Using Emergency Powers to Provide Financial Assistance to Coal and Nuclear Plants

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INTRODUCTION

During his presidential campaign, Donald Trump promised "to bring the coal jobs back" in a speech in Charleston, West Virginia[1]—a commitment he would repeat during the remainder of his campaign. Since taking office, President Trump has pressed Secretary of Energy, Rick Perry, to develop a strategy for providing financial assistance for the coal industry.[2] For different reasons, the Trump Administration has also pushed for financial relief for nuclear plants.[3]

Both of these fuels for generating electricity have suffered in recent years from their inability to compete in the competitive wholesale power markets throughout the United States, resulting in the closure or planned retirement of dozens of units. In the PJM wholesale capacity market (a regional organization that coordinates the movement of electricity throughout the Mid-Atlantic), for example, neither coal nor nuclear plants have been "in the money" in the periodic auctions to provide generating

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[1] *See* David Gutman, *Trump Rallies in Charleston, Tells People Not to Vote*, CHARLESTON GAZETTE-MAIL (May 5, 2016), https://www.wvgazettemail.com/news/politics/trump-rallies-in-charleston-tells-people-not-to-vote/article_e9ae461f-543a-546b-be9b-0d928d719f7c.html [https://perma.cc/9FSW-ZRQ7].

[2] *See* John Bowden & Timothy Cama, *Trump Orders Rick Perry to Take 'Immediate Steps' to Stop Coal Plant Closures*, THE HILL (June 1, 2018), https://thehill.com/policy/energy-environment/390270-trump-orders-perry-to-take-immediate-steps-to-stop-coal-plant [https://perma.cc/G3RB-WM52].

[3] *See id.*

capacity to the market.[4] Compounding their inability to capture revenues in the capacity market, the decline in energy prices has resulted in coal and nuclear plants failing to produce enough revenues for their owners to keep them in operation.[5] Between 2002 and 2016, 531 coal-generating units—representing about 61 gigawatts (GWs) of generation capacity—retired from the U.S. generation fleet.[6] In the PJM region alone, more than twenty-five GW of coal-fired generation will have deactivated between 2011 and 2020, based on formally submitted deactivation plans.[7] The nuclear industry has fared no better: from 2002 to 2016, approximately 4.7 GW of nuclear-generating capacity, representing about 4.7 percent of the U.S. total, went offline.[8] Since 2016, another eight nuclear units, representing an additional 7.2 percent of nuclear capacity in the U.S., have announced retirement.[9]

In response, several proposals have been offered to provide financial relief to the coal and nuclear industries. The most recent proposal was set forth in an unofficial forty-page memorandum from the Department of Energy (DOE Military Proposal), which was "leaked" to the press on May 29, 2018.[10] This Proposal would, among other things, create a strategic electric generation reserve on the grounds of national security interests by creating a category of subject generation facilities—unspecified coal and nuclear plants—the output from which would be required to be purchased by grid operators in the course of two years.[11] The DOE Military Proposal is only the latest of several proposals offered by the coal

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[4] *See* Robert Walton, *New Coal Nuclear Generation Would Have Lost Money Last Year, PJM Monitor Says*, UTILITY DIVE (Mar. 8, 2018), https://www.utilitydive.com/news/new-coal-nuclear-generation-would-have-lost-money-last-year-pjm-monitor-s/518746/ [https://perma.cc/RE7M-7FKM].

[5] *See* Jennifer A. Dlouhy, *Trump Prepares Lifeline for Money Losing Coal Plants*, BLOOMBERG (May 31, 2018), https://www.bloomberg.com/news/articles/2018-06-01/trump-said-to-grant-lifeline-to-money-losing-coal-power-plants-jhv94ghl [https://perma.cc/8MAG-K53H].

[6] U.S. DEP'T OF ENERGY, STAFF REPORT TO THE SECRETARY ON ELECTRICITY MARKETS AND RELIABILITY 22 [hereinafter DOE STAFF REPORT] (Aug. 2017) (asserting "Between 2002 and 2016, 531 coal generating units representing approximately 59,00 MW of generation capacity retired from the U.S. generation fleet").

[7] North American Electric Reliability Corporation, *2017 Long-Term Reliability Assessment*, 58 (2017).

[8] DOE STAFF REPORT, *supra* note 6, at 29.

[9] *Id.* at 30.

[10] *See id.*

[11] *Id.* at 3.

industry and the Trump Administration to provide financial relief for the coal and nuclear industries.[12]

Section II of this Comment will examine the elements of and the basis for the DOE Military Proposal, as well as related proposals that have been offered over the past two years with the purpose of providing financial relief for the coal and nuclear industries. Section III will explore the legal authority upon which the DOE Military Proposal is based and any applicable precedent under that authority. Section IV of this Comment will examine the likely financial impact of the DOE Military Proposal if it is implemented. Finally, Section V will offer some observations and conclusions on the use of emergency powers as the basis for providing financial relief to the coal and nuclear industries.

