NOTE

AFFORDABLE RENEWABLES—UNJUST AND UNREASONABLE?

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The Federal Energy Regulatory Commission (FERC)—an independent agency tasked with ensuring "just and reasonable" energy rates—has begun to use energy market payment systems to prop up fossil fuels. FERC has issued orders that prevent renewables from competing with fossil fuels by forcing renewables to bid into energy markets at artificially high rates. FERC has argued that state clean energy subsidies distort energy markets by "suppressing prices" and pushing "needed" fossil fuel generators out of the market. According to FERC, a federal intervention is necessary to protect "market integrity" and ensure that consumers can access reliable electricity.

This Note argues that FERC's interventions are neither necessary nor legal. FERC, it seems, is simply intent on counteracting state clean energy policies. This Note shows that FERC's orders lack any theoretical justification because the markets FERC has developed would retain adequate energy generators to provide reliable electricity without FERC bailing out fossil fuels. In addition, this Note shows FERC's antirenewables interventions are arbitrary and capricious in violation of the Administrative Procedures Act. FERC gave an implausible explanation for its order because it claims it is trying to resolve the issue of unjust and unreasonable rates, but its decision exacerbates that problem. FERC's order

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makes consumers pay more for electricity unnecessarily. FERC also failed to consider critical aspects of the problem, including (1) reasonable alternatives that did not involve price inflation and (2) the existence of subsidies supporting fossil fuels.

INTRODUCTION

In an order on Friday, June 29, 2018, the Federal Energy Regulatory Commission (FERC)[1] made the bold claim that the "integrity and effectiveness" of a major energy[2] market "have become untenably threatened."[3] The "threat"? State renewable subsidies. Essentially, FERC was arguing that these subsi-

[1] FERC is an independent government agency that seeks to "[a]ssist consumers in obtaining economically efficient, safe, reliable, and secure energy services at a reasonable cost through appropriate regulatory and market means, and collaborative efforts." *About FERC*, FERC, https://www.ferc.gov/about/about.asp?csrt=13345041080330469569 [https://perma.cc/4S2B-ZKN3]. For background on FERC, see *infra* subpart I.A.

[2] For simplicity's sake, this Note, like most legal and economic discourse on the subject, uses the terms *energy* and *electricity* interchangeably. It recognizes, however, that the terms have distinct scientific definitions: *energy* is the "ability to do work," while *electricity* is the "movement of charged particles through a wire or other medium." Anne Marie Helmenstine, *How Does Electrical Energy Work?*, THOUGHTCO., https://www.thoughtco.com/electrical-energy-definition-and-examples-4119325 [https://perma.cc/4ZLJ-9BYK] (last updated June 8, 2019).

[3] Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61236, at *3 (June 29, 2018).

dies have made renewable energy sources[4] too cheap too fast in the capacity market[5] managed by PJM Interconnection, LLC (PJM).[6] In response, FERC forced PJM to adopt a minimum offer price rule (MOPR) that would apply to renewable energy generators[7] receiving state subsidies.[8] The MOPR requires these generators to bid into capacity markets at a high rate.[9] This ensures that renewables do not underbid fossil fuel[10] generators, and it will effectively exclude renewables from markets that provide almost thirty percent of all generator revenue.[11]

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4 Renewable energy sources are energy sources that "can be utilized [to produce electricity] without any discernable reduction in their future availability." EISEN ET AL., ENERGY, ECONOMICS AND THE ENVIRONMENT 733 (4th ed. 2015). For example, solar energy (energy generated by the sun) is renewable because no matter how much of the sun's energy humans use, the sun will keep generating more energy that will be available for future use. *Id.* at 733–34. Other examples of renewable energy sources include wind power, hydropower, deepwater energy, biomass, and geothermal energy. *Id.* at 728. Unlike fossil fuels, most renewable resources—including solar energy, wind power, hydropower, deepwater energy, and geothermal energy—do not emit carbon dioxide while producing electricity. *Id.* at 732–46; Dan Kasper, *Renewable and Non-Renewable Energy*, PENN STATE COLLEGE OF EARTH & MINERAL SCIENCES: JOHN A. DUTTON E-EDUCATION INSTITUTE, https://www.e-education.psu.edu/emsc240/node/506 [https://perma.cc/MQB6-8EE9]. Because of this, their usage does not contribute to climate change like the usage of fossil fuels. *Benefits of Renewable Energy Use*, UNION CONCERNED SCI. (Dec. 20, 2017), https://www.ucsuse.org/resources/benefits-renewable-energy-use [https://perma.cc/N85Q-6FEB].

5 In capacity markets, energy generators sell the commitment to provide electricity on-demand in the future. *See infra* subpart I.B.

6 PJM "operates the world's largest wholesale electricity market as the regional transmission organization for the area that encompasses all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia." *Statistics at a Glance Fact Sheet*, PJM (Mar. 16, 2017), https://learn.pjm.com/-/media/about-pjm/newsroom/fact-sheets/pjms-markets-fact-sheet.ashx [https://perma.cc/KMN4-B2VG]. Regional transmissions organizations are nonprofit entities that, *inter alia*, run energy auctions. See *infra* subpart I.A. for a more detailed discussion of what regional transmissions organizations do.

7 Generators produce electricity. *See Electric Generator*, OPENEI, https://openei.org/wiki/Definition:Electric_generator#cite_note-1 [https://perma.cc/EVR2-M6QJ].

8 Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61236, at *2 (June 29, 2018).

9 *Id.*

10 Fossil fuels are fuel sources "formed from organic material over the course of millions of years," including coal, oil, and natural gas. *Fossil Fuels*, ENVTL. & ENERGY STUDY INST., https://www.eesi.org/topics/fossil-fuels/description [https://perma.cc/HVY4-EKCN]. Fossil fuels release greenhouse gases including carbon dioxide. *Id.*

11 *See, e.g.*, JOE BOWRING, 2017 STATE OF THE MARKET REPORT 42, 45, 55 (2018), https://www.pjm.com/-/media/committees-groups/committees/mc/20180322-state-of-market-report-review/20180322-2017-state-of-the-market-report-review.ashx [https://perma.cc/T8XR-Q7HC] (showing generator revenues provided by PJM's capacity market). PJM's capacity market is the nation's largest market

While FERC argues that it needs to prop up uneconomic fossil fuel[12] plants to make capacity markets function effectively, the very purpose of applying market-based principles to the electricity grid was to allow economically efficient plants to drive out costly plants.[13] By requiring Americans to pay a more expensive price for electricity unnecessarily and without a good explanation, FERC is acting arbitrarily and capriciously.

After providing background on FERC and capacity markets, this Note will compile and tabulate all the "justifications" FERC has ever given to support its decisions to require or approve of MOPRs in capacity markets. It not only analyzes FERC's reasoning in its recent order requiring a MOPR for renewables but also documents how FERC explained previous MOPRs that applied to gas-fired power plants. It turns out that FERC has offered no real justification for developing any of these MOPRs. FERC has simply stated that MOPRs are necessary to prevent "price suppression."[14] Without explaining further, it suggests that price suppression pushes "economic" resources off the market and impairs the energy grid's[15] ability to provide reliable electricity.

In Part II, subpart A, this Note will explain why FERC's so-called justification for its MOPRs is incoherent. While FERC argues that traditional generators are "economic," it has failed to establish that renewables are actually less economically competitive than fossil fuel generators, which also receive significant subsidies. Moreover, this Note shows that FERC's statements that MOPRs are necessary for reliability are incor-

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for grid capacity. Jeff St. John, *Prices Spike in PJM Capacity Auction*, GREEN TECH MEDIA (May 23, 2018), https://www.greentechmedia.com/articles/read/prices-spike-in-pjm-capacity-auction [https://perma.cc/ZP9V-ZRRN]. In 2016, PJM's capacity market had an average installed generating capacity of 162,571 megawatts (MW). Joseph E. Bowring, *The Evolution of PJM's Capacity Market*, *in* COMPETITIVE ELECTRICITY MARKETS: DESIGN, IMPLEMENTATION, PERFORMANCE 363, 365 (Fereidoon P. Sioshansi ed., 2008).

12 *See supra* note 10.

13 *See Electric Competition*, FERC, https://www.ferc.gov/industries/electric/indus-act/competition.asp [https://perma.cc/A4P2-NZY7] (noting that "[t]he Commission's core responsibility is to 'guard the consumer from exploitation by non-competitive electric power companies'" as part of a discussion on the Commission's efforts to enforce a national policy of fostering competition); *cf.* EISEN ET AL., *supra* note 4 (describing the expectations of the U.S. Energy Information Administration (EIA) that increasing competition in electric generation would result in drops of retail prices, benefiting consumers).

14 Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61236 at *46 (June 29, 2018).

15 The energy grid is "an interconnected network for delivering electricity from producers to consumers." *Electric Grid*, OPENEI, https://openei.org/wiki/Definition:Electric_grid [https://perma.cc/P766-X73L].

rect. In a capacity market, price suppression cannot displace necessary generators. This is because capacity markets, by definition, operate to compensate every generator needed to provide enough electricity to ensure reliability.[16] FERC approves determinations of how much electricity this is, so if FERC is worried about blackouts, it can simply require that capacity markets secure more electricity. The only possible defense of FERC's actions is that it wants to counteract state efforts to encourage the growth of renewables by giving favored electricity sources extra compensation.

In Part II, subpart B, this Note will argue that FERC's logic is legally unsound under the Administrative Procedure Act (APA). First, FERC gave an implausible explanation for its order because it claims it is trying to resolve the issue of unjust and unreasonable rates, but its decision exacerbates that problem. Second, FERC failed to consider important aspects of the problem it faced because it did not examine (1) reasonable alternatives that do not inflate prices and (2) the many subsidies supporting traditional resources.

As Part II, subpart C, will describe, while this may seem like a technical question about the arcane recesses of energy markets, my argument has significant implications on the United States' ability to integrate higher volumes of renewables. If FERC is correct and electricity markets cannot currently accommodate higher volumes of renewables, then environmentalists need to think about how to restructure electricity markets in order to ensure that renewables can provide a large percentage of American electricity. If, however, FERC is simply giving a handout to favored fossil fuel generators, as I will argue, then this Note will defend the current market structure against academics who have argued that a broader regulatory intervention is necessary to ensure that renewables can provide a greater share of American electricity.[17]

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16 "Reliability means fulfilling basic consumer demand for electricity, while being flexible enough to increase output during predicted peaks." *Energy Challenges: Reliability*, EDF ENERGY, https://www.edfenergy.com/future-energy/challenges/reliability [https://perma.cc/TC42-QSK8]. Part of reliability is resource adequacy—meaning that there are always enough energy resources available to meet consumer demand. Charlie Black, *Deep Dive: What Is Resource Adequacy?*, NORTHWEST CLEAN ENERGY (Mar. 10, 2016), https://northwestcleanenergy.com/2016/03/10/deep-dive-what-is-resource-adequacy/ [https://perma.cc/2G9L-DLHN].

17 *See, e.g.*, William Boyd, *Public Utility and the Low-Carbon Future*, 61 UCLA L. REV. 1614 (2014) (arguing for a broader regulatory intervention).

