increase in direct costs to our membership due exclusively to the Clean Power Plan, which was not adequately considered by EPA evidencing the arbitrariness of its decision. The EPA either arbitrarily ignored or failed to consider the tremendous financial impact the Clean Power Plan will have on electric distribution companies like Pedernales.

III. RELIABILITY AND SECURITY.

A. Reliability and Security Impacts on the Nation's Rural Electric Cooperatives.

Customers react to electric outages immediately, to express the impact on their lives and businesses. As retail, distribution system operator, Pedernales is accountable for the stability of our members' energy supply. Pedernales' electric lineworkers are the "first responders" to an emergency power outage on the distribution grid. The EPA's regulations, through arbitrary resource constraints, could increase the possibility of curtailment blackouts which are circumstances for which Pedernales cannot reasonable plan or address. Although technology is rapidly emerging, there is no reasonable solution today at the distribution level to address curtailments.

Pedernales is a retail distribution provider dependent on the wholesale energy market and transmission system in Texas. Based on ERCOT studies,[7] Pedernales contends the Clean Power Plan will result in the premature retirement of fully-permitted, coal-fired base load facilities in Texas. As a result, the Clean Power Plan, given its present timing along with the unavailability of hedge technologies, introduces additional risks to the reliability of the continuous energy supply for entities like Pedernales.

Pedernales' all-time electricity-use peak occurred on February 10, 2011 at 7:15 in the morning. Interestingly, this all-time peak occurred in the cold, dark, early morning winter hours. Pedernales' winter peak, therefore, occurred when certain intermittent non-dispatchable renewable technologies are generally not available. NERC's Polar Vortex Review in September 2014 analyzed the previous winter event and noted that certain regions of the nation gave NERC cause for alarm because "cold weather increased demand for natural gas, which resulted in a significant amount of gas-fired generation being unavailable due to curtailments of gas."[8]

Pedernales' wholesale reliability concerns and the member impacts, including health and human safety, of an electric service interruption are elevated for cold,

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[7] *ERCOT Analysis of the Impacts of the Clean Power Plan, Final Rule Update* at 6 (Oct. 16, 2015).

[8] North American Electric Reliability Corporation, *Polar Vortex Review*, at iii (Sept. 2014), http://www.nerc.com/pa/rrm/Pages/default.aspx (follow link "January 2014 Polar Vortex Review"; then click "Polar Vortex Review" to open document).

winter months given the likelihood of competition on the natural gas systems for both electric power generation and home fuel heating. The EPA failed to adequately consider the energy reliability issues, and thus acted arbitrarily in promulgating the Clean Power Plan.

B. NERC's Key Findings were Inadequately Considered and Remain Unresolved.

In April 2015, the North American Electric Reliability Corporation (NERC) published a study on potential reliability impacts of the proposed Clean Power Plan. The study outlined four areas of concern:

1. Consistent with NERC's Initial Reliability Review, the proposed CPP is expected to accelerate a fundamental change in electricity generation mix in the United States and transform grid-level reliability services, diversity, and flexibility.

2. Industry needs more time to develop coordinated plans to address shifts in generation and corresponding transmission reinforcements to address proposed CPP CO2 interim and other emission targets.

3. Implementation plans may change the use of the remaining coal-fired generating fleet from baseload to seasonal peaking, potentially eroding plant economics and operating feasibility.

4. Energy and capacity will shift to gas-fired generation, requiring additional infrastructure and pipeline capacity.[9]

The study additionally raises issues regarding reliability of new resources; changes to operations and expectations of behavior in the system; call for extensive power

[9] North American Electric Reliability Corporation, *Potential Reliability Impacts of EPA's Proposed Clean Power Plan Phase I* at vii-ix (April 2015),

system study and planning analysis; requirements for more transmission to integrate new resources, and change power flows representing planning; and operational challenges. Because the report anticipates acceleration of natural gas-fired generation, the study points to increased dependency on natural gas that will require additional pipeline capacity.