II. PROPOSALS ADDRESSING THE FINANCIAL CONDITION OF COAL AND NUCLEAR INDUSTRIES

A. The DOE Military Proposal

As noted above, the DOE Military Proposal was never formally introduced or acted upon; the elements of the proposal, however, can be discerned from an "addendum" draft dated May 29, 2018, that was published in a number of media outlets.[13] As the basis for the DOE's exercise of its emergency authority over electric generating resources, the Proposal cites several factors:

- Increased reliance on natural gas for electricity generation and the "limits of protection" available for the thousands of miles of natural gas pipelines;
- The distinction between "reliability" and "resilience," which suggests that "fuel-secure" generating stations—including nuclear and coal-fired power plants, as well as oil-fired and dual-fuel units with adequate storage—provide a greater ability to withstand, and quickly recover from, high-impact events;

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[12] *See id.* at 1–3.

[13] *See, e.g.*, Cooper McKim, *Leaked Memo Shows a Plan to Bailout Coal and Nuclear*, WY. PUB. MEDIA (Jun. 12, 2018), https://www.wyomingpublicmedia.org/post/leaked-memo-shows-plan-bailout-coal-and-nuclear#stream/0 [https://perma.cc/YSB6-NHEL].

- Heightened threats of cyber-attacks against critical energy infrastructure and natural disasters; and
- Military defense, as some power plants qualifying for aid would arguably be essential for keeping critical military installations online in a widespread grid blackout.[14]

The essential finding underlying the Proposal is that "[r]ecent and announced retirements of fuel-secure electric generation capacity across the continental United States are undermining the security of the electric power system because the system's resilience depends on those resources."[15]

The solution identified in the DOE Military Proposal was to use a twenty-four-month period to conduct additional analyses to gain a more detailed understanding of location-specific security vulnerabilities in the nation's energy system.[16] During this time period of comprehensive testing, the DOE would exercise its powers under the Defense Production Act and Section 202(c) of the Federal Power Act to temporarily delay retirements of "fuel-secure" generation resources.[17] This would be accomplished by requiring grid operators[18] to buy or arrange for the purchase of power from these "Subject Generation Facilities" over a 24-month period to the extent necessary to "forestall any further actions toward retirement, decommissioning or deactivation of such facilities."[19] The continued generation and delivery of electric energy under existing or recent contractual arrangements with the serving electric utilities would be required for Subject General Facilities operating outside of the ISO/RSO regions.[20] These "Subject Generation Facilities" were not identified in the Proposal; industry press at the time speculated that such a designation could be based on a list of coal and nuclear plants that have declared an

[14] *See id.* at 2–3.

[15] *Id.* at 2.

[16] *See id.* at 1, 3.

[17] *See id.* at 36–39.

[18] *See id. generally* (explaining Regional Independent System Operators (ISOs) or Regional Transmission Organizations (RTOs), such as PJM, ISO-New England, New York ISO, Electric Reliability Council of Texas (ERCOT), Mid-Continent ISO, and California ISO).

[19] McKim, *supra* note 13, at 3.

[20] *Id.*

intention to retire, as published by Energy Information Administration. This list consists of seven nuclear reactors and seventy-one coal-fired generators, totaling about twenty-five GW (summertime generating capacity).[21]

B. Other Proposals to Address Retirement of Coal and Nuclear Plants

Prior to the "release" of the DOE Military Proposal, policymakers and regulators in the electric industry raised general concerns about the inability of coal and nuclear units to survive in the competitive wholesale electricity markets.[22] Wholesale power prices had been on a steady decline since shale gas development in the late 2000s began producing cheap and plentiful natural gas resources, which led to construction of highly efficient natural-gas fired generating units, as well as the conversion of coal-fired units to burn natural gas.[23] In more recent years, the declining cost of renewable resources—utility-scale solar and wind generation—also contributed to the downward trend[24] in wholesale electricity prices, and increased difficulty for coal and nuclear units to compete successfully in the capacity markets operated by the regional grid operators.[25]

In contrast to coal plants, however, nuclear plants benefit from strong public policy support, given the vast amounts of base-load carbon-free generation they produce.[26] States with aggressive goals to reduce greenhouse gas (GHG) emissions in order to address climate change—such as New York's commitment to achieve an eighty percent reduction in GHG emissions by 2050—acted quickly to prevent uneconomic nuclear plants from retiring through adoption of ratepayer-funded subsidies in the form of "zero

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[21] B. Plumer and N. Popovich, *Trump Wants to Bail Out Coal and Nuclear Power. Here's Why That Will be Hard*, N.Y. TIMES (June 13, 2018), https://www.nytimes.com/interactive/2018/06/13/climate/coal-nuclear-bailout.html [https://perma.cc/U7W9-DDSX].

[22] *Id.*

[23] *See Appendix C: Wholesale Electricity Price Forecast*, NORTHWEST POWER & CONSERVATION COUNCIL (2006), at C-12, C-15, https-//www.nwcouncil.org/sites/default/files/Appendix_C__Electricity_Price_Forecast__1.pdf [https://perma.cc/MPS3-8D8K].

[24] *Id.* at C-5, C-14 & C-16.

[25] Plumer & Popovich, *supra* note 21.