I
BACKGROUND

Subpart A provides a brief history of FERC's regulation of the electricity grid. Because today's energy markets are a product of FERC's restructuring of the previously uncompetitive electricity industry, this history is important to understanding these somewhat convoluted markets. This Part documents how and why FERC started to promote competition, including how FERC encouraged the development of independent system operators (ISOs)[18] and regional transmissions organizations (RTOs)[19] like PJM to manage competitive markets. This historical background sheds light on what role entities like PJM play and what relationship FERC has with these entities. Further, it sets the stage for the argument that FERC's MOPR requirement cuts against the very purpose of competitive energy markets, as articulated by FERC itself. By describing the concerns FERC focused on when restructuring the electricity industry, this Part also illuminates what traits of the energy grid—particularly, reliability and low costs for consumers—FERC views as indicators of "just and reasonable"[20] rates. This is important to

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18 *See* text accompanying *infra* note 47.

19 *See* text accompanying *infra* notes 48–49.

20 Environmental Defense Fund attorney Michael Panfil defines *just and reasonable* for lay readers as "as affordable as possible while maintaining reliability." Michael Panfil, *What Will FERC Do in Wake of Increasingly Affordable Electricity Prices?*, ENVTL. DEFENSE FUND (June 22, 2017), http://blogs.edf.org/energyexchange/2017/06/22/what-will-ferc-do-in-wake-of-increasingly-affordable-electricity-prices/ [https://perma.cc/RTB4-A467]. Neither Congress nor courts have provided a precise, generally applicable definition of *just and reasonable*, but Panfil's definition aligns with how FERC has historically justified its decisions, as subpart A will illuminate. *See* Steve N. Isser, *Just and Reasonable: The Cornerstone of Energy Regulation* 5–6, 38–39 (Energy Law & Econ. Working Paper 2015-1, June 30, 2015), https://ssrn.com/abstract=2625131 [https://perma.cc/2RS3-CSKQ] (noting that the FPA does not define *just and reasonable*, the FPA's legislative history does not shed light on the phrase's meaning, and different Supreme Courts have interpreted the phrase differently and given FERC considerable discretion in applying it); Morgan Stanley Capital Grp. Inc. v. Pub. Util. Dist. No. 1, 554 U.S. 527, 532 (2008) ("The statutory requirement that rates be 'just and reasonable' is obviously incapable of precise judicial definition, and we afford great deference to the Commission in its rate decisions."); *see also infra* Analysis subpart II.A; *cf.* Bruce Campbell, *Energy Policy 101*, CPOWER KNOWLEDGE (Dec. 12, 2016), https://cpowerenergymanagement.com/energy-policy-101-movement-electrons-regulated/ [https://perma.cc/HM58-XNXR] ("While ostensibly the 'just and reasonable' standard may include cost considerations, FERC, like PJM and other RTOs, also has a bias toward reliability and often will accept the RTO filing regardless of cost implications."); LAWRENCE R. GREENFIELD, AN OVERVIEW OF THE FEDERAL ENERGY REGULATORY COMMISSION AND FEDERAL REGULATION OF PUBLIC UTILITIES 28, 34, 40 (May 2017), https://www.ferc.gov/about/ferc-does/ferc101.pdf [https://perma.cc/TA55-DPZ5] (ambiguously defining *just and reasonable* as "cost-justified" and "market-justified"). Whether FERC *should* consider reliability

understanding FERC's justifications—or lack thereof—for its MOPRs.

Subpart B describes how ISOs and RTOs created capacity markets to address reliability concerns. Through its description of how capacity markets work, it provides background for the argument that capacity markets ensure reliability—without FERC intervening and establishing MOPRs.

Subpart C describes how "price suppression" can occur in capacity markets and how FERC has attempted to combat price suppression by ordering ISOs and RTOs to establish MOPRs. It demonstrates how FERC views price suppression as an economic efficiency and reliability problem yet has never truly justified this viewpoint. Lastly, it tabulates every MOPR that FERC has ever approved of or demanded an ISO or RTO to implement, as well as FERC's "justification" for each MOPR.

A. History of FERC's Regulation of the Electricity Grid

Section 205 of the Federal Power Act (FPA) gives FERC[21] responsibility for ensuring, *inter alia*, that "[a]ll rates and charges made, demanded, or received by any public utility for or in connection with the transmission or sale of electric energy subject to the jurisdiction of the Commission[22] . . . [are] just and reasonable."[23] Section 206 of the FPA empowers FERC to, *inter alia*, initiate proceedings to correct any such "rate, charge, or classification . . . or rule, regulation, practice, or contract affecting such rate, charge, or classification [that it finds] unjust [or] unreasonable."[24] This statutory mandate has not

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concerns in evaluating whether rates are just and reasonable is a different question, and some argue that it should not. *See generally* Constellation Mystic Power, LLC, 165 FERC ¶ 61267 (Glick, Comm'r, dissenting) (arguing against FERC's use of its ratemaking authority to address fuel security concerns); Joshua C. Macey, *Rate Regulation Redux* (forthcoming) (on file with author). However, for the purposes of this Note, we will assume that FERC has correctly interpreted the meaning of *just and reasonable* in its statutory mandate and ask whether, even so, FERC acted arbitrarily and capriciously in its MOPR decisions.

21 The FPA, passed in 1935, originally vested this responsibility in the Federal Power Commission (FPC), FERC's predecessor. In 1977, Congress restructured the FPC into FERC. *History of FERC*, FERC: STUDENTS CORNER, https://www.ferc.gov/students/ferc/history.asp [https://perma.cc/MYM6-C2JW].

22 FERC has jurisdiction over wholesale rates, while states have jurisdiction over retail rates. 16 U.S.C. § 824(b) (2012) (describing the FPA's applicability to "the sale of electric energy at wholesale in interstate commerce" but not to "any other sale of electric energy"); FERC v. Elec. Power Supply Ass'n, 136 S. Ct. 760 (2016) ("But the law places beyond FERC's power, and leaves to the States alone, the regulation of 'any other sale'—most notably, any retail sale—of electricity."). A wholesale sale is a sale for resale. 16 U.S.C. § 824(d).

23 16 U.S.C. § 824d(a).

24 *Id.* § 824e(a).

changed since Congress passed the FPA in 1935; it has always vested in FERC a duty to protect consumers from energy companies overcharging for their services.[25] However, the agency's understanding of what exactly a "just and reasonable" rate entails has evolved over time as FERC has begun to consider new, interconnected goals such as increasing competition and reliability.[26]

In the wake of the FPA's passage, public utilities[27] owned *all* the electricity generation,[28] transmission,[29] and distribution[30] services in their respective service areas—essentially, utilities had regional energy monopolies.[31] FERC's predecessor, the FPC,[32] and later FERC itself, prevented utilities from

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25 *About FERC*, *supra* note 1; Lynn Hargis, *The Federal Power Act*, CITIZEN, https://www.citizen.org/sites/default/files/federal_power_act_factsheet.pdf [https://perma.cc/35CU-P5KH] ("The Federal Power Act [was] passed to protect consumers from excessive wholesale electricity rates.").

26 *See* Order No. 2000, Regional Transmission Organizations, 89 FERC ¶ 61,285, at *18 (1999) (to be codified at 18 C.F.R. pt. 35) [hereinafter Order No. 2000] ("The transition to new market structures has resulted in new challenges and circumstances.").

27 A public utility is "[a]ny organization which provides services to the general public, although it may be privately owned." *Public Utility*, WEX LEGAL DICTIONARY, https://www.law.cornell.edu/wex/public_utility [https://perma.cc/Q86T-7ZB5] (also noting that "[p]ublic utilities are allowed certain monopoly rights because of the practical need to service entire geographic areas with one system, but they are regulated").

28 FERC defines *generation* as "[t]he act of producing electrical energy from other forms of energy (such as thermal, mechanical, chemical or nuclear)." *Generation*, FERC GLOSSARY, https://www.ferc.gov/resources/glossary.asp [https://perma.cc/382R-VG9H] (last updated Mar. 15, 2016).

29 FERC defines *transmission* as "[m]oving bulk energy products from where they are produced or generated to distribution lines that carry the energy products to consumers." *Transmission*, FERC GLOSSARY, https://www.ferc.gov/resources/glossary.asp [https://perma.cc/382R-VG9H] (last updated Mar. 15, 2016).

30 FERC defines electric *distribution* as "the act of distributing electric power using low voltage transmission lines that deliver power to retail customers." *Distribution*, FERC GLOSSARY, https://www.ferc.gov/resources/glossary.asp [https://perma.cc/382R-VG9H] (last updated Mar. 15, 2016).

31 *See* EISEN ET AL., *supra* note 4, at 458. During this time period, regulators viewed electricity generation, transmission, and distribution as natural monopolies, meaning that they thought it was most efficient for each geographical market to have only one vertically integrated utility providing all these services. *See id.* Because, in any given region, the same utility would build and operate generation and transmission, the utility would simply transmit the electricity produced by its own generators instead of purchasing energy from other energy generators. *Id.* Due to this absence of competition, FERC regulated the prices utilities could charge, establishing rates based on the actual costs incurred by the utilities in providing service through a process called cost-of-service regulation. New York v. FERC, 535 U.S. 1, 5 (2002); Hon. Richard D. Cudahy, *PURPA: The Intersection of Competition and Regulatory Policy*, 16 ENERGY L.J. 419, 422 (1995).

32 *See supra* note 20.

using their monopoly power to charge inflated electricity prices by requiring them to charge just and reasonable rates determined by the Commission in ratemaking proceedings.[33] FERC[34] calculated just and reasonable rates for these utilities by determining what price would cover the actual costs a utility incurred in providing services and allow the utility to earn a reasonable profit.[35]

However, starting in the late 1970s, Congress and FERC started to restructure the electric utility industry.[36] Through both its implementation of the Public Utility Regulatory Policies Act of 1978[37] and its own initiatives, FERC paved the way for new generators to compete with utilities.[38] FERC increasingly viewed competition as a means of producing just and reasonable rates because it can ensure that consumers pay low costs without sacrificing reliability, pushing out unneeded, uneconomic generators.[39] FERC started allowing certain generators

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33 This system is called cost-of-service regulation. *See* EISEN ET AL., *supra* note 4, at 455–500; Order Terminating Rulemaking Proceeding, Initiating New Proceedings, and Establishing Additional Procedures, 162 FERC ¶ 61,012, at *4 (2018).

34 State public utilities have also played this role.

35 This calculation did not take into consideration market forces such as supply and demand.

36 *See* EISEN ET AL., *supra* note 4, at 626–27, 630; *Electric Competition*, *supra* note 13; Order Terminating Rulemaking Proceeding, Initiating New Proceeding, and Establishing Additional Procedures (Jan. 8, 2018), at 3, https://www.ferc.gov/CalendarFiles/20180108161614-RM18-1-000.pdf [https://perma.cc/SQZ3-RAUR].

37 16 U.S.C. §§ 2601–45.