In January 2016, NERC published a report "Reliability Considerations for Clean Power Plan Development."[10] NERC continued to identify several aspects of plan design that need to be considered to reliably accommodate the broad transformation associated with implementation of the regulations. In its "2015 Long-term Reliability Assessment,"[11] NERC expressed plans to release a scenario-based analysis of the Clean Power Plan in 2016. That analysis is not yet released. Consequently EPA adopted regulations prior to NERC's completion of adequate reliability analysis. EPA strayed well beyond the relevant processes in reviewing reliability safeguards, and did not provide adequate consideration for relevant

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http://www.nerc.com/pa.RAPA/ra/Pages/default.aspx (expand "Special Assessments on Environmental Regulations" drop down list; then click to open "Potential Reliability Impacts of EPA's Proposed Clean Power Plan – Phase I" document).

[10] North American Reliability Corporation, *Reliability Considerations for Clean Power Plan Development* at vi-vii (January 2016),http://www.nerc.com/pa.RAPA/ra/Pages/default.aspx (expand "Special Assessments on Environmental Regulations" drop down list; then click to open "Reliability Considerations for Clean Power Plan Development" document).

[11]North American Reliability Corporation, *2015 Long-Term Reliability Assessment* at 3 (Dec. 2015), http://www.nerc.com/pa.RAPA/ra/Pages/default.aspx (expand "Long-Term Reliability Assessments" drop down list; then click to open "2015 Long-Term Reliability Assessment" document).

authorities to exercise jurisdiction in the determination of reliability. This lack of review by EPA demonstrates its arbitrary actions.

C. National Security Issues Were Inadequately Considered.

> "You may need to survive on your own after a disaster. This means having your own food, water, and other supplies in sufficient quantity to last for at least three days. Local officials and relief workers will be on the scene after a disaster, but they cannot reach everyone immediately. You could get help in hours, or it might take days."

This statement is the Basic Preparedness guidance from FEMA in its publication - Are You Ready? An In-Depth Guide to Citizen Preparedness. In the face of a natural or man-made disaster, being prepared and having a contingency plan is fundamental to survival.

Electric distribution cooperatives such as Pedernales have invested, trained, and continuously drilled in areas of reliability and resiliency. Electric cooperatives and other utilities have developed interoperability and mutual aid plans to ensure adequate contingencies when emergencies do arise and scale beyond the capabilities of any one organization. Utilities and their supply chain partners have amply stockpiled commodity items to ensure disaster preparedness. Pedernales has further inter-coordinated with regional first responders in the face of actual disaster events. Over the years, Pedernales has managed reliability and power restoration despite disruptions to the local distribution system.

Historically, the nation's wholesale power generation and transmission grid have been extremely reliable, for good reason. However, when regional blackouts have occurred, the societal impacts have been massive. The risks to our nation are too great to proceed with regulations which drive changes to the bulk energy supply without considering the impact of over reliance in single-source energy supply. Those entities with accountability to the consuming public for reliability must be given the opportunity to address matters of infrastructure, security, and contingency in relation to how the Clean Power Plan will change the energy supply for generation.

The EPA did not adequately consider whether the Clean Power Plan will increase vulnerability for regional and national security. The Clean Power Plan is expected to drastically reduce the diversity in electric sector base load generation fuel sources through the reduction in coal combustion.

Just as the federal government advises citizens to prepare for emergencies with a stockpile of supplies, utilities rely on stockpiles of coal fuel supplies. With the quickshift from coal, the industry will experience a substantial reduction in the stockpiled volume of delivered coal that is secured on-site and ready to be fueled for ongoing operations at power generation facilities. Today, many operational coal power plants in the United States are characterized by an on-site coal stock pile that may provide operating reserve fuel for a period of up to 30-60 days or longer. The

U.S. Energy Information Administration (EIA) describes the scenario and stockpile trends as follows, "At an individual plant, stockpiles can be viewed in terms of days of burn. The days-of-burn calculation takes into account both the current stockpile level at a plant and its estimated consumption (burn) rates in coming months to approximate how many days the plant could run at historical levels before depleting its existing stockpile. EIA calculates days of burn by averaging the most recent three years of historical data and applying that to the upcoming three months."[12]

