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Second Attempt at the Department of Energy's 2017 NOPR Should Be Rejected

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On September 28, 2017, the Department of Energy (DOE) submitted a Notice of Proposed Rulemaking (NOPR) directing the Federal Energy Regulatory Commission (FERC) to consider a rule to subsidize certain power plants. The subsidy would have taken the form of preferential contracts under the premise of grid reliability and national security. It quickly became apparent that the proposal would bail out coal and nuclear power plants in competitive electricity markets—overwhelmingly so in the PJM Interconnection which serves 13 eastern states and the District of Columbia. On January 8, 2018, FERC rejected the DOE's proposed NOPR.

FirstEnergy Solutions petitioned the DOE on March 29, 2018, to act under its emergency powers in the Federal Power Act section to do itself what FERC has declined to do. FirstEnergy made the request in conjunction with its bankruptcy filing and plans to close several plants.

Secretary of Energy Rick Perry should reject this second attempt to subsidize coal and nuclear power plants and defend market competition in the electricity sector. Adding more distortions to electricity markets for the sake of a short-term Band-aid for coal and nuclear power plants will have long-term negative consequences for customers, technology innovation, and the future of the electricity grid. Instead of micromanaging the grid, politicians and regulators should be reducing the barriers and distortions that undermine its efficacy. True competition, customer choice, and political discipline can actually achieve the grid reliability and national security ends that the NOPR could—and would—not have accomplished.

Federal Emergency Powers and FirstEnergy's Case

The Federal Power Act authorizes the DOE to intervene in the electricity sector by temporarily requiring certain power plants to generate and deliver power. The threshold for action is detailed in Section 202(c):

- Wartime;
- An emergency due to a sudden increase in electricity demand; or
- An emergency due to shortage of supply, of facilities, or of fuel (or other sundry reasons).[1]

To take action, the DOE does not require a notice, hearing, or report, and its powers are explicitly temporary. The DOE has used its authority eight times since 2000, often in response to restoring power after extreme weather, as was the case after Hurricanes Rita and Ike.

FirstEnergy Solutions Corporation operates coal and nuclear power plants in the Ohio and Pennsylvania region of the PJM Interconnection, which

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serves 65 million customers. FirstEnergy's petition requests use of DOE emergency power in securing individual contracts with coal and nuclear power plants that have fuel onsite for 25 days of full output, are compliant with environmental regulations, and are not regulated monopolies. Contracts would include rates for full cost recovery and a "fair return on equity" to be in place for a minimum of four years.[2] The longest use of Section 202(c) to date is a year and a half.[3]

FirstEnergy argues that "it is in the national interest to ensure dependable, affordable, safe, fuel-secure, and clean supply of electricity produced by a diverse array of energy sources, including coal, natural gas, nuclear material, flowing water, and renewable resources."[4] FirstEnergy further argues that coal and nuclear plants have not been compensated for the system-wide reliability demonstrably supplied to the grid in PJM's territory, as in the extended extreme cold period during the 2017–2018 winter months.

Underscoring the national security component of FirstEnergy's petition, Senator Joe Manchin (D-WV) requested that the DOE intervene on the basis of the Defense Production Act. Electricity is a critical input for the defense industrial base and to support military activities and infrastructure, which require uninterrupted service and largely rely on civilian sources of electricity. Senator Manchin argues that coal and nuclear energy production is critical to maintaining an industrial base necessary for wartime readiness.[5]

Much-Needed Context Clarifies the Emergency

Considered in a vacuum, FirstEnergy's case for the DOE's interference in PJM markets may seem compelling. Their argument boldly asserts that coal and nuclear plant closures are an emergency worthy of DOE intervention and that FirstEnergy should be made exempt from market competition. However, the following five points of additional context lead to different conclusions.