38 In 1978, Congress enacted the Public Utilities Regulatory Policies Act, which facilitated competition by requiring utilities to buy or sell electricity from cogenerators or small power producers seeking to enter the market, as long as doing so is economically feasible for the utilities. 16 U.S.C. § 824a-3; *see also* Cudahy, *supra* note 31, at 422 (noting that "the statute contained measures that encouraged cogeneration and facilitated the entry of renewable energy sources into the market"); EISEN ET AL., *supra* note 4, at 631. FERC defines a *cogenerator* as "[a] generating facility that produces electricity and another form of useful thermal energy (such as heat or steam), that is used for industrial, commercial, heating, or cooling purposes." *Cogenerator*, FERC GLOSSARY, https://www.ferc.gov/resources/glossary.asp [https://perma.cc/382R-VG9H] (last updated Mar. 15, 2016). A small power producer is a renewable energy facility with a small generation capacity. Cudahy, *supra* note 31, at 422; *see also* EISEN ET AL., *supra* note 4, at 631. As more new generators without monopoly power entered the market, FERC began to consider basing rates on market forces instead of a price determined by regulators based on cost of service. EISEN ET AL., *supra* note 4, at 633.

39 *See* Order No. 2000, *supra* note 26, at *3 (noting that "[c]ompetition in wholesale electricity markets is the best way to protect the public interest and ensure that electricity customers pay the least price possible for reliable service" in an order promoting competitive market structures pursuant to FERC's Section 205 authority to ensure just and reasonable rates, *inter alia*); Elizabethtown Gas Co. v. FERC, 10 F.3d 866, 870 (D.C. Cir. 1993) ("[W]e have indicated that when

without market power[40] to negotiate their own rates with purchasers and presumed that the negotiated rates were just and reasonable.[41]

However, these generators faced an obstacle to transmitting their electricity—transmission lines were still controlled by public utilities that owned their own competing generation facilities—so Congress increased FERC's jurisdiction over transmission through the federal Energy Policy Act of 1992.[42] With its expanded authority, FERC issued Order No. 888, requiring public utilities to offer competing generators the same access to their transmission services that they afford their own generators.[43] Under Order No. 888, each utility must file an "open

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there is a competitive market the FERC may rely upon market-based prices in lieu of cost-of-service regulation to assure a just and reasonable' result."); Tejas Power Corp. v. FERC, 908 F.2d 998, 1004 (D.C. Cir. 1990) ("In a competitive market, where neither buyer nor seller has significant market power, it is rational to assume that the terms of their voluntary exchange are reasonable, and specifically to infer that the price is close to marginal cost, such that the seller makes only a normal return on its investment"); *Electric Competition*, *supra* note 13 (describing competition as FERC's current primary approach to its "core responsibility" of "guard[ing] the customer from exploitation by non-competitive electric power companies"); EISEN ET AL., *supra* note 4, at 630 (describing how FERC embraced competition "as a way to improve economic efficiency"); *cf.* 16 U.S.C. § 2601 (describing the Public Utilities Regulatory Policy Act as "a program to improve . . . the reliability of electric service," *inter alia*).

40 Market power is "the ability of a firm to set prices above competitive rates." EISEN ET AL., *supra* note 4, at 507.

41 *See* Dartmouth Power Assoc. Ltd. P'ship, 53 FERC ¶ 61,117 (1990); EISEN ET AL., *supra* note 4, at 507. These negotiated rates are called market-based rates. EISEN ET AL., *supra* note 4, at 507. To obtain authorization to charge market-based rates, a utility must submit a filing to FERC under Section 205 of the FPA demonstrating that the utility does not have market power. *What Do I Include in My Application? What Requirements Apply?*, FERC, https://www.ferc.gov/industries/electric/gen-info/mbr/filings/initial-applications/what-to-include.asp [https://perma.cc/TVK7-HJKQ] (last updated Nov. 15, 2017). Utilities charging market-based rates do not have to undergo ratemaking proceedings.

42 *See* Order No. 888, 75 FERC ¶ 61,080 (1996), App. G, https://www.ferc.gov/legal/maj-ord-reg/land-docs/rm95-8-0ad.txt [https://perma.cc/RVE4-D567] (containing FERC's analysis concluding that the Act gave it jurisdiction over "the rates, terms and conditions of the unbundled transmission in interstate commerce, by a public utility, of electric energy to an end user"). Following EPAct 1992, FERC used this authority in multiple decisions. *See, e.g.*, Fla. Mun. Power Agency, 65 FERC ¶ 61,125 (1993) (ruling on transmission service agreements).

43 *See* EISEN ET AL., *supra* note 4, at 642; *see generally* Order No. 888, *supra* note 42 (requiring public utilities to offer competing generators the same access to their transmission services that they afford their own generators).

access[44] transmission tariff"[45] that FERC can approve or deny, and this tariff must contain the minimum terms and conditions of the utility's transmission service, including the transmission rates.[46]

In Order No. 888, FERC not only required utilities to give competitors access to their transmission lines but also mandated "functional unbundling"—essentially requiring a degree of separation between a utility's generation and transmission services.[47] FERC suggested that groups of utilities achieve functional unbundling by forming nonprofit, third-party regional entities called Independent System Operators (ISOs) to manage their transmission lines.[48] ISOs—and Regional Transmissions Organizations (RTOs),[49] which are essentially equivalent organizations meeting updated standards FERC promulgated in Order No. 2000[50]—make decisions about what generators can use transmission lines at what times by manag-

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44 In general, *open access* "refers to FERC fostering competition and transparency." *Open Access Podcast Description*, FED. ENERGY REG. COMM'N, https://itunes.apple.com/us/podcast/open-access/id1202943507?mt=2 [https://perma.cc/JBC7-2X4W] (downloaded using iTunes).

45 Here, *tariff* means "a statement of (1) electric service . . . offered on a generally applicable basis, (2) rates and charges for or in connection with that service, and (3) all classifications, practices, rules, or regulations which in any manner affect or relate to the aforementioned service, rates, and charges." 18 C.F.R. § 35.2(c)(1) (2018).

46 EISEN ET AL., *supra* note 4, at 650; Order No. 888, *supra* note 42, at 777. Order No. 888 provided utilities with a *pro forma* open access transmission tariff (OATT) containing the non-price terms and conditions that OATTs should include, and later orders amended the *pro forma* OATT. *Open Access Transmission Tariff (OATT) Reform*, FERC, https://www.ferc.gov/industries/electric/indus-act/oatt-reform.asp [https://perma.cc/A6TN-BJ7H] (last updated Sept. 25, 2018); *see generally Pro Forma OATT*, FERC, https://www.ferc.gov/industries/electric/indus-act/oatt-reform/pro-forma-OATT.pdf?csrt=17238740116495828819 [https://perma.cc/X3Q7-UHZ2] (last updated July 18, 2013).

47 *Functional unbundling* means that (1) the utility's generators must pay the same rate for transmission as other generators, (2) the utility must set separate rates for generation and transmission, and (3) the utility's generators cannot receive insider information on the utility's transmission services. Order No. 888, *supra* note 42, at 57.

48 *Id.* at 279, 283 (noting that "we wish to encourage the formation of properly-structured ISOs" and "[a]n ISO is an operator of a designated set of transmission facilities"). Generally, utilities that form an ISO still own and have fiduciary interests in their respective transmission lines, but they allow the ISO to make all decisions regarding the transmission lines' operation. *Id.* at 281. The operational functions performed by ISOs include the "determination of appropriate system expansions, transmission maintenance, administering transmission contracts, operation of a settlements system, and operation of an energy auction." *Id.* at 284.

49 PJM is an RTO. *Statistics at a Glance Fact Sheet, supra* note 6.

50 Order No. 2000, *supra* note 26. One notable distinction between Order No. 888 and Order No. 2000 is the requirement that RTOs span multiple states. EISEN ET AL., *supra* note 4, at 656.

ing regional energy markets spanning the service areas of multiple utilities.[51] Generators and wholesale purchasers called Load Serving Entities (LSEs)[52] participate in these markets.[53] In the typical energy market managed by an ISO or RTO, each generator submits a bid stating what amount of energy it can provide at what price, and each LSE submits a bid stating how much energy it needs to satisfy consumer demand.[54] ISOs and RTOs then accept the lowest-cost combination of bids from generators that can meet the LSEs' demands.[55]

ISOs and RTOs are subject to FERC oversight and must submit tariffs[56] describing the rules governing their transmission and market services.[57] Using its FPA Section 205 authority, FERC reviews tariff filings, issues orders approving or approving in part tariffs that it finds to be just and reasonable, and rejects or suspends the effectiveness of tariffs it finds unjust and unreasonable.[58] If an ISO or RTO seeks to modify its tariff, it must again submit a filing describing its proposed revisions to FERC, which FERC can similarly approve in whole or part, reject, or suspend under Section 205.[59] If FERC finds that a tariff or tariff revisions are unjust and unreasonable, it can further act under Section 206 of the FPA to initiate a proceeding to determine what changes would make the tariff just and reasonable.[60] If third parties—such as market partici-

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51 EISEN ET AL., *supra* note 4, at 652; Order No. 888, *supra* note 42 (noting that the ISO should schedule).

52 FERC defines *load-serving entity* as "[a]ny entity, including a load aggregator or power marketer, that serves end-users within a control area and has been granted the authority or has an obligation pursuant to state or local law, regulation, or franchise to sell electric energy to end-users located within the control area." *Load-Serving Entity (LSE)*, FERC GLOSSARY, https://www.ferc.gov/market-assessments/guide/glossary.asp [https://perma.cc/KS28-MZLE] (last updated Mar. 15, 2016). Essentially, LSEs are purchasers of energy in wholesale markets that sell energy to end-use consumers. EISEN ET AL., *supra* note 4, at 652.

53 EISEN ET AL., *supra* note 4, at 652.

54 *Id.*

55 *Id.*

56 See *supra* note 45 for the definition of *tariff*.

57 *See Energy Policy 101*, *supra* note 20; *e.g.*, *Transmission, Markets, and Service Tariff*, ISO NEW ENGLAND, https://www.iso-ne.com/participate/rules-procedures/tariff [https://perma.cc/5VX3-LTSU].

58 *See* GREENFIELD, *supra* note 20, at 28, 34, 40.

59 *Id.*

60 *E.g.*, Joseph W. Lowell et al., *FERC Order on Subsidized Generation Could Remake PJM Capacity Market*, MORGAN LEWIS: POWER & PIPES BLOG (July 11, 2018), https://www.morganlewis.com/blogs/powerandpipes/2018/07/ferc-order-on-subsidized-generation-could-remake-pjm-capacity-market/ [https://perma.cc/7BWY-GRL8]. Under Section 206 of the FPA, FERC can initiate a proceeding on its own or in response to a complaint to ensure that rates are just and reasonable. 16 U.S.C. § 824e (2012).

pants—believe an RTO's or ISO's tariff is unjust and unreasonable, they can also file a complaint against an RTO or ISO requesting that FERC modify the RTO or ISO's tariff under Section 206.[61] Third-party complaints often motivate ISOs and RTOs to submit proposed tariff revisions, and FERC will frequently consider the complaints together with the tariff revisions when deciding what actions to take.[62]

FERC tasked ISOs and RTOs with maintaining the reliability of their electricity grids and has demonstrated that it views reliability, along with cost concerns, as relevant to whether these entities' tariffs are just and reasonable.[63] Through the Energy Policy Act of 2005,[64] Congress echoed FERC's concerns about reliability by adding Section 215 to the FPA.[65] Section 215 gave FERC the authority to certify an electric reliability organization to establish and enforce mandatory reliability standards, subject to FERC review.[66] FERC certified the North American Electric Reliability Corporation (NERC) and has since approved over 100 mandatory reliability standards developed by NERC.[67]

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61 GREENFIELD, *supra* note 20, at 40.