[26] *Id.*

emission credits" (ZECs).[27] Illinois quickly followed New York, and similar efforts are at various stages of consideration in New Jersey and Pennsylvania.[28] Although coal may enjoy a similar level of policy support in coal-dependent states such as West Virginia, Kentucky, and Indiana, policymakers have not taken any action to provide similar subsidies to enable continued operation of coal-fired generating plants.[29]

i. DOE proposal in September 2017

On September 29, 2017, DOE Secretary Rick Perry submitted a proposed rule to the Federal Energy Regulatory Commission (FERC) pursuant to section 403 of the Federal Power Act.[30] Under the proposal to FERC (DOE Proposal), nuclear and coal plants generating a ninety-day fuel supply on-site would be recognized as "reliability and resilience resources," and would be compensated on a cost-of-service basis with a guaranteed recovery of operating costs and a profit margin.[31] Under this approach, the profitability or financial viability of a unit would not be subject to the plant's ability to compete in the competitive wholesale

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[27] *New York Regulators Approve Clean Energy Standard with Nuclear Subsidies*, REUTERS (Aug. 1, 2016), https://www.reuters.com/article/us-new-york-nuclear-idUSKCN10C2Z6 [https://perma.cc/LJK8-CTF3].

[28] Steven Mufson, *Competition Drives Nuclear Industry to Ask for Millions in Subsidies*, WASH. POST (May 24, 2018), https://www.washingtonpost.com/business/economy/competition-drives-nuclear-industry-to-look-for-millions-in-subsidies/2018/05/24/737e800c-5f60-11e8-a4a4-c070ef53f315_story.html?noredirect=on&utm_term=.ea393aa997f7 [https://perma.cc/8DGF-LQQL].

[29] *See cf.* Tom Eblen, *Against Energy Subsidies? Lawmakers Complaining About Solar Should Dig into This*, LEXINGTON HERALD-LEADER (Feb. 09, 2018), https://www.kentucky.com/news/local/news-columns-blogs/tom-eblen/article199286744.html [https://perma.cc/4G8U-T3LH]; Rusty Marks, *Capito, Manchin Trying to Support Coal-Fired Power Plants*, STATE J. (April 23, 2018), https://www.wvnews.com/statejournal/government/capito-manchin-trying-to-support-coal-fired-power-plants/article_0892ba60-bc94-5df8-bd2b-0cf78faafe7a.html [https://perma.cc/983U-D6Z4]; James Taylor, *Indiana Utility Seeks 12 Percent Rate Hike to Shut Down Coal Power*, HEARTLAND INST. (Dec. 4, 2018), https://www.heartland.org/news-opinion/news/indiana-utility-seeks-12-percent-rate-hike-to-shut-down-coal-power [https://perma.cc/H3FE-C78R], *with* http://ieefa.org/eia-estimates-show-u-s-coal-production-continuing-to-decline/ [https://perma.cc/4W5F-XYKJ].

[30] FED. ENERGY REGULATORY COMM'N, ORDER TERMINATING RULEMAKING PROCEEDING, INITIATING NEW PROCEEDING, AND ESTABLISHING ADDITIONAL PROCEDURES (Jan. 8. 2018), https://www.ferc.gov/CalendarFiles/20180108161614-RM18-1-000.pdf [https://perma.cc/KTN3-PBBR].

[31] *Id.* at 2.

market.[32] The DOE Proposal cited significant retirements of baseload generation (particularly coal and nuclear plants), discussed the "Polar Vortex" that occurred in 2014 that purportedly exposed problems with the resilience of the grid, and asserted that organized wholesale markets failed to compensate resources for all of the attributes they contribute to the grid, including resilience.[33]

The DOE Proposal was unanimously rejected by FERC in an order issued January 8, 2018.[34] In its ruling, FERC determined that the Proposal failed to satisfy the "clear and fundamental legal requirements" under Section 206 of the Federal Power Act.[35] While acknowledging the assertions of some commenters that potential retirements of particular resources are creating grid resilience or reliability issues, FERC concluded that these allegations failed to make the required showing of unjustness or unreasonableness of the existing tariffs.[36] On this point, FERC noted the extensive comments submitted by the RTOs/ISOs that no threat to grid resilience is posed by past or planned generator retirements.[37] FERC similarly determined that the remedy proposed in the DOE Proposal—allowing all eligible "reliability and resilience resources" to receive a cost-of-service rate regardless of need or cost to the system—had not been shown to be just and reasonable, or not unduly discriminatory or preferential.[38] The on-site ninety-day fuel supply requirement, for example, "would appear to permit only certain resources to be eligible for the rate, thereby excluding other resources that may have resilience attributes."[39] Although FERC rejected the Proposal, it commenced a separate docket to consider the "resilience" issues raised by the Proposal, directing each RTO and ISO to submit information pertaining to the resilience of its respective region.[40]

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[32] *Id.*

[33] *Id.* at 8.

[34] *Id.* at 1.

[35] *Id.* at 8.

[36] FED. ENERGY REGULATORY COMM'N, ORDER TERMINATING RULEMAKING PROCEEDING, INITIATING NEW PROCEEDING, AND ESTABLISHING ADDITIONAL PROCEDURES, 10 (Jan. 8. 2018), https://www.ferc.gov/CalendarFiles/20180108161614-RM18-1-000.pdf [https://perma.cc/KTN3-PBBR].