"EIA groups coal plants into three days-of-burn categories: those with less than 30 days of burn, 30-60 days of burn, and those with more than 60 days of burn. EIA excludes from the categorization plants that rely on lignite or waste coal, as these plants rely on coal from mine-mouth sources (lignite mines or waste piles and ponds) and do not maintain stocks comparable to other coal plants."[13]

"At the end of August 2014, the amount of coal capacity with less than 60 days of burn was 63% of the total, compared to only 42% at the end of August 2013. Within that group, the percentage of capacity with less than 30 days of burn for those same months rose to 23%, up from 13% in 2013." [14]

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[12] U.S. Energy Information Administration, *Today in Energy: Coal stockpiles at coal-fired power plants smaller than in recent years* (Nov. 6, 2014), http://www.eia.gov/todayinenergy/detail.cfm?id=18711

[13] *Id.*

[14] *Id.*

Coal stockpiles are reducing as a result of regulatory uncertainty and power plant economics. The Clean Power Plan may likely eliminate these contingency operating stockpiles and the surety that they provide Americans.

The US EIA reports that "About two-thirds of coal used to generate electric power moves from coal mine to power plant either fully or partially by rail."[15] Accordingly, Pedernales notes that the beneficial and critical contingency of over-land rail shipping for power generation fuel supply may eliminated and exchanged for an increased dependency on pressurized natural gas pipeline infrastructure systems built to deliver just-in-time fuel supply.[16]

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[15] *Id.*

[16] The Department of Homeland Security's website explains:

> The U.S. energy infrastructure fuels the economy of the 21st century. Without a stable energy supply, health and welfare are threatened, and the U.S. economy cannot function. Presidential Policy Directive 21 identifies the Energy Sector as uniquely critical because it provides an "enabling function" across all critical infrastructure sectors.
>
> The U.S. electricity segment contains more than 6,413 power plants with approximately 1,075 gigawatts of installed generation. Approximately 48% of electricity is produced by combusting coal (primarily transported by rail), 20% in nuclear power plants, and 22% by combusting natural gas. The remaining generation is provided by hydroelectric plants (6%), oil (1%), and renewable sources (solar, wind, and geothermal) (3%). The heavy reliance on pipelines to distribute products across the nation highlights the interdependencies between the Energy and Transportation Systems Sector.
>
> The reliance of virtually all industries on electric power and fuels means that all sectors have some dependence on the Energy Sector."

Department of Homeland Security, https://www.dhs.gov/energy-sector (last visited Feb. 18, 2016).

CONCLUSION

Pedernales asserts that the EPA arbitrarily ignored or failed to adequately consider the Clean Power Plan's effect on several key areas in the electric power industry that could lead to widespread challenges to Pedernales members and customers, as well as Homeland Security.

The EPA's regulations arbitrarily failed to consider the overall impact on proven planning methods currently utilized within the industry. The EPA failed to adequately consider how the short time frame for compliance with the Clean Power Plan will adversely impact Pedernales, ERCOT, and other rural utility cooperatives. The EPA also arbitrarily ignored the evidence that supports the likelihood of decreased stability and increased vulnerability of the nation's electric grids and power production systems.

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

I hereby certify that the foregoing brief complies with Rule 32(a)(7)(C) of the Federal Rules of Appellate Procedure. According to the word count feature of the word-processing system used to prepare the brief, it contains (6,592) words, exclusive of those matters that may be omitted under Rule 32(a)(7)(B)(iii).

I further certify that the foregoing brief complies with the typeface requirements of Rule 32(a)(5) and the type style requirements of Rule 32(a)(6). It was prepared in a proportionately spaced typeface using 14-point Times New Roman font in Microsoft Word.

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Dated: February 23, 2016

CERTIFICATE OF SERVICE

I hereby certify that on February 23, 2016, an electronic PDF of the foregoing Brief of *Amicus Curiae* Pedernales Electric Cooperative, Inc. was uploaded to the Court's CM/ECF system, which will automatically generate and send by electronic mail a Notice of Docket Activity to all registered attorneys participating in this case. Such notice constitutes service on those registered attorneys.

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