62 Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61236, at *9 (June 29, 2018).

63 *See* Order No. 2000, *supra* note 26, at 21 (noting that "ISOs are significant institutions to assure both electric system reliability and competitive generation markets" and that "RTOs would improve grid reliability"); *see also* Order No. 888, *supra* note 42, at 282 (stating that "ISOs should be responsible for ensuring that services . . . can be provided reliably"); Hughes v. Talen Energy Mktg., LLC, 136 S. Ct. 1288, 1292 (2016) ("To ensure reliable transmission of electricity from independent generators to LSEs, FERC has charged nonprofit entities, called Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs), with managing certain segments of the electricity grid."); PJM Interconnection, L.L.C., 117 FERC ¶ 61331, 62652 (Dec. 22, 2006) (beginning a decision about a RTO's tariff by stating, "As the energy needs of participants in competitive markets subject to our jurisdiction continue to grow, the Commission must ensure just and reasonable rates by requiring that the energy supply continues to meet these growing needs."). FERC also considers whether an ISO or RTO's rules promote "efficiency in the marketplace." Order No. 888, *supra* note 42, at 283; *cf.* Order No. 2000, *supra* note 26, at 1 ("The Commission's goal is to promote efficiency in wholesale electricity markets . . . .").

64 42 U.S.C. §§ 15801–16538.

65 FERC, RELIABILITY PRIMER 5 (2016), https://www.ferc.gov/legal/staff-reports/2016/reliability-primer.pdf [https://perma.cc/9N56-6C38].

66 16 U.S.C. § 824o.

67 FERC, *supra* note 65, at 6.

B. Capacity Markets

To meet FERC's requirement that they ensure reliability,[68] some ISOs and RTOs manage not only energy markets[69] but also capacity markets.[70] Electric capacity is the amount of electricity a resource can provide on-demand when the grid needs extra energy to prevent consumers from losing power[71] due to generator outages, demand spikes, or other forms of system stress.[72] A resource selling capacity is selling the commitment to make a certain amount of power available for on-demand use[73] during a specified time period, usually a year (the "commitment period").[74]

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68 Capacity markets address the issue of resource adequacy, an important part of reliability. CHARLES RIVER ASSOCIATES, A CASE STUDY IN CAPACITY MARKET DESIGN AND CONSIDERATIONS FOR ALBERTA 8 (2017), https://www.aeso.ca/assets/Uploads/CRA-AESO-Capacity-Market-Design-Report-03302017-P1.pdf [https://perma.cc/P82U-8YPR]. Resource adequacy means that there is enough available energy to satisfy demand at all times. *Id.*

69 Through energy markets, load serving entities (LSEs) buy energy wholesale and resell that energy to consumers at retail prices. Adam James, *Explainer: How Capacity Markets Work*, ENERGY NEWS NETWORK (June 17, 2013), https://energynews.us/2013/06/17/midwest/explainer-how-capacity-markets-work/ [https://perma.cc/2QCG-5FRP].

70 *See* William W. Hogan, *Electricity Market Design Energy and Capacity Markets and Resource Adequacy* (Sept. 1, 2015), https://sites.hks.harvard.edu/fs/whogan/Hogan_EUCI_090115.pdf [https://perma.cc/T7N3-GCPV].

71 Most U.S. electricity consumers expect to have power whenever they need it, so power outages result in public outcry. *E.g.*, Emily Alpert Reyes et al., *Hundreds of Customers Are Still Without Power as Hot and Angry Angelenos Fume at the DWP*, L.A. TIMES (July 19, 2018, 5:55 PM), https://www.latimes.com/local/lanow/la-me-dwp-power-out-20180709-story.html [https://perma.cc/AM96-4FNR] (describing the anger of a homeowner who had to spend two nights in hotel "worrying about the food and the frozen breast milk spoiling in her fridge" and a storeowner who lost frozen and refrigerated inventory as a result of power outages).

72 *See, e.g.*, Connecticut DPUC v. FERC, 569 F.3d 477, 479 (D.C. Cir. 2009) (defining capacity not as "electricity itself" but as the "ability to produce it when necessary"); *Capacity Market (RPM)*, PJM, https://learn.pjm.com/three-priorities/buying-and-selling-energy/capacity-markets.aspx [https://perma.cc/SW7L-YDN2]; James, *supra* note 69. In a reliable system, there will usually be idle capacity, but all capacity may be used during peak demand.

Other causes of power outages include wildlife, storms, tree limbs, vehicles, and construction equipment damaging electrical equipment. *What Causes Power Outages?*, WESTAR ENERGY, https://www.westarenergy.com/outage-causes [https://perma.cc/WKT9-S8PD]; Mike Jacobs, *13 of the Largest Power Outages in History—and What They Tell Us About the 2003 Northeast Blackout*, UNION OF CONCERNED SCIENTISTS (Aug. 8, 2013), https://blog.ucsusa.org/mike-jacobs/2003-northeast-blackout-and-13-of-the-largest-power-outages-in-history-199 [https://perma.cc/325R-9LZX].

73 This means that a generation resource will make sure it has generators connected to the grid that are not in full use but can start operating when needed. A generation resource may build additional generators or upgrade existing generators to expand how much capacity it can provide.

74 CHARLES RIVER ASSOCIATES, *supra* note 68, at 13.

An ISO or RTO operating a capacity market (hereinafter, "the grid operator") forecasts what peak demand[75] will be for LSEs during a commitment period occurring a certain number of months or years in the future.[76] To ensure that LSEs have enough capacity available to reliably provide electricity to their customers during peak demand even if the grid experiences unexpected stresses,[77] the grid operator mandates that LSEs meet capacity requirements.[78] An LSE's capacity requirement reflects how much capacity would cover its forecasted peak demand plus a "reserve margin," an extra amount of power meant to ensure that enough energy is available during worst-case conditions.[79] In U.S. capacity markets, the reserve margin is calculated to prevent outages from occurring more than 0.1 days/year, based on the "one day in ten years" Loss of (Firm) Load Expectation required in NERC's Reliability Standards.[80]

The grid operator actively ensures that the LSEs in its market meet their capacity requirements by securing capacity for the LSEs through capacity auctions.[81] This paragraph will explain how capacity auctions work, and the following paragraph will provide a clarifying example. At the onset of each auction,

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75 *Peak demand* is "the amount of power required to supply customers at times when need is greatest." *Peak Load, Peak Demand*, ENERGY.GOV, https://www.energy.gov/oe/activities/technology-development/energy-storage [https://perma.cc/HGZ4-5D3W]. System operators account for expected load growth (growth in energy demand) when calculating peak demand. U.S. DEP'T OF ENERGY, MAINTAINING RELIABILITY IN THE MODERN POWER SYSTEM 7 (2016), https://www.energy.gov/sites/prod/files/2017/01/f34/Maintaining%20Reliability%20in%20the%20Modern%20Power%20System.pdf [https://perma.cc/8W7B-KCZP].

76 This number of months or years is called the "forward period." James, *supra* note 69. The forward period is generally long enough to allow generation resources to invest in building new capacity (i.e., three years). *Id.*

77 I.e., generator outages.

78 SALLY HUNT, MAKING COMPETITION WORK IN ELECTRICITY (2002), http://regulationbodyofknowledge.org/wp-content/uploads/2013/03/Hunt_Making_Competition_Work.pdf [https://perma.cc/4AM8-FEGB].

79 The capacity requirement is calculated using the following formula: (*forecasted peak demand*) · (1 + *X*), where *X* is "a reserve margin, sufficient to meet some preplanned level of reliability to cope with random generator outages and so on that might otherwise cause customer outages if they occur at peak times." HUNT, *supra* note 78, at 166. The reserve margin is usually between 15 and 20 percent of expected peak load. Joseph Bowring, *Capacity Markets in PJM*, 2 ECON. ENERGY & ENVTL. POL'Y 47, 49 (2013).

80 NERC, *Planning Resource Adequacy Analysis, Assessment and Documentation*, https://www.nerc.com/files/BAL-502-RFC-02.pdf [https://perma.cc/BG99-CEP8]; CHARLES RIVER ASSOCIATES, *supra* note 68.

81 PJM, RPM 101: OVERVIEW OF RELIABILITY PRICING MODEL (2017), https://www.pjm.com/-/media/training/nerc-certifications/markets-exam-materials/rpm/rpm-101-overview-of-reliability-pricing-model.ashx?la=EN [https://perma.cc/X26Y-DL2F].

the operator sets a "demand curve" that shows how much capacity the LSEs need and what the highest price is that the grid operator would pay for that amount of capacity ("the price ceiling").[82] Much like in energy markets, generators then bid into the auction, making offers specifying how much capacity they can provide at what price.[83] The grid operator then selects the lowest-cost combination of generators that can satisfy the LSEs' capacity requirements.[84] The operator sets a clearing price equal to the bid of the most expensive generator selected ("the marginal generator"), as long as this bid does not exceed the price ceiling indicated on the demand curve.[85]

Consider an example in which the grid operator needs to obtain 350 megawatts (MW) of capacity.[86] If Generator A offers 100 MW at $50/MW, Generator B offers 50 MW at $10/MW, Generator C offers 200 MW at $100/MW, and Generator D offers 200 MW at $40/MW, the grid operator can obtain enough capacity by accepting the bids of Generators A, B, and D. It does not need to accept the more expensive bid of Generator C. Thus, the grid operator will set a clearing price equal to Generator A's bid of $50—because Generator A is the marginal generator—and will pay Generators A, B, and D each $50 and Generator C nothing.

This example shows the dilemma generators face: they want to extend high offers so that the grid operator sets a high clearing price, but if they bid *too* high, they risk getting paid nothing like Generator C. Typically, generators react to this dilemma by bidding in at the lowest price at which they can operate without incurring an economic loss.[87] This price generally equals a generator's operating cost[88]—the amount of

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82 This is a simplified description. Different capacity markets have different types of curves, but the *x-axis* is always quantity (Q), and the *y-axis* is always price (P). David Patton, *Why Do Capacity Markets Exist?*, POTOMAC ECON. (Oct. 4, 2017), https://www.potomaceconomics.com/capacity/why-do-capacity-markets-exist/ [https://perma.cc/AF6T-QUMQ]. PJM has a Variable Resource Requirement (VRR) curve. *Id.* This curve is horizontal at P = the Cost of New Entry (CONE) from Q = 0 to Q = the capacity requirement. *Id.* This is because the grid operator is not willing to pay more for existing resources to provide capacity than the cost it would take to build a new generation resource that could provide capacity (CONE). *Id.* The curve then slopes downward because once the grid operator pays for the capacity needed to satisfy the LSEs' capacity requirements, the grid operator is not willing to pay as much for additional capacity. *Id.*

83 James, *supra* note 69.

84 *Id.*

85 PJM, *supra* note 81.

86 The numbers in this example are not realistic but are used to provide a simple example.

87 James, *supra* note 69.

88 *Id.*

money it takes to keep the generator running and producing energy, including labor, maintenance, and fuel costs.[89] However, new generators that have not yet paid off their capital investments generally bid in at a price including their capital costs, which reflect how much money they spent building their facilities.[90]

C. Price Suppression and FERC's Response: A Survey of MOPRs

If new generators can offer prices below the capacity market's previous clearing price, the system operator may no longer need the previous marginal generator, resulting in a drop in the clearing price. Consider the following example: if two new generators, Generator X and Generator Y, respectively offer 60 MW at $0/MW and 40 MW at $10/MW in the previously described capacity market, the clearing price would drop because the system operator could use Generator X and Generator Y—instead of the more expensive Generator A—to fulfill the 100 MW need. The marginal generator would now be Generator D, so the system operator would pay each generator on the market $40/MW instead of $50/MW. This effect can occur any time additional generators offer a significant amount of capacity below the previous clearing price. Sometimes, new generators can bid in at low rates not only because they have low operating costs or capital expenditures but also because they have sources of financial support outside of the capacity market. When this happens and results in the clearing price dropping, FERC says that "price suppression" has occurred.[91] Energy generators with high operating costs such as coal complain that price suppression prevents them from clearing capacity markets.[92] Because they rely on revenue from capacity markets, their failure to clear forces them out of business.[93]

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89 Seth Blumsack, *Basic Economics of Power Generation, Transmission and Distribution*, PA. ST. U., https://www.e-education.psu.edu/eme801/node/530 [https://perma.cc/6HDT-NPMY].