[37] *Id.*

[38] *Id.*

[39] *Id.* at 9–10.

[40] *Id.* at 10.

ii. FirstEnergy Solutions' March 29, 2018 request

On March 29, 2018, shortly after FERC's rejection of the DOE Proposal, FirstEnergy Solutions submitted a letter to DOE Secretary Rick Perry asking him to make a finding that an emergency condition existed within the footprint of PJM—a finding that would require him to issue an Emergency Order under Section 202(c) of the Federal Power Act.[41] FirstEnergy Solutions sought a remedy that would direct PJM to enter into contracts with certain existing nuclear and coal-fired generators, under which plant owners would receive "full cost recovery," including operating expenses, costs of capital and debt, and a fair return on equity and investment.[42] Eligible generators were defined as nuclear and coal-fired generators having an on-site fuel supply sufficient to allow twenty-five days of operation at full output that do not recover any of their capital or operating costs through regulated rates (i.e., the proposal would be limited to merchant plants).[43] Included within the scope of the proposal are three nuclear and two coal-fired plants owned by FirstEnergy Solutions with a total nameplate generating capacity of 9,769 megawatts (MW).[44]

Secretary Perry did not act on the request, and FirstEnergy Solutions (along with its subsidiaries) filed for bankruptcy with the U.S. Bankruptcy Court for the Northern District of Ohio in Akron two days later, on March 31, 2018.[45]

iii. October 2018 Proposal from National Coal Council

By a letter dated April 7, 2018, Secretary Perry asked the National Coal Council to develop a white paper "assessing opportunities to optimize the existing U.S. coal-fired power plant

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[41] Letter from Rick C. Giannantonio, General Counsel, FirstEnergy Solutions Corp., to Rick Perry, Sec'y of Energy, U.S. Dep't of Energy 1 (Mar. 29, 2018), https://statepowerproject.files.wordpress.com/2018/03/fes-202c-application.pdf [https://perma.cc/K8QP-LBSM].

[42] *Id.* at 31.

[43] *Id.*

[44] *Id.* at Attachments A and C.

[45] FIRST ENERGY SOLUTIONS, RESTRUCTURING INFORMATION (Mar. 13, 2019), https://www.fes.com/content/fes/home/restructuring.html [https://perma.cc/7LJS-4L4W].

fleet to ensure a reliable and resilient electricity system."[46] The National Coal Council responded on October 22, 2018 with *Power Reset: Optimizing the Existing Coal Fleet to Ensure a Reliable and Resilient Grid*, which argues that coal-fired power plants need to be compensated for grid resilience and reliability.[47] *Power Reset* calls for both "market reforms" at FERC, as well as regulatory reforms. The market reforms include capacity market reforms, electricity price formation refinements, reliability standards and resilience assessments. The regulatory reforms include EPA's new Affordable Clean Energy rule and an overhaul of the Clean Air Act's New Source Review rules governing emissions from new and modified power plants.[48]

iv. Recent action with respect to PJM capacity markets

FERC issued an Order on June 29, 2018 adjudicating allegations from PJM region generators that the then-current tariff governing PJM's capacity market was unjust, unreasonable, and unduly discriminatory.[49] At issue was "out-of-market payments" provided or required by certain states to support the entry or continued operation of preferred generating resources—primarily zero carbon resources such as renewable generation (wind and solar) as well as nuclear—that may not otherwise be able to succeed in a competitive wholesale capacity market.[50] The proceeding is relevant to this analysis because coal plants do not benefit from such out-of-market payments, leaving coal plant operators disadvantaged by the payments made to competing

[46] Letter from Rick Perry, Sec'y of Energy, U.S. Dep't of Energy, to Greg Workman, Chairman, National Coal Council 14 (April 7, 2018), https://www.nationalcoalcouncil.org/studies/2018/NCC-Power-Reset-2018.pdf [https://perma.cc/DU4Q-CT7J].

[47] Letter from Deck Slone, Chairman, National Coal Council, to Rick Perry, Sec'y of Energy, U.S. Dep't of Energy 11 (Oct. 22, 2018), https://www.nationalcoalcouncil.org/studies/2018/NCC-Power-Reset-2018.pdf [https://perma.cc/DU4Q-CT7J].

[48] NATIONAL COAL COUNCIL, POWER RESET: OPTIMIZING THE EXISTING COAL FLEET TO ENSURE A RELIABLE AND RESILIENT GRID 3–4, 36–38 (2018), https://www.nationalcoalcouncil.org/studies/2018/NCC-Power-Reset-2018.pdf [https://perma.cc/DU4Q-CT7J].

[49] FED. ENERGY REGULATORY COMM'N, ORDER REJECTING PROPOSED TARIFF REVISIONS, GRANTING IN PART AND DENYING IN PART COMPLAINT, AND INSTITUTING PROCEEDING UNDER SECTION 206 OF THE FEDERAL POWER ACT, 163 FERC ¶ 61,236 (June 29, 2018), https://www.ferc.gov/CalendarFiles/20180629212349-EL16-49-000.pdf [https://perma.cc/KKK9-CQ9P].