1. A Fundamental Misunderstanding of Markets. FirstEnergy is essentially arguing that coal and nuclear plants are different and should be guaranteed prices instead of having to compete for their customers. Subsidized market players or protected monopolies in electricity services create a system where a utility profits less by understanding and meeting customer needs and more by influencing politics to protect its narrow interests.[6] Consequently, such a utility has little incentive to innovate beyond what it takes to keep regulators and politicians happy and to pacify its most vocal opponents. In contrast, through competition for customers, markets efficiently align incentives to meet the needs and desires of *customers*.

Markets also provide meaningful information via prices to customers, plant operators, and investors. For instance, higher, uncompetitive prices may communicate to an operator that efficiencies need to be made or a plant should be retired, or communicate to an investor that an opportunity for innovation is ripe or expose a bad investment decision.

In the end, market competition has saved customers and led to efficient outcomes that serve their needs. Contrast the experiences of customers in Georgia and Texas with: Georgia's monopolized power system makes its captive customers cover the ballooning costs of two new nuclear reactors regardless of what markets may be communicating about their value. In Texas, it was investors rather than customers in a highly competitive electricity market

1. The Federal Power Act, 16 U.S.C., ch. 12, § 202(c).
2. Rick C. Giannantonio, General Counsel, FirstEnergy Solutions Corporation, letter to Secretary of Energy, Rick Perry, March 29, 2018, pp. 30–31, https://www.eenews.net/assets/2018/03/29/document_gw_04.pdf (accessed April 24, 2018).
3. From December 20, 2005, to July 1, 2007; reliability to Washington, DC, jeopardized by closure of Potomac River generating station in order to comply with National Ambient Air Quality Standards.
4. Giannantonio, letter to Secretary Perry, p. 2.
5. Senator Joe Manchin III (D–WV), letter to President Donald J. Trump, April 18, 2018, https://www.manchin.senate.gov/imo/media/doc/Manchin%20Letter%20to%20Potus%20-%2004-18-18.pdf?cb (accessed April 24, 2018).
6. Katie Tubb, "Virginia Should Create Better Incentives for Utilities to Serve Customers," *Richmond Times-Dispatch*, March 3, 2018, http://www.richmond.com/opinion/their-opinion/guest-columnists/katie-tubb-virginia-should-create-better-incentives-for-utilities-to/article_5f85b854-e15b-5fb4-af88-f3f2c85222d9.html (accessed April 24, 2018).

that absorbed the cost of two cancelled reactors at the South Texas plant.[7] Meanwhile, customers continue to benefit from Texas's other nuclear reactors which boast the lowest fuel costs and highest capacity factors for nuclear power plants in the U.S.[8]

2. The Dynamism of Grid Investment. Although FirstEnergy emphasizes the "immediate" and "urgent" nature of the situation, PJM—whose sole responsibility is to maintain reliability in the markets under its jurisdiction—finds "no immediate threat to system reliability."[9] As a competitive electricity market, PJM is designed to use price signals to incentivize the efficient exit *and* entry of electricity providers to meet customers' needs.

FirstEnergy fails to mention that PJM has 99,452 megawatts queued for construction. This more than accounts for the 9,062 megawatts that PJM anticipates retiring from 2017–2020.[10] And while FirstEnergy emphasized coal and nuclear closures and anticipated closures between 2011 and 2020, it did not mention the coal and nuclear plants that are anticipated to continue operation. In fact, the independent mandatory review of PJM's market determined that all but four nuclear power plants are expected to recover operating costs between 2018 and 2020. Those four plants have operating costs of $25.95/MWh compared to PJM's other 15 nuclear plants, the operating costs of which are $18.73/MWh.[11]

3. The Complexity of Fuel Diversity. If FirstEnergy or the DOE are seeking fuel diversity as their primary achievement, they should look to PJM as a good example. The market structure of PJM has led to increased diversity since 2008 as companies and technologies compete to provide the best and most affordable service to customers.[12] Across PJM's territory, installed capacity at the close of 2017 consisted of:

- Natural gas (37 percent of electricity);
- Coal (35 percent);
- Nuclear (18 percent);
- Hydroelectric (5 percent);
- Oil (4 percent); and
- Wind, solid waste, and solar (1 percent).[13]