90 *Id.* Capital costs include regulatory costs, such as the costs of siting permits and design to comply with environmental regulations. *Id.*

91 Robbie Orvis & Mike O'Boyle, *It's Time to Refine How We Talk About Wholesale Markets*, GREENTECH MEDIA (Feb. 12, 2018), https://www.greentechmedia.com/articles/read/its-time-to-refine-how-we-talk-about-wholesale-markets#gs.PxkCHqc [https://perma.cc/GS2W-7436].

92 *E.g.*, Benjamin Storrow, *Trump's "Affordable Clean Energy" Plan Won't Save Coal*, SCI. AM. (Aug. 21, 2018), https://www.scientificamerican.com/article/trumps-affordable-clean-energy-plan-wont-save-coal/ [https://perma.cc/8UM3-9F4L].

93 *Id.*

Low bids from renewables and natural gas have begun to drive coal and nuclear power plants out of business in PJM.[94] With FERC's approval, PJM has instituted a series of minimum offer price rules (MOPRs) to try to make the clearing price higher based on the assumption that price suppression causes needed economic resources to leave the market, impairing reliability.[95] MOPRs force certain resources to bid at or above certain price floors meant to reflect their true operating costs.[96] This subpart will (1) detail the evolution of PJM's MOPR and FERC's role in its development and (2) tabulate how FERC has justified all its decisions requiring or approving the creation of MOPRs in capacity markets.[97]

On August 31, 2005, PJM filed a tariff under Section 205 of the FPA proposing revisions to its capacity market structure, arguing that its existing capacity market rules were unjust and unreasonable, in violation of the FPA.[98] In an order on April 20, 2006, FERC agreed with PJM that its "existing market rules [we]re unjust and unreasonable, because they fail[ed] to set prices adequate to ensure sufficient resources [to provide electricity reliably]."[99] However, rather than approving PJM's proposed revisions to its tariff (which did not include a MOPR), FERC encouraged PJM to negotiate with its market participants to come up with a new, more comprehensive tariff proposal.[100] On December 22, 2006, FERC issued an order approving the new tariff (the "2006 MOPR Order"), which included a MOPR to mitigate "buyer-side market power."[101] Buyer-side market power occurs when a buyer who is also a seller (i.e., a LSE that also owns a small generator) seeks to suppress prices by offering capacity at a rate below its genera-

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94 *See* Lowell et al., *supra* note 60.

95 *See, e.g.*, PJM Interconnection, L.L.C., 117 FERC ¶ 61331 (Dec. 22, 2006); PJM Interconnection, L.L.C. PJM Power Providers Grp. v. PJM Interconnection, L.L.C, 135 FERC ¶ 61022 (Apr. 12, 2011); Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61236 (June 29, 2018).

96 *See* Lowell et al., *supra* note 60. There are limited exceptions in which FERC will allow these resources to justify a lower offer price. *Id.*

97 *See infra* Table 1. This table also shows how FERC has justified key decisions requiring or approving revisions to MOPRs.

98 *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61331, ¶ 62653.

99 *Id.*

100 *Id.* ¶ 62653. FERC stated that "many aspects of [the proposed tariff revisions] need to be further analyzed and clarified before the Commission can rule on this matter." *Id.* ¶¶ 62656–57.

101 *Id.* ¶ 62659; N.J. Bd. of Pub. Utils. v. F.E.R.C., 744 F.3d 74, 85 (3d Cir. 2014).

tor's operating cost.[102] To address this issue, the tariff established in the 2006 MOPR Order mandated that PJM impose a MOPR on first-time offers from certain generator-owning LSEs[103] that buy more capacity than they sell.[104] This MOPR included important exemptions for sources built under state mandates to enhance reliability[105] and certain resource types.[106] Significantly, at the time FERC found the state mandate exception just and reasonable "because it enables states to meet their responsibilities to ensure local reliability."[107] This original MOPR was never triggered.[108]

In 2011, a group of PJM generators claimed that the 2006 MOPR did not apply broadly enough to mitigate price suppression.[109] In response, PJM again filed proposed tariff revisions with FERC under Section 205 of the FPA.[110] PJM proposed, *inter alia*, replacing the MOPR's blanket state-mandate exemption with a rule that would have allowed states to apply for exemptions for resources built under state mandates by providing the policy reasons behind their mandates.[111] In an or-

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102 Buyer-side market power is an issue because LSEs that produce their own generation cannot simply use their own generation capacity to count towards their capacity requirements without participating in the capacity market. *N.J. Bd. of Pub. Utils.*, 744 F.3d at 85. Rather, they must bid into the market with their generation capacity, making "self-supply offers," and purchase capacity from the market. *Id.* Because these LSEs must buy capacity at whatever clearing price PJM sets, they have an incentive to offer a low price for their generation capacity so that they do not have to pay a high price for the capacity they need—particularly if they need more capacity than what their own generator(s) provides. *Id.*

103 For the MOPR to apply to these offers, the offers also had to fail a conduct screen and an impact screen. *Id.* at 85. An offer would fail the conduct screen if it fell below a threshold price, and it would fail the impact screen if it would reduce the clearing price by a certain value. *Id.*

104 *N.J. Bd. of Pub. Utils.*, 744 F.3d at 86.

105 *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61331, ¶ 62671 (explaining that this exception "enables states to meet their responsibilities to ensure local reliability").

106 These resources included base load, nuclear, coal and integrated gasification combined cycle, facilities requiring a period of development exceeding three years, hydroelectric power facilities upgrades, or additions to existing resources. Nat. Bd. of Pub. Utils., 744 F.3d at 86.

107 *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61331 ¶ 62671.

108 *N.J. Bd. of Pub. Utils.*, 744 F.3d at 87.

109 Specifically, "an association of PJM's power providers, known as 'P3', filed a complaint with FERC under § 206 of the FPA, arguing that the MOPR implemented in the 2006 Order was not an effective tool for curbing buyer market power." *Id.* at 88 (footnote omitted). P3 cited state reliability initiatives which it thought the MOPR should apply to. *Id.*

110 PJM Interconnection, L.L.C. PJM Power Providers Grp. v. PJM Interconnection, L.L.C., 135 FERC ¶ 61022, ¶ 61087 (Apr. 12, 2011).

111 *N.J. Bd. of Pub. Utils.*, 744 F.3d at 91 (noting that PJM proposed replacing the state-mandate exemption with "a formal process for a state to justify its initiative and thus obtain an exemption from the MOPR").

der on April 12, 2011 (the "2011 MOPR Order"), FERC accepted PJM's proposed revisions to its tariff but required several modifications.[112] FERC agreed with PJM that the 2006 MOPR's state-mandate exemption should be eliminated "due to 'mounting evidence of risk from what was previously only a theoretical weakness in the MOPR rules,' namely, that state-subsidized resources would suppress auction prices."[113] Using the same reasoning, FERC rejected PJM's proposal to allow states to apply for MOPR exemptions.[114] Thus, the 2011 MOPR Order established a MOPR that applied broadly to new natural gas-fired resources,[115] including those receiving out-of-market support such as state subsidies.[116]

In March 2016, a group of generators, including Calpine Corporation (collectively, "Calpine"), filed a Section 206 complaint against PJM (1) alleging that PJM's MOPR still did not adequately mitigate price suppression and (2) proposing tariff revisions that would do so.[117] In its complaint, Calpine argued that the MOPR established in the 2011 MOPR Order is unjust and unreasonable because it does not address the price-suppressive impacts of existing resources that can offer prices below their operating costs due to state subsidies.[118] Calpine focused on programs such as Illinois's zero-emissions credits (ZECs) program, a program providing subsidies to existing nuclear plants that enable them to offer low enough prices to clear the capacity market.[119] Calpine argued that because these and

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112 *PJM Interconnection, L.L.C. PJM Power Providers Grp.*, 135 FERC ¶ 61087.

113 *N.J. Bd. of Pub. Utils.*, 744 F.3d at 91.

114 *PJM Interconnection, L.L.C. PJM Power Providers Grp.*, 135 FERC ¶ 61106.

115 *Id.* ¶ 61107 ("We accept PJM's proposal to add wind and solar generation to its list of generator types that are not required to offer into the base residual auction at a price higher than zero. . . . We find persuasive PJM's justification for applying the MOPR to CTs and CCs [(natural-gas fired resources)] and not the exempted resources. CTs and CCs have the shortest development time to respond to capacity needs and thus are more efficient resources to suppress capacity prices.").

116 Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61236 (June 29, 2018). "PJM also incorporated several changes to the MOPR that P3 had not suggested. First, it added wind and solar resources to the list of resources that would always be exempt from the MOPR, and thus could offer their capacity at prices as low as zero. As a result of those additions, the MOPR would only apply to new gas-fired facilities." *N.J. Bd. of Pub. Utils.*, 744 F.3d at 90.

117 *Calpine Corp.*, 163 FERC ¶ 61236, at *9–10.

118 *Id.* at *4.