[50] *Id.* at 3.

suppliers in the PJM region.[51] In its June 29 Order, FERC found that "states have provided or required meaningful out-of-market support to resources in the current PJM capacity market, and that such support is projected to increase substantially in the future."[52] Because these subsidies allow resources to suppress capacity market clearing prices, FERC concluded that the rate was unjust and unreasonable under Section 206 of the Federal Power Act, and commenced a proceeding to consider a just and reasonable replacement rate.[53] On October 2, 2018, PJM responded by filing two different options for FERC's consideration.[54] Under both proposals, PJM would remove state-subsidized resources from the capacity market and institute a strict price floor for resources that remain.[55]

III. LEGAL AUTHORITY FOR THE DOE MILITARY PROPOSAL

In support of the proposition that the DOE has "national security responsibilities," the DOE Military Proposal notes that the Secretary of Energy is a member of the National Security Council, and that the agency has been "charged with responding to energy supply disruptions and other threats to the reliability and resilience of the Nation's electric power system."[56] With respect to specific statutory authority to support the DOE Military Proposal, the addendum cites two statutes in particular: (1) the Defense Production Act of 1950[57] and (2) Section 202(c) of the Federal Power Act.[58] These statutes, and the precedent thereunder, are discussed in the following two sections.

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[51] *Id.* at 7 & 42.

[52] *Id.* at 63.

[53] *Id.* at 63–64.

[54] Initial Submission of PJM Interconnection, L.L.C., Docket Nos. EL16-49-000 (October 2, 2018), https://www.pjm.com/-/media/documents/ferc/filings/2018/20181002-capacity-reform-filing-w0172181x8DF47.ashx [https://perma.cc/YBN7-ZCM7].

[55] *Id.*

[56] McKim, *supra* note 13.

[57] 50 U.S.C. § 4501, *et seq.* (2007).

[58] Codified in 16 U.S.C. § 824a (c)(2015).

A. Defense Production Act of 1950

The Defense Production Act of 1950 was enacted during the Korean War to authorize the federal government to order producers to sell strategic products to the military.[59] Its purpose was "to ensure the vitality of the domestic industrial base."[60] In essence, it allows the DOE to nationalize energy infrastructure in wartime if necessary to support the war effort. It was amended in 1980 to include energy as a "strategic and critical material."[61]

Under Section 101(a) of the Defense Production Act, the President is "authorized (1) to require that performance under contracts or orders . . . which he deems necessary or appropriate to promote the national defense shall take priority over performance under any other contract or order, and, for the purpose of assuring such priority, to require acceptance and performance of such contacts or orders in preference to other contracts or orders by any person he finds to be capable of their performance, and (2) to allocate materials, services and facilities in such manner, upon such conditions, and to such extent as he shall deem necessary or appropriate to promote the national defense."[62] Section 101(c) of the Defense Production Act, in turn, empowers the president by rule or order "to require the allocation of, or the priority performance under contracts or orders . . . relating to, materials, equipment, and services in order to maximize domestic energy supplies."[63] Before exercising such authority, the president must find that such materials, services, and facilities are "scarce, critical and essential" (1) to maintain or expand exploration, production, refining, transportation, (2) to conserve energy supplies; or (3) to construct or maintain energy facilities."[64] The president must also make the further finding that "maintenance or expansion of

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[59] CONG. RESEARCH SERV., R43767, THE DEFENSE PRODUCTION ACT OF 1950: HISTORY, AUTHORITIES, AND CONSIDERATIONS FOR CONGRESS 2 (Nov. 20, 2018).

[60] 50 U.S.C. § 4502(a)(2) (2007).

[61] It is worth noting that Declaration of Policy also includes a finding that "to further assure the adequate maintenance of the domestic industrial base, to the maximum extent possible, domestic energy supplies should be augmented through reliance on renewable energy sources (including solar, geothermal, wind, and biomass sources), more efficient energy storage and distribution technologies, and energy conservation measures." *Id.* at (a)(6).

[62] 50 U.S.C. § 4511(a) (2009).

[63] *Id.* at (c).

[64] *Id.* at (c)(2)(A).

exploration, production, refining, transportation, or conservation of energy supplies or the construction and maintenance of energy facilities cannot reasonably be accomplished without exercising [this] authority."[65]

DOE used the Defense Production Act in January 2001 during the California energy crisis.[66] DOE Secretary Bill Richardson issued a temporary emergency order requiring twenty-seven energy suppliers to provide Pacific Gas & Electric (PG&E) with natural gas after the utility claimed that six of its suppliers had either stopped or were threatening to halt deliveries because of PG&E's financial condition.[67] The order required certain existing gas suppliers to continue to sell natural gas to PG&E under the previous terms.[68] It was extended for two weeks by new DOE Secretary Spencer Abraham upon the request of then-California Governor Gray Davis.[69] Upon its expiration, there were no further extensions.[70]

B. Section 202(c) of the Federal Power Act

Section 202(c) of the Federal Power Act requires a declaration by the Secretary of Energy that "an emergency exists."[71] The statute refers to "a sudden increase in the demand for electric energy, or a shortage of electric energy or of facilities for the generation or transmission of electric energy."[72]

Section 202(c) has been used successfully eight times between 2000 and 2017, under very limited situations and circumstances:

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[65] *Id.* at (c)(2)(B).