However, fuel diversity in and of itself is not a substitute for grid reliability or reduced risk. As R Street's senior fellow Devin Hartman discusses, geographic diversity, fuel prices, weather, flexibility, storage options, hedging, and individual customers' risk tolerances are all ingredients in achieving reliability and risk management.[14] Suppliers are best situated to understand and meet these needs in innovative ways. In contrast, politicians have attempted to force greater resource diversity through policies like arbitrary renewable portfolio standards, targeted financial subsidies, and regulatory schemes like cap and trade—all to the great detriment of customers, infrastructure investment decisions, and markets. None of these policies meet actual customer needs; rather, they are driven by political agendas that serve only to create new barriers in energy markets.

7. Katie Tubb, "Georgia's Nuclear Woes Should Catch Congress's Attention," The Daily Signal, December 22, 2017, https://www.dailysignal.com/2017/12/22/georgias-nuclear-woes-should-catch-congresss-attention/, and Matthew L. Wald, "NRG Abandons Project for 2 Reactors in Texas," *The New York Times*, April 19, 2011, https://mobile.nytimes.com/2011/04/20/business/energy-environment/20nuke.html (accessed April 24, 2018).
8. Capacity factor is the ratio of electricity generated over a given time. See South Texas Project Nuclear Operating Company, "Performance," http://www.stpegs.com/energy-generation/performance/?view=mobile (accessed April 24, 2018).
9. Vincent Duane, Senior Vice President of General Counsel, Law, Compliance, and External Affairs, letter to Secretary of Energy Rick Perry, March 30, 2018, p. 1, http://www.pjm.com/-/media/documents/other-fed-state/20180330-response-to-fe-solutions-request-for-emergency-relief.ashx (accessed April 24, 2018).
10. Monitoring Analytics, *State of the Market Report for PJM 2017*, Volume II, p. 537, March 8, 2018, http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2017.shtml (accessed April 24, 2018).
11. Ibid., p. 333.
12. Ibid., pp. 113–114.
13. Ibid., p. 111.
14. Devin Hartman, "Why Risk and Reliability Matter More than Fuel Diversity," R Street *Shorts* No. 39, May 10, 2017, http://www.rstreet.org/2017/05/10/why-risk-and-reliability-matter-more-than-fuel-diversity/ (accessed April 24, 2018).

4. The Misused "National Security" Argument. The FirstEnergy case relies heavily on linking a reliable grid to national security. The Defense Production Act defines three criteria for federal action in the face of a shortage in the defense industrial base:

1. The resource or product must be "essential for national defense";
2. The private sector "cannot be expected" to meet national security needs in the time required; and
3. Action taken to address the shortage must be "the most cost effective, expedient, and practical alternative."[15]

Heritage Foundation defense policy analyst Rachel Zissimos further explains that "products that are neither scarce nor technologically sensitive do not pose a threat to national security and do not warrant" intervention.[16]

PJM's abundant market entries and its own assessment of the reliability of its region suggest no reason for action under the premise of national security. The mandatory independent market review of PJM also stated: "The fact that some [coal and nuclear] plants are uneconomic does not call into question the fundamentals of PJM markets."[17] FERC concluded that "the extensive comments submitted by the RTOs/ISOs [Regional Transmission Organizations/ Independent System Operators] do not point to any past or planned generator retirements that may be a threat to grid resilience."[18] The real challenge to security objectives comes from out-of-market interventions by state and federal governments. Examples include New England's refusal to permit natural gas pipelines in apparent preference for natural gas imports from Russia, and state and federal mandates for certain energy resources regardless of the value they bring to the grid via subsidies, portfolio standards, and regulations.

The Administration should be extremely cautious in considering overtaking private-sector activities in a free, democratic society. Government intervention restricts freedom and has distinct drawbacks for the electricity sector, as it can eliminate a powerful incentive to innovate. A better approach to meeting the Department of Defense's energy needs—especially regarding resiliency and security—is to identify specific areas of vulnerability and then select the best energy option to address them.