119 *Id.* at *50, n.216 (citing *Exelon Announces Outcome of 2021-2022 PJM Capacity Auction*, EXELON (May 24, 2018), http://www.exeloncorp.com/newsroom/exelon-announces-outcome-of-2021-2022-pjm-capacity-auction [https://perma.cc/3T4R-PAP7] ("Quad Cities cleared the capacity auction as a result of Illinois legislation that fairly compensates certain nuclear plants for their environmental attributes.")).

other subsidies allow "uneconomic" plants to clear the capacity market that could otherwise not afford to, they have a price-suppressive effect that results in unjust and unreasonable rates.[120]

In response to Calpine's complaint, PJM made a Section 205 filing to revise its tariff, proposing two possible remedies to the price suppression caused by state-subsidized resources.[121] Based on the combined records of Calpine's complaint and PJM's tariff filing,[122] FERC concluded that, as Calpine had alleged, state subsidies to renewable resources "allow resources to suppress capacity market clearing prices, rendering the rate unjust and unreasonable."[123] In a 2018 order, FERC found that, unaffected by the 2011 MOPR, the state subsidy programs supporting nuclear, solar, and wind resources are causing "price distortions and cost shifts."[124] FERC reasoned that subsidies supporting these resources are significant enough to make it possible for resources to clear the market that otherwise could not, thus affecting the capacity market's clearing price.[125] According to FERC, certain renewables can bid into the capacity market at zero because they can recoup their costs from state payments alone.[126] FERC argued that, by making low offers and suppressing prices, these resources are somehow able to displace resources "that can meet FERC's capacity needs at a lower overall cost."[127] Despite the ability of renewables to clear the PJM's capacity markets, FERC asserted that these are "resources the market does not regard as economic."[128]

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120 *Id.*

121 PJM's preferred solution, known as Capacity Repricing, would have included a two-stage annual auction, with capacity commitments determined in the first stage and the clearing price set in the second stage. Alternatively, PJM proposed MOPR-Ex, under which it would revise its MOPR to mitigate capacity offers from new and existing resources, subject to certain exemptions. Adrienne Thompson & Jasmine Hites, *PJM Files Two Alternate Proposals to Address State-Subsidized Resources in Capacity Markets*, TROUTMAN SANDERS: WASH. ENERGY REP. (Apr. 17, 2018), https://www.troutmansandersenergyreport.com/2018/04/pjm-files-two-alternate-proposals-address-state-subsidized-resources-capacity-markets/ [https://perma.cc/7C5L-MUMN].

122 The Commission frequently consolidates the record in related proceedings under FPA sections 205 and 206. *See Calpine Corp.*, 163 FERC ¶ 61236, at *5, n.9.

123 *Id.* at 63.

124 *Id.* at 64.

125 *Id.* at 65–66.

126 *Id.* at 66.

127 *Id.* at 67.

128 *Id.*

As a result, FERC found that the price-suppressive impact of state-subsidized renewables differs little from the price-suppressive impact of new natural-gas generation.[129] Thus, FERC concluded that limiting the MOPR to new natural-gas generation is unjust and unreasonable.[130] However, FERC decided that neither the revisions proposed by Calpine nor the revisions proposed by PJM could remedy this problem.[131] Thus, FERC initiated a FPA Section 206 proceeding to determine what changes to the tariff it should require.[132] FERC found that PJM should expand the MOPR to include state-subsidized renewables but give these resources a choice to opt-out of the capacity market.[133]

FERC's reasoning in its PJM MOPR orders echoed the reasoning it used to justify MOPRs in capacity markets managed by other RTOs and ISOs, as seen below in Table 1.

TABLE 1. A COMPENDIUM OF MOPR ORDERS AND FERC'S JUSTIFICATIONS

OSO/RTO	**Date of the Order**	**FERC's Requirement**	**FERC's Justification**
PJM	December 22, 2006	FERC approved a tariff including a limited MOPR focused on LSEs owning generators[134]	The MOPR is "a reasonable method of assuring that net buyers do not exercise monopsony[135] power by seeking to lower prices through self-supply. The exception . . . for reliability projects built under state mandate . . . is reasonable because it enables states to meet their responsibilities to ensure local reliability."[136]

129 *Id.* at 68.

130 *Id.*

131 *Id.* at 6.

132 *Id.* at 7.

133 *Id.* at 69.

134 PJM Interconnection, L.L.C., 117 FERC ¶ 61331, ¶ 62671 (Dec. 22, 2006).

135 *Monopsony* is another word for buyer-side market power. Julie Young, *Monopsony*, INVESTOPEDIA (Feb. 15, 2019), https://www.investopedia.com/terms/m/monopsony.asp [https://perma.cc/KB8D-CCX2].

136 *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61331, ¶ 62671. Note the contradiction between the reasoning FERC used here and the reasoning it is now using to target state-supported resources.

NYISO	March 7, 2008	FERC approved NYISO's proposals to address market power mitigation in the New York City Installed Capacity Market by establishing MOPRs[137]	"The Commission finds that NYISO's proposals improve the mitigation that exists today and are otherwise just and reasonable because they . . . prevent net purchasers from artificially depressing capacity prices with uneconomic generation."[138]
PJM	April 12, 2011	FERC approved a tariff including a MOPR that applied to new, natural-gas fired generation[139]	"We continue to conclude that the MOPR serves a critical function to ensure that wholesale prices are just and reasonable and should elicit new entry when new capacity is needed."[140] "Uneconomic entry can produce unjust and unreasonable wholesale rates by artificially depressing capacity prices . . . ."[141]
ISO New England Inc. ("ISO-NE")	April 13, 2011	FERC required ISO-NE to develop a MOPR based on benchmark prices for different types of resources[142]	A MOPR "would deter the exercise of buyer-side market power and the resulting suppression of capacity market prices associated with uneconomic entry"[143]
ISO-NE	May 30, 2014	FERC approved a MOPR exemption for up to 200 MW of capacity provided qualifying renewable resources[144]	"[T]he renewables exemption should not have any meaningful effect on energy market prices because the renewable entry is occurring pursuant to state laws and programs that are not generally conditioned upon capacity market participation."[145]

137 N.Y. Indep. Sys. Operator, Inc., 122 FERC ¶ 61211, ¶¶ 62191–92 (Mar. 7, 2008).

138 *Id.*

139 PJM Interconnection, L.L.C. PJM Power Providers Grp. v. PJM Interconnection, L.L.C., 137 FERC ¶ 61145 (Nov. 17, 2011).

140 *Id.*

141 PJM Interconnection, L.L.C. PJM Power Providers Grp. v. PJM Interconnection, L.L.C., 135 FERC ¶ 61022, ¶ 61106 (Apr. 12, 2011).

142 ISO New England, Inc. v. ISO New England Inc. PSEG Energy Res. & Trade L.L.C., 135 FERC ¶ 61029, ¶ 61169 (Apr. 13, 2011).

143 *Id.*

144 ISO New England Inc. & New England Power Pool Participants Comm., 147 FERC ¶ 61173, ¶¶ 61983–84 (May 30, 2014).

145 *Id.* ¶ 61984.

ISO-NE	March 9, 2018	FERC approved ISO-NE's proposal to phase out the MOPR's exemption for renewable resources[146] and create a separate capacity auctions for state-subsidized resources to participate in[147]	"We find that CASPR is a just and reasonable means to accommodate the entry of new [state-subsidized renewables] into the [market] over time . . . By doing so, the [renewables] exemption is no longer necessary to accommodate the entry of state sponsored resources."[148]

II
ANALYSIS

Subpart A argues that FERC lacked a sound policy justification for its 2018 PJM MOPR order. As Part I.C of this Note explained, FERC has repeatedly cited price suppression as the reason that markets need MOPRs but never established that price suppression actually poses a problem. FERC's unexplained suggestions that price suppression pushes out economic resources and impairs reliability are baseless.

Subpart B argues that FERC's order is arbitrary and capricious, in violation of the Administrative Procedures Act. FERC's order violates the Administrative Procedure Act (APA) because (1) FERC gave an implausible explanation for its order and (2) FERC failed to consider important aspects of the problem it faced. Specifically, FERC did not examine reasonable alternatives or subsidies supporting traditional resources.

Subpart C argues that competitive markets do not require regulatory intervention to accommodate higher volumes of renewables.

A. FERC's Order is Theoretically Unsound.

As discussed in Part I.C, FERC has repeatedly claimed that price suppression is a problem, suggesting that it pushes "economic resources" off the market and impairs reliability. FERC attempted to designate state-subsidized renewables as "uneconomic" and traditional resources as "economic,"[149] but this distinction makes little sense and contradicts the judgment of

146 ISO New England Inc., 162 FERC ¶ 61205, at 99 (Mar. 9, 2018).

147 *Id.* at 2; Gavin Bade, *Split FERC Approves ISO-NE 2-Part Capacity Market Plan*, UTILITY DIVE (Mar. 12, 2018), https://www.utilitydive.com/news/split-ferc-approves-iso-ne-2-part-capacity-market-plan/518904/[https://perma.cc/WAH4-4B9M].

148 *ISO New England Inc.*, 162 FERC ¶ 61205, at 101.

149 Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61236, at *50 (June 29, 2018).

state legislatures. FERC relied on the assumption that the only costs relevant to determining how economic a generation resource is are the costs the resource's operator incurs in producing energy.[150] However, truly efficient markets account for not only the costs a producer incurs in producing a product but also externalities—the costs third parties must pay because of a product's production.[151] The state subsidies targeted by FERC do not prop up uneconomic plants but instead seek to make the energy market take externalities into account.[152] In particular, these state subsidies assign a monetary value to the environmental costs avoided by the use of renewables, particularly the climate change effects caused by carbon dioxide emissions.[153] Thus, the ability of state-subsidized renewables to offer lower prices than traditional generators reflects the states' judgement that these generators *have* lower overall costs. Further, as further discussed in subpart II.B, state and federal subsidies affect the prices of all energy resources, so FERC has no basis for singling out renewables out as being "uneconomic" based upon their receipt of state support. FERC should recognize that, in all competitive markets in the United States, government policies affect how "economic" goods and services are and what products can compete well, and the energy market is no different.[154] FERC should accept that the market is doing what it is designed to do—pushing out *un*economic generators that cannot offer capacity at competitive rates.

In addition, FERC's suggestion that price suppression jeopardizes reliability is ungrounded. As discussed in subpart I.B, NERC sets a Loss of Load Expectation standard requiring that outages do not occur more than once every ten years, and,

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150 *See generally id.* (characterizing renewables as uneconomic because of this assumption).

151 *See generally* PAUL KRUGMAN & ROBIN WELLS, MICROECONOMICS 437–38 (2d ed. 2009) (examining what externalities are and how they can lead to inefficiencies in the market economy); JONATHAN GRUBER, PUBLIC FINANCE AND PUBLIC POLICY 136 (5th ed. 2016) (explaining how to account for externalities).

152 FERC should recognize that by design, these state subsidies "help increase the overall economic efficiency of the market." SYLWIA BIALEK & BURCIN UNEL, CAPACITY MARKETS & EXTERNALITIES 2 (2018), https://policyintegrity.org/files/publications/Capacity_Markets_and_Externalities_Report.pdf [https://perma.cc/9ZWV-3TW7].

153 *Zero-Emission Credits*, NEI (Apr. 2018), https://www.nei.org/resources/reports-briefs/zero-emission-credits [https://perma.cc/92WJ-WU76].

154 *Cf.* 158 FERC ¶ 61137 ("No other market in the United States is subject to the same construct in which a federal agency reviews state action and imposes an administrative price floor on supply offers from certain resources that have received state support.").

as part of their FERC-approved tariffs, RTOs and ISOs set a reserve margin representative of how much extra capacity the grid needs to meet NERC's standard. By definition, capacity markets allow enough generators to clear to provide peak load plus this reserve margin.[155] Because of this, if FERC perceives a need for increased reliability, FERC should either direct NERC to modify its standard or require the grid operator to increase its reserve margin. Further, in suggesting that traditional resources are more essential to reliability than renewables, FERC did not consider that *all* generators clearing the capacity market must have the ability to reliably provide energy on an on-demand basis.[156]

There is no evidence that price suppression has exposed PJM's market to blackout or otherwise rendered the grid less reliable. In fact, during PJM's most recent capacity auction, PJM cleared enough capacity to meet peak demand plus a 22 percent reserve margin, a much higher reserve margin than the 15.8 percent reserve margin needed to meet NERC's Loss of Load Expectation requirement.[157] This means that PJM currently has far more, not less, capacity than NERC—with FERC's approval—determined it needs to ensure reliability.[158] Further, new natural gas plants have proliferated in spite of price suppression, contrary to FERC's expressed concerns that low prices will disincentive traditional generators from operat-

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155 *See supra* subpart 1.B.