[66] *See generally*, McKim, *supra* note 13, at 35–36; *see also* CONG. RESEARCH SERV., *supra* note 59, at 9.

[67] *See* CONG. RESEARCH SERV., *supra* note 59, at 9, n. 52.

[68] *The California Energy Crisis and Use of the Defense Production Act, Hearing Before the S. Comm. on Banking, Housing, and Urban Affairs*, 107 Cong. 215 (Feb. 9, 2001)(prepared statement of Eric J. Fygi, acting general counsel of the DOE).

[69] U.S. DEP'T OF ENERGY, TIMELINE OF EVENTS: 2001, https://www.energy.gov/management/office-management/operational-management/history/doe-history-timeline/timeline-events-4 [https://perma.cc/RB58-T353].

[70] *Id.*

[71] Codified at 16 U.S.C. § 824a (c)(1) (2015).

[72] *Id.*

- December 2000: During the California energy crisis, certain entities were required to sell energy to the California Independent System Operator (CAISO);[73]
- August 2002: The New York Independent System Operator (NYISO) and Independent System Operator of New England (ISO-NE) were authorized to require the operation of Cross Sound Cable to address an electricity shortage on Long Island;[74]
- August 2003: NYISO and ISO-NE were authorized to require the operation of Cross Sound Cable to address the widespread blackout that occurred in the Northeast;[75]
- September 2005: In response to Hurricane Katrina, CenterPoint Energy was required to connect Entergy Gulf States to serve Texas;[76]
- December 2005: Mirant was directed to operate Potomac River generating station to meet reliability standards in the District of Columbia;[77]
- September 2008: In response to Hurricane Ike, CenterPoint Energy was required to connect Entergy Gulf States to serve Texas;[78]
- April 2017: Grand River Dam Authority was authorized to operate Unit 1 at Grand River Energy Center – a generating unit not in compliance with EPA's Mercury and Air Toxic Standards (MATS) to provide reactive power;[79] and
- June 2017: Authorizing PJM to dispatch Dominion Energy Virginia's Yorktown Units 1 and 2 (non-compliant with MATS) as necessary to meet reliability needs.[80]

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[73] *Hearing Before the S. Comm. on Banking, Housing, and Urban Affairs*, *supra* note 68 (statement from Chairman Sen. Phil Gramm).

[74] U.S. DEP'T OF ENERGY, ORDER NO. 202-02-1 (Aug. 16, 2002).

[75] U.S. DEP'T OF ENERGY, ORDER NO. 202-03-1 (Aug. 14, 2003).

[76] U.S. DEP'T OF ENERGY, ORDER NO. 202-05-1 (Sept. 28, 2005).

[77] U.S. DEP'T OF ENERGY, ORDER NO. 202-05-3 (Aug. 14, 2003), at 10.

[78] U.S. DEP'T OF ENERGY, ORDER NO. 202-08-01 (Sept. 14, 2008).

[79] U.S. DEP'T OF ENERGY, ORDER NO. 202-17-1 (April 14, 2017), at 2.

[80] U.S. DEP'T OF ENERGY, ORDER NO. 202-17-2 (June 16, 2007).

C. Presence of Circumstances Justifying the Exercise of Authority

Filings and reports by the relevant authorities on the issue of reliability and resilience do not support the suggestion that an emergency exists, or that there is a basis for exercising authority under either the Defense Production Act or Section 202(c) of the Federal Power Act. For example, in a staff report to the Secretary on Electricity Markets and Reliability issued in August 2017 regarding the DOE Study on Grid Reliability, DOE staff found that the grid has become more reliable in the last fifteen years—notwithstanding coal and nuclear retirements.[81] Or, as the DOE report explained in technical terms, "at the end of 2016, the system had more dispatchable capacity capable of operating at high utilization rates than it did in 2002."[82] Similarly, in a study issued in March 2017— titled "PJM's Evolving Resource Mix and System Reliability"—PJM concluded that "the expected near-term resource portfolio is among the highest-performing portfolios and is well equipped to provide the generator reliability attributes."[83] PJM further found that while the decline in coal and nuclear generation would result in decreases in the generator reliability attributes of frequency response, reactive capability and fuel assurance, as well as flexibility and ramping attributes would increase.[84] Although operational reliability declines for portfolios with significantly increased amounts of wind and solar capacity, PJM found that it "could maintain reliability with unprecedented levels of wind and solar resources, assuming a portfolio of other resources that provides a sufficient amount of reliability services."[85] Finally, the North American Electricity Reliability Corporation (NERC) found in its State of Reliability 2018 report that the nation's bulk power system "provided an adequate level of reliability during 2017."[86]

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[81] DOE STAFF REPORT, *supra* note 6, at 68.

[82] *Id.* at 63.

[83] PJM, *PJM's Evolving Resource Mix and System Reliability* 4 (March 30, 2017), https://www.pjm.com/~/media/library/reports-notices/special-reports/20170330-pjms-evolving-resource-mix-and-system-reliability.ashx [https://perma.cc/A2DV-6FTF].