5. The Destructive Nature of Energy Subsidies. Low natural gas prices and regulatory uncertainty for coal and nuclear have made the effects of subsidies for renewables more obvious and put undue pressure on other sources of unsubsidized electricity.[19] In the states where FirstEnergy is principally concerned, the DOE notes 29 different wind credit, financing, grant, and regulatory programs in Ohio and 39 such programs in Pennsylvania since the year 2000.[20] More than two decades of generous federal wind production tax credits (PTC) have incentivized wind generators to ignore market signals. Wind can "out-compete" coal and nuclear by underbidding for unrealistic periods of time[21] and yet profit because the PTC covers 63 percent to 68 percent of the average wholesale price of electricity in PJM.[22]

15. Jared Brown and Daniel Else, "The Defense Production Act of 1950: History, Authorities, and Reauthorization," Congressional Research Service *Report for Congress* No. 43118, July 28, 2014, https://fas.org/sgp/crs/natsec/R43118.pdf (accessed April 24, 2018).
16. Tori Whiting and Rachel Zissimos, "Steel Imports Do Not Threaten National Security," Heritage Foundation *Issue Brief* No. 4719, June 16, 2017, https://www.heritage.org/sites/default/files/2017-06/IB4719.pdf.
17. Monitoring Analytics, *State of the Market Report*, p. 2.
18. Federal Energy Regulatory Commission, "Order Terminating Rulemaking Proceeding, Initiating New Proceeding, and Establishing Additional Procedures," January 8, 2018, p. 8, https://www.ferc.gov/CalendarFiles/20180108161614-RM18-1-000.pdf (accessed April 24, 2018).
19. See, for example, Monitoring Analytics, *State of the Market Report*, p. 62.
20. U.S. Department of Energy, Energy Efficiency and Renewable Energy Office, and N.C. Clean Energy Technology Center, "Database of State Incentives for Renewables & Efficiency," http://www.dsireusa.org/ (accessed April 24, 2018).
21. Frank Huntkowski, Aaron Patterson, and Michael Schnitzer, "Negative Electricity Prices and the Production Tax Credit," The NorthBridge Group, September 14, 2012, p. 10, https://sites.hks.harvard.edu/hepg/Papers/2012/Negative_Electricity_Prices_and_the_Production_Tax_Credit_0912.pdf (accessed April 24, 2018).
22. The PTC is roughly 2.3 cents per kWh. Wholesale prices for electricity in PJM's region in 2017 average from 3.4 cents to 3.6 cents per kWh. See U.S. Energy Information Administration, "Wholesale Electricity and Natural Gas Market Data," https://www.eia.gov/electricity/wholesale/index.php#history (accessed April 24, 2018).

Nevertheless, Alison Silverstein, consultant responsible for drafting the technical portions of the DOE grid study, writes that "new subsidies for coal and nuclear plants won't level the playing field relative to renewables nor undo the impact of old subsidies—they'll just make the playing field even bumpier."[23]

Conclusion

Competitive electricity markets have begun to allow the dispersed wisdom and innovation of investors and consumers to determine what are the best means for meeting customer needs. In contrast, there is almost no better way to fossilize an industry than by guaranteeing prices and knocking out the competitors of a select few companies. Such an avenue is precisely what FirstEnergy has requested. Ultimately, this approach would punish competitive, innovative technologies and companies in order to keep others afloat.

The Trump Administration should protect competition, not specific competitors. The DOE and FERC should maintain regulatory discipline and not use the power of government to manipulate energy markets in favor of their preferred energy technologies or against the ones that do not fall neatly into place in their political narratives. True competition, customer choice, and disciplined government effort to reduce barriers rather than create them will achieve the energy reliability and security goals that undergird the FirstEnergy request.

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23. Alison Silverstein, "If I'd Written the DOE Grid Study Recommendations," Utility Drive, October 2, 2017, https://www.utilitydive.com/news/silverstein-if-id-written-the-doe-grid-study-recommendations/506274/ (accessed April 24, 2018).