156 Brien J. Sheahan, *When PJM's Capacity Market Stops Working for Consumers, Is It Time to Leave?*, UTILITY DIVE (Oct. 2, 2018), https://www.utilitydive.com/news/when-pjms-capacity-market-stops-working-for-consumers-is-it-time-to-leave/538605/ [https://perma.cc/YS3U-VTSE] ("Capacity Performance Resources must be capable of sustained, predictable operation that allows resource to be available to provide energy and reserves throughout the Delivery Year"); U.S. DEP'T OF ENERGY, *supra* note 75 (explaining how renewables can provide energy on an on-demand basis).

157 *2021/2022 RPM Base Residential Auction Results*, PJM 1, 4, 19 (2018), http://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2021-2022/2021-2022-base-residual-auction-report.ashx [https://perma.cc/T45J-4ACP]. *E.g.*, Protest of Exelon Corp. at 14–15, Calpine Corp. v. PJM Interconnection, L.L.C., No. EL16-49 (FERC, Jan. 30, 2017) ("The market is producing resource adequacy—achieving a reserve margin of 22 percent, exceeding its target of 16.5 percent."); *Id.* at 5 ("Regarding investment in generation, PJM's Base Residual Auction (BRA) provides ample capacity and has consistently exceeded its target reserve margins."); PJM Interconnection, L.L.C., No. ER18-1314-000 FERC), at 12 ("PJM has the most drastic capacity *oversupply* of any RTO in North America.").

158 Richard Glick, *Dissent on PJM Interconnection Capacity Market Proposals*, FERC (June 29, 2018), https://www.ferc.gov/media/statements-speeches/glick/2018/06-29-18-glick.asp?csrt=11440179878417340078#26 [https://perma.cc/PQH9-YU98].

ing.[159] While coal plants have begun to leave the market, the retirement of coal-fired power plants is due to the fact that cheap natural gas has reduced the need for coal plants to remain on the grid to preserve reliability.[160]

B. FERC's Order is Legally Unsound Under the Administrative Procedure Act

FERC's order violates the Administrative Procedure Act (APA) because (1) FERC's order demonstrates a clear error in judgement and (2) FERC failed to consider important aspects of the problem it faced because it did not examine reasonable alternatives or subsidies supporting traditional resources. The APA permits judicial review of final agency actions, including FERC orders.[161] The court uses an "arbitrary and capricious" standard when evaluating FERC orders under the APA.[162] If

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159 A 2017 study noted that 15,000 MW of CCGG was under construction (expected completion by 2019) in PJM's footprint, in spite of the low clearing price of PJM's capacity auction. Bob Matyi, *Gas-Fired Generation Buildout Not Over in PJM: UBS*, S&P GLOBAL POWER (Feb. 6, 2017), https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/020617-gas-fired-generation-buildout-not-over-in-pjm-ubs [https://perma.cc/U26X-ADE6]; James Kennedy & Eric Hsieh, *Assessing the Economics of Newbuild Gas Plants in the PJM Market*, 31 ELECTRICITY J. 10 (2018), https://www.sciencedirect.com/science/article/pii/S1040619018301076 [https://perma.cc/NW92-J576]; Robert Walton, *UBS: PJM Leads US Natural Gas Buildout*, UTILITY DIVE (Feb. 8, 2017) https://www.utilitydive.com/news/ubs-pjm-leads-us-natural-gas-buildout/435702/ [https://perma.cc/H6R4-HV5Y].

160 Peter Maloney, *New Gas Build, Coal Retirements Could Make PJM Next Market with Distressed Power Prices*, UTILITY DIVE (Apr. 7, 2017), https://www.utilitydive.com/news/new-gas-build-coal-retirements-could-make-pjm-next-market-with-distressed/438962/ [https://perma.cc/QWC4-A2XZ]; Bob Matyi, *supra* note 159, https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/020617-gas-fired-generation-buildout-not-over-in-pjm-ubs [https://perma.cc/Z6JQ-R8W6] ("Low-cost gas, Patterson said, 'has been a substantial threat to many older incumbent merchant power facilities, spurring lower-cost gas-fired generation which, in a low-demand growth environment, has been effectively displacing many older, less competitive power plants.'"); Glick, *supra* note 158.

161 The APA notes that reviewable agency actions include "[a]gency action made reviewable by statute," *inter alia.* 5 U.S.C. § 704 (2012). FERC Orders are reviewable according to FPA Section 313(b), which allows "[a]ny party . . . aggrieved by an order issues by the Commission . . . [to] obtain a review of such order." 16 U.S.C. § 825*l*(b) (2012).

162 5 U.S.C. 706(2)(A); *see also* Am. Gas Ass'n v. FERC, 593 F.3d 14, 19 (D.C. Cir. 2010) (citation and quotation marks omitted) (noting that the court "review[s] [the Commission's] orders under the arbitrary and capricious standard and uphold[s] [the Commission's] factual findings if supported by substantial evidence"). Significantly, the landmark case *Chevron* only applies to an agency's interpretation of the statute it administers. This Note does not address whether FERC's interpretation of "just and reasonable" is a permissible statutory construction—rather, it is about whether FERC acted arbitrarily and capriciously, even assum-

FERC makes an arbitrary or capricious decision, it has abused its discretion, and its decision is invalid.

In evaluating whether an agency acted arbitrarily and capriciously, a court should "consider whether the [agency's] decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment."[163] In its analysis, the court should "examin[e] the reasons for agency decisions, or the absence of such reasons" to ensure the agency "engaged in reasoned decisionmaking" in administering its statute.[164] The Supreme Court has elaborated that an agency has not engaged in reasoned decision-making when it has "entirely failed to consider an important aspect of the problem," making its action arbitrary and capricious.[165] For example, in *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, the Court held that National Highway and Traffic Safety Administration's (NHTSA) revocation of Standard 208, which required automakers to include passive restraints in all new cars, was arbitrary and capricious.[166] The Court came to this conclusion because the agency based its decision to revoke the standard on the inefficacy of one kind of passive restraint, removable seat belts, while "entirely fail[ing] to consider" air bags, an alternate type of passive restraint the agency had previously proposed.[167] The *State Farm* Court also noted that an agency acts arbitrarily and capriciously when it "offer[s] an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise."[168] In *Supreme Foodservice GmbH v. United States*, the court found that the agency gave an implausible explanation and thus made an arbitrary and capricious decision.[169] The agency had found that the best interests of the United States justified an override of a stay of contract performance while the

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ing that FERC's interpreted its statutory mandate correctly. Thus, it does not go through the two-step *Chevron* process.

163 Citizens to Pres. Overton Park, Inc. v. Volpe, 401 U.S. 402, 416 (1971) (internal citations omitted).

164 Judulang v. Holder, 565 U.S. 42 (2011). In *Judulang*, the Court found a clear error of judgment when the Bureau of Immigration Affairs (BIA) used an approach that bore no relation "to the purposes of the immigration laws or the appropriate operation of the immigration system." *Id.*

165 Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983).

166 *Id.*

167 *Id.*

168 *Id.*

169 Supreme Foodservice GmbH v. United States, 109 Fed. Cl. 369, 374, 390 (2013).

Government Accountability Office (GAO) was making a decision on the validity of the contract at issue.[170] The agency reasoned that a stay would divert agency resources because personnel would have to "sit around waiting for the GAO decision, and would be pulled from [] other tasks if their work associated with the contract transition were rescheduled for the future."[171] The court found this explanation implausible in part because an override of the stay would also divert agency resources—agency personnel would have to spend their time performing a contract that might turn out to be invalid.[172] In other words, the government's solution might actually worsen the problem it claimed to solve.

1. *FERC's Explanation for its Decision is Implausible*

First, FERC's order is arbitrary and capricious because it offers an implausible explanation for its decision. FERC claims that it is trying to remediate unjust and unreasonable rates, but its solution exacerbates that problem. FERC has shown throughout its history of decisions that when energy providers are charging more than they need to for energy, their rates are not just and reasonable because of the harm to consumers.[173] As described in Part I.A, FERC promoted competition for this very reason; it sought to *lower* the prices consumers pay for electricity. Even in its most recent MOPR order, FERC emphasized the importance of low costs, complaining about traditional resources "that can meet PJM's capacity needs at an overall lower cost" leaving the market.[174] However, if these traditional resources could actually meet capacity needs at a "lower cost" in any relevant sense, they would be able to offer lower prices than renewables without the help of MOPR. And if FERC's concerns about costs were appropriately focused on protecting consumers, FERC would not force consumers to pay a higher price by requiring resources to bid in at a higher price than necessary. As previously discussed in subpart II.A, enough capacity will clear the market to meet reliability needs no matter what; FERC's order simply makes consumers pay more for no real reason. In effect, the order will cause consumers to double-pay—for subsidies to renewables that will still

170 *Id.* at 390.
171 *Id.* at 388.
172 *Id.*
173 *See supra* subpart I.A.
174 Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61236, at 66 (June 29, 2018).

provide capacity because of state mandates, and for extra, unneeded capacity.[175]

2. *FERC Failed to Consider Important Aspects of the Problem*

In addition, FERC "failed to consider an important aspect of the problem" it faced—reasonable alternatives that do not raise prices.[176] While FERC's order assumed that price suppression makes rates unjust and unreasonable and requires mitigation,[177] price suppression is not inherently bad.[178] As discussed in Part II.A, FERC has offered no sound justification for why it views price suppression as a problem. Because of this, FERC should have, at the very least, *considered* alternatives that would allow for price suppression instead of simply trying to eradicate price suppression.[179] Such alternatives might include eliminating, rather than expanding, PJM's MOPR, or *only* applying the MOPR to address market manipulation by companies with market power.[180]

FERC also entirely failed to consider subsidies supporting other energy resources. FERC described its order as targeting

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175 Ann McCabe & John Moore, *PJM's Capacity Market Proposal: Bad for Customers, States, and the Fight Against Climate Change*, UTILITY DIVE (Oct. 29, 2018), https://www.utilitydive.com/news/pjms-capacity-market-proposal-bad-for-customers-states-and-the-fight-ag/540723/ [https://perma.cc/33AM-PM83].

176 Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983)

177 *See supra* subpart I.C (Price Suppression and FERC's Response: A Survey of MOPRs).