[84] *Id.* at 5.

[85] *Id.*

[86] NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION, STATE OF RELIABILITY 2018, at vi (2018), https://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/NERC_2018_SOR_06202018_Final.pdf [https://perma.cc/3YN5-PDR7].

In addition, five of the seven grid operators nationwide expressed no short- or long-term resilience concerns in their FERC docket filings addressing resilience issues and urged an approach to the resilience issue suggested by DOE.[87] The Western Electricity Coordinating Council (WECC), for example, recommended strengthening reliance on gas resources and continuing investment in more renewable energy, demand response and dual-fuel capacity.[88] The New England ISO, for its part, recommended stronger, explicit authority to keep particular plants in operation to back up the grid.[89] PJM urged the adoption of federal rules requiring gas pipelines to provide more information on their operations that affect fuel supplies for power plants.[90] With respect to the DOE Military Proposal in particular, PJM issued a statement on June 1, 2018 stating that "there is no immediate threat to system reliability" rising from planned deactivations of certain nuclear plants.[91] According to the statement, "[m]arkets have helped to establish a reliable grid with historically low prices," and "[a]ny federal intervention in the market to order customers to buy electricity from specific power plants would be damaging to the markets and therefore costly to consumers."[92]

IV. THE LIKELY IMPACT OF THE DOE MILITARY PROPOSAL, IF IMPLEMENTED

If formally proposed and implemented by DOE, the DOE Military Proposal would impose economic costs in the form of payments to coal and nuclear plant operators that would otherwise cease operating because of their high costs. It would also affect the operation of the competitive wholesale markets and potentially increase retail electricity prices, depending upon how the cost of

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[87] *Id.*

[88] Peter Behr, *Invoking National Security in the Resilience Debate*, E&E NEWS (June 27, 2018), https://www.eenews.net/energywire/stories/1060086571 [https://perma.cc/HDL6-KN7H].

[89] *Id.*

[90] *Id.*

[91] Press Release, PJM Interconnection LLC, PJM Statement on Potential Department of Energy Market Intervention (June 1, 2018), https://www.pjm.com/~/media/about-pjm/newsroom/2018-releases/20180601-pjm-statement-on-potential-doe-market-intervention.ashx [https://perma.cc/5WJ9-PQFE].

[92] *Id.*

operating these plants is recovered. These impacts are discussed in turn below.

A. Economic Costs

i. Brattle Group study

In July 2018, the Brattle Group released a study estimating the cost of the DOE Military Proposal.[93] The Brattle Group study was requested by the Advanced Energy Economy, with funding from the American Petroleum Institute, the American Wind Energy Association, the Electricity Consumers Resource Council, the Electric Power Supply Association, and the Natural Gas Supply Association.[94]

In the absence of any information regarding how the DOE would select the Subject Generation Facilities or the decision criteria that would determine eligibility, the Brattle Group study used two different approaches. The first assumed that the policy would apply to all coal and nuclear plants currently operating in the United States (235.8 GW of coal and 99.1 GW of nuclear). Assuming these units were given an out-of-market annual payment of $50 per kilowatt (kW) of capacity—roughly the average operating shortfall for plants that operate at a deficit—that would imply a direct cost of $16.7 billion dollars annually.[95] A second, less expensive and less uniform approach would attempt to tailor out-of-market payments to exactly cover estimated operating shortfalls.[96] The Brattle Group estimated that coal and nuclear plants currently experience operating shortfalls representing a total capacity between 226.6 and 297.4 GW.[97] Under this approach, annual payments would be in the range of $43 to $58 per KW and the cost of the Proposal would be between $9.7 and $17.2 billion per year.

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[93] THE BRATTLE GROUP, THE COST OF PREVENTING BASELOAD RETIREMENTS: A PRELIMINARY EXAMINATION OF THE DOE MEMORANDUM 1 (2018), https://info.aee.net/hubfs/Brattle_AEE_Final_Embargoed_7.19.18.pdf [https://perma.cc/EJZ5-MHH9].

[94] *Id.*

[95] *Id.* at 2.

[96] *Id.*

[97] *Id.*

The Brattle Group also estimated costs assuming the financial support formula under the Proposal includes a return on invested capital rather than merely covering operating deficits.[98] Under this scenario, the cost of out-of-market payments would be substantially greater—between $20 and $35 billion per year.[99]

ii. Energy Ventures Analysis study

Energy Ventures Analysis performed a separate study that was funded by the National Mining Association.[100] This study was limited to examining three large coal-fired plants operating in the PJM region (Pleasants Station, Sammis, and Bruce Mansfield). According to this study, the subsidies necessary to keeping these plants operating would cost $130 million per year.[101] If the plants ceased operating, on the other hand, "the study estimated that the cost of power in the PJM market would increase by $2.0 billion annually due to increased energy and capacity market prices."[102] The study concluded that to provide the PJM power market with the same amount of capacity and energy, merchant power generators would need to replace the three coal plants with 5,258 MW of gas-fired Combined Cycle Gas Turbines (CCGT) plants, at a capital cost of $5.7 billion.[103]

B. Impact on Operation of Wholesale Energy Markets

The DOE Military Proposal, if implemented, would cause serious distortion in highly competitive wholesale power markets by allowing continued operation of plants that are otherwise unable to compete under existing market designs. Plants that are "out of the money"—failing to clear the periodic capacity auctions in PJM for example—will typically be unable to continue operating because the gap between costs of operation and revenues from

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[98] *Id.*

[99] *Id.*

[100] ENERGY VENTURES ANALYSIS, IMPACT OF COAL PLANT RETIREMENTS ON THE U.S. POWER MARKETS – PJM INTERCONNECTION CASE STUDY 2 (2018), https://nma.org/wp-content/uploads/2018/07/EVA-Report-on-Coal-Plant-Retirements-final.pdf [https://perma.cc/8UG4-JCMW].

[101] *Id.*

[102] *Id.*

[103] *Id.*

energy sales is too great.[104] Upon their closure, the market-clearing price will typically be higher as a matter of simple economics: a reduction in supply leads to higher prices for the remaining suppliers. If the plants are able to continue operating as a result of a DOE-imposed requirement that grid operators make arrangements to purchase their output, however, market prices will be depressed. This clearly harms un-subsidized power suppliers such as natural gas-fired generators,[105] which explains the strong opposition to the DOE Military Proposal from the American Petroleum Institute, the Natural Gas Supply Association, and the American Wind Energy Association, which provided funding for the Brattle Group Study.

C. Impact on Retail Electricity Prices

If ISOs/RTOs are required to enter into contractual arrangements to keep uneconomic power plants operating, the costs need to be recovered somewhere. While the details of cost recovery are unclear, these operating costs would likely be rolled into the revenue requirement of the ISOs/RTOs, which are passed on to retail electric customers through transmission rates charged within the various wholesale regions.[106]

OBSERVATIONS & CONCLUSIONS

It is not surprising that the DOE Military Proposal has not yet been (and likely never will be) formally advanced by the Trump Administration.[107] The legal authority relied upon for the Proposal likely does not provide a lawful basis for the proposed action under existing circumstance in the electric industry.

First, there is no "grid emergency" under Section 202(c) of the Federal Power Act. Most of the studies on grid resilience and reliability conclude that there is no problem. Rather, the grid is becoming more resilient with increasingly firm natural gas

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[104] *Id.* at 6.

[105] *Id.* at 4.

[106] *See, e.g.,* Energy Ventures Analysis *supra* note 100, at 6.

[107] Hannah Northey, '*Poorly Articulated' DOE Grid Plan Stalls – Source*, E&E NEWS (Oct. 16, 2018), https://www.eenews.net/stories/1060102675 [https://perma.cc/E4Z8-DKMA].

transportation arrangements (as wholesale pipelines are completed and rules for capacity markets are toughened) and declining costs of wind, utility-scale solar and battery storage. Second, the United States is not engaged in a wartime conflict that would warrant use of the Defense Production Act.[108] Although the Executive Branch may be accorded considerable deference for its actions upon the claim of a "national security" concern, that deference is not likely to be sufficient to overcome the legal infirmities of using these relatively obscure provisions to impose a radical upending of the competitive wholesale markets in the United States.[109] The reductions in wholesale electricity prices from low-cost natural gas and competitive wind and solar resources have ultimately flowed through in retail rates to produce lower electricity prices for consumers, and FERC can be expected to resist measures that would distort these markets and imperil the economic benefits that electricity customers throughout the country are receiving.

Apart from the legal infirmities, the Proposal seems unwise as a matter of public policy. It creates clear implications as far as "picking winners and losers" in the electric industry and upsetting competitive wholesale markets that otherwise are operating well and producing benefits for consumers. Moreover, it is not clear there is adequate public support for such a major disruption on behalf of a limited subset of power providers. As noted above, nuclear plant operators are receiving subsidies through state programs given the benefits they provide in the form of zero-carbon baseload generation.[110] Renewable energy sources similarly enjoy the benefits of procurement obligations imposed under state renewable portfolio standards, due largely to the zero carbon attributes of these resources.[111] Coal plants enjoy no similar support, given their role as the largest contributor to GHG emissions of any electric generating resource.[112] As the number of miners employed in the coal industry continues to decline, the level of support from the general public can be expected to decline as

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[108] 50 U.S.C. § 4502 (2007).

[109] *Id.*

[110] *See NY Regulators*, *supra* note 27.

[111] Plumer & Popovich, *supra* note 21.

[112] EPA, Sources of Greenhouse Gas Emissions, Electricity Sector Emissions, available at https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions.

well, with the exception of coal-dependent states such as West Virginia, Kentucky and Wyoming.[113] So President Trump's promise to "bring the coal jobs back" is likely a campaign promise that will not be fulfilled, absent statutory changes that would carry the force of law in a FERC proceeding.

[113] Bill Estep, *Trump Promised to Put Coal Miners Back to Work. Kentucky has Fewer Coal Jobs Now*, LEXINGTON HERALD-LEADER (November 9, 2018), https://www.kentucky.com/news/state/article221408290.html [https://perma.cc/EL5S-FEE7].