178 *See supra* subpart I.A (FERC's Order is Theoretically Unsound). Price suppression is often viewed as a "consumer benefit" because it lowers the rate consumers pay for electricity (making the rate, arguably, more just and reasonable). *See, e.g.*, *Renewable Energy Lowers Energy Costs for Consumers*, PA. DEP'T OF ENVTL. PROTECTION, http://files.dep.state.pa.us/Energy/Office%20of%20Energy%20and%20Technology/OETDPortalFiles/PA%20Energy/AEPS/Price%20Suppression%20v.final.pdf [https://perma.cc/9SRF-KPEA] (describing price suppression as a "consumer benefit"); Frank Felder, *Examining Electricity Price Suppression Due to Renewable Resources and Other Grid Investments*, 24 ELECTRICITY J. 34–46 (2011); Jennifer Chen, *PJM Offers Two Proposals: A Rock and a Hard Place*, NATURAL RESOURCES DEFENSE COUNCIL (Apr. 11, 2018), https://www.nrdc.org/experts/jennifer-chen/pjm-offers-two-proposals-rock-and-hard-place [https://perma.cc/A77X-P5GU].

179 The only alternative FERC considered was the "do-nothing" alternative of continuing to apply the MOPR to new natural-gas fired generation (another method of combating price suppression). *See supra* subpart I.C (Price Suppression and FERC's Response: A Survey of MOPRs).

180 I.e., returning to the initial MOPR that applied to LSEs owning generation. PJM Interconnection, L.L.C., 117 FERC ¶ 61331, ¶ 62671 (Dec. 22, 2006). While FERC viewed this as a measure to combat price suppression, it was also meant to address outright market manipulation by entities with buyer-side market power. *Id.*

the effects of state programs supporting "preferred generation resources," which it refers to as "renewable resources . . . [now] ranging from small solar and wind facilities to large nuclear plants."[181] FERC never explained why it views renewable resources as preferred when state and federal governments have long supported all types of energy resources, affecting their offer prices. Multiple states, including those in PJM's territory, offer subsidies and grants directly or indirectly supporting coal-fired and natural-gas generation.[182] For example, Illinois's Coal Competitiveness Program provides grants to support coal production, preparation, and transportation entities.[183] Kentucky has a variety of programs subsidizing coal, petroleum, and natural gas, including various tax incentives,[184] programs funding coal-mining training and education, and a program providing grants for coal-related research and development.[185] Pennsylvania has given grants to both coal and natural gas producers through its economic development programs.[186] Indiana has programs providing tax credits for

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181 Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61236, at *3 (June 29, 2018) (also listing as examples of subsidies the Renewable Portfolio Standard and Zero Emissions Credits programs, while neglecting to mention any programs *not* focused on compensating renewables for their environmental attributes).

182 *Coal Incentive Tax Credit*, KY. DEP'T OF REVENUE, https://revenue.ky.gov/Business/Pages/Coal-IncentiveCredit.aspx [https://perma.cc/WP6Z-GRWQ] (describing tax credits to entities operating coal-fired generation plants); *Database, Subsidies to Participants in PJM States, Based on Good Jobs First Subsidy Database*, EARTHTRACK, https://earthtrack.net/sites/default/files/uploaded_files/20170605-item-02-subsidy-short-list-20170531.xls [https://perma.cc/Y733-4WEH] (last downloaded May 3, 2017); *see also* Doug Koplow, *Subsidies to Suppliers in the PJM Interconnection Go to Fossil and Nuclear, Not Just Renewables*, EARTHTRACK (July 20, 2017), https://earthtrack.net/blog/subsidies-suppliers-pjm-interconnection-go-fossil-and-nuclear-not-just-renewables [https://perma.cc/578Q-Q2B8] (discussing these subsidies).

183 *Coal Competitiveness Program*, ILL. INST. FOR RURAL AFF., https://www.iira.org/rdrg/coal-competitiveness-program/ [https://perma.cc/6MB5-2DYV].

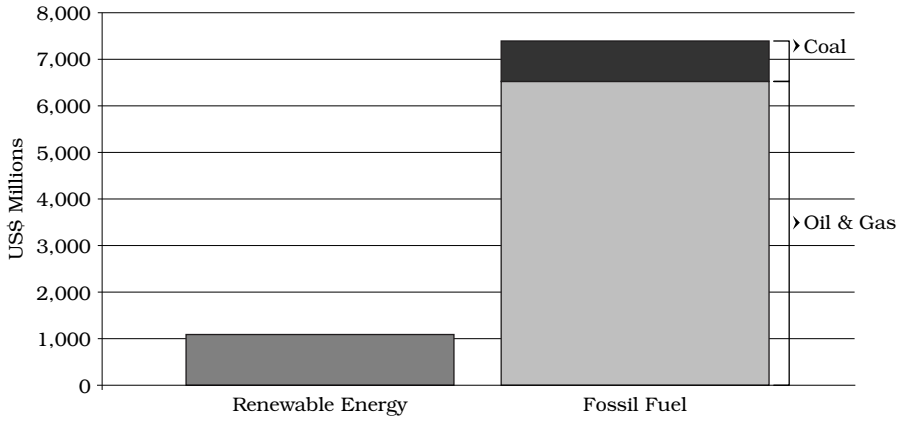
184 These incentives include the Thin Seam Tax Credit, the Sales Tax Incentive for Alternative Fuel or Gasification Facilities, and the Sales Tax Exemption for Energy and Energy Producing Fuels. *Database, Subsidies to Participants in PJM States, Based on Good Jobs First Subsidy Database*, *supra* note 182.

185 Incentives supporting coal include the Railroad Improvement Tax Credit, the Excess of Percentage over Cost Depletion, the Coal Used to Burn Solid Waste tax credit, the Coal Used in the Manufacture of Electricity tax exemption, the Coal Transportation Expense tax reduction, and the Coal Incentive Tax Credit. *Id.* Incentives supporting petroleum and natural gas include the Sales Tax Exemption for Energy and Energy-Producing Fuels, the Special Fuels Tax Exemption for Residential Heating, the Special Fuels Tax Exemption for Railroad Companies, the Special Fuels Tax Exemption for Non-Highway Use, the Special Fuels Exemption for Agricultural Use, and the Sales Tax Reduction for Jet Fuel, the Sales Tax Exemption for Fuel Used in Farming. *Id.*

186 *Id.*

coal gasification and for the recycling of coal ash.[187] Virginia provides tax credits for coal production.[188] West Virginia has a tax credit for building coal loading facilities.[189] Ohio has sales tax exemptions for natural gas sold from a municipal utility[190] and items used in natural gas production.[191] Overall, $14.7 billion in federal subsidies and $5.8 billion in state-level incentives support fossil fuels.[192] Traditional energy resources receive seven times as much support from tax expenditures as renewables (see Figure 1).[193]

FIGURE 1



Like the subsidies to renewables on which FERC focuses, these out-of-market payments to traditional resources are a form of state support that make it possible for generation resources to bid into the market at lower prices.[194] If RTOs and ISOs truly applied a MOPR to every resource receiving some form of support from state or federal governments, they would

187 IND. CODE ANN. § 6-3.1-29-19 (West 2019).
188 VA. CODE ANN. § 58.1-439.2 (West 2019).
189 W. VA. CODE ANN. § 11-23-17a (West 2019).
190 OHIO REV. CODE ANN. § 5739.02(7) (West 2019).
191 *Id.* § 42(q).
192 JANET REDMAN, DIRTY ENERGY DOMINANCE: DEPENDENT ON DENIAL—HOW THE U.S. FOSSIL FUEL INDUSTRY DEPENDS ON SUBSIDIES AND CLIMATE DENIAL 5 (2017), http://priceofoil.org/content/uploads/2017/10/OCI_US-Fossil-Fuel-Subs-2015-16_Final_Oct2017.pdf [https://perma.cc/5ZSQ-3X67].
193 *Id.* at 12.
194 Further, because these subsidies generally do not serve the role of accounting for externalities, they are arguably more, not less, likely distortionary than subsidies provided to renewables. Comments of the Institute for Policy Integrity at New York University School of Law at 31, Calpine Corp. v. PJM Interconnection, L.L.C., No. EL16-49-000 (FERC, Oct. 2, 2018), https://policyintegrity.org/documents/Policy_Integrity_Comments_EL18-178.pdf [https://perma.cc/A89T-QRA4].

be forcing higher bids across the board. Yet, FERC's order simply referred to subsidies as the types of programs compensating resources for their environmental attributes.[195] And FERC did not point to any reasons why the subsidies it targeted would have a different effect than the subsidies supporting fossil fuels.[196] These subsidies are critical for FERC to consider because the existence of state subsidies for traditional energy resources undermines the idea that renewables are distorting the market or suppressing prices. By failing to mention these subsidies—and hence treating similarly situated subsidies differently without explanation—FERC acted arbitrarily and capriciously.

C. Competitive Markets *Can* Accommodate Higher Volumes of Renewables Without Regulatory Interventions

By arguing that renewables would jeopardize capacity markets unless it established a MOPR, FERC was implicitly making a much broader claim: that competitive markets cannot accommodate high volumes of renewables. As discussed in Part I, FERC's argument relied on the idea that renewables were pushing "needed" and "economic" traditional generators out of capacity markets. In effect, FERC was asserting that high volumes of renewables pose a problem because if more renewables clear the market, less traditional generators do. A MOPR would address this by preventing many renewables from clearing the market[197]—keeping the market share of renewables small. By deciding that a MOPR was necessary, FERC took a strong stance that competitive markets can accommodate renewables only so long as it limits how many renewables succeed in the markets.

As discussed in subparts II.A and II.B, FERC's reasoning was flawed. High volumes of renewables would not impair the efficacy of capacity markets, so FERC had no need to intervene. Rather, FERC could have just allowed competitive forces to decide which resources cleared the market. FERC's regulatory interventions, it turns out, were both unnecessary and adverse to clean energy goals.

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195 *See generally* Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61236 (June 29, 2018) (describing, for example, out-of-market payments as programs such as the zero-emissions credits programs and the Renewable Portfolio Standards programs).

196 *Id.*

197 McCabe & Moore, *supra* note 175 (noting that "the consequence of the MOPR is that the subsidized units often no longer clear in the auction").

This suggests an interesting conclusion—that, in some cases, competition may do a better job of allowing for the growth of renewables than heavy-handed regulation. This calls into question the ideas of academics such as William Boyd. Boyd encourages a turn away from competitive markets, arguing that more centralized planning is needed to integrate renewables into the grid.[198] He envisions regulators with expansive authority as a solution to a "low-carbon future."[199] Yet, FERC's usage of its regulatory authority over capacity markets shows that energy regulators do not always have clean energy goals in mind. Sometimes, the problem is not the free market, but FERC's intervention in it.

CONCLUSION

This Note has argued that FERC can and should ensure reliability without requiring capacity market operators to implement MOPRs inflating the prices of renewables—and the prices ultimately paid by consumers. FERC can make sure that enough resources clear capacity markets to avoid outages simply by bolstering NERC's standards and the reserve margins of capacity markets. Because of this, high volumes of renewables do not threaten the integrity of capacity markets. Instead, they help ensure that consumers can access energy during times of high demand at lower—indeed, more "just and reasonable"—rates.

198 *See* Boyd, *supra* note 16, at 1621–22 (claiming "that a broad notion of public utility is essential to motivate and organize the planning and investment needed to decarbonize the power sector by midcentury, to coordinate and administer a grid capable of integrating substantial amounts of intermittent renewable generation and distributed energy resources, and to facilitate experimentation and innovation at scale").

199 *Id.*