Michigan Journal of Environmental & Administrative Law

Volume 11 | Issue 2

2022

Removing the State Opt-Out for Demand Response

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https://doi.org/10.36640/mjeal.11.2.removing

REMOVING THE STATE OPT-OUT FOR DEMAND RESPONSE

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In 1935, Congress enacted the Federal Power Act. The Act split jurisdiction over electricity generation and distribution between the Federal and state governments. The Act delegated to the Federal government jurisdiction over interstate wholesales and interstate transmission. The Act gave state governments jurisdiction over intrastate wholesales, intrastate transmission, generation, local distribution, and retail sales. Big, vertically-integrated monopoly utilities dominated the market before and for 60 years after the passage of the Act. However, over time, changes in technology and policy in the wholesale market eroded the dominance of those vertically-integrated monopoly utilities and complicated this jurisdictional bright line.

In 2011, the Federal Energy Regulatory Commission (FERC) issued Order 745, requiring wholesale markets to permit demand response to operate on equal footing to traditional sources of generation. Unlike typical electricity generation, demand response involves paying consumers for a commitment not to consume electricity at a certain time. The Supreme Court sustained that Order in the 2016 case FERC v. Electric Power Supply Association. The Order allowed states to opt out of FERC's demand response rules. This Note advocates for the removal of that state opt-out, analyzes its likely success against court challenges, and explores the possible limits of FERC jurisdiction after the 2020 case National Association of Regulatory Utility Commissioners v. FERC. If demand response reaches its full potential, it could provide as much electricity as hundreds of peak power plants. Removing the opt-out and integrating all possible demand response resources into the wholesale market is particularly timely and important given its potential to alleviate the economic and human toll from widespread blackouts such as the February 2021 Texas power system failure.

* J.D., 2022, The George Washington School of Law. I thank the many professors and colleagues who gave me input and advice as I wrote this piece, as well as my family for their enduring support.

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INTRODUCTION

It's a hot summer day at 6 P.M. You have just sat down for dinner with the lights and air conditioning on. Every home and business in the city have their lights and air conditioning on, too. To accommodate this large increase in electricity demand, electricity suppliers fire up peak power plants, which meet that demand through inefficient, costly, and polluting means.[1] Today, though, those peak plants are sometimes not enough, as blackouts have increased by sixty percent over the last five years.[2] You pick up your fork and your power goes out. Rolling blackouts hit your entire city. Your lights turn off just as you are ready to eat. Your air conditioning stops working during the hottest time of the day. While these may be inconveniences to some, they pose serious or fatal health risks to others.[3] Although most blackouts are associated with summer peaks, blackouts can also happen during winter. High demand during cold snaps and the failure of non-winterized equipment increases demand at a time of low supply, which leads to blackouts.[4] The recent winter blackouts in Texas tragically exemplify this very danger of cold snaps and non-winterized equipment; indeed, the costs to homes and individuals ranged from the major issue of lost power for weeks to the loss of hundreds of lives.[5]

One potential way to alleviate this peak stress—and to keep the lights on and thermostat responsive—is to leverage demand response to serve peak electricity load. Demand response is an opt-in program that allows end-use electricity consumers to reduce their electricity usage during high-demand and peak-demand times in exchange for reimbursements for their electricity reductions.[6] This means that, when the electricity grid approaches peak demand, on that hot summer day at

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1. At peak demand, increasing generation "uses excessive amounts of fuel, causes increased wear and tear on generators, and creates additional levels of pollution compared to running generators at a steady rate." Brief of Grid Engineers and Experts as Amici Curiae in Support of Neither Party at 18–20, Fed. Energy Regul. Comm'n v. Elec. Power Supply Ass'n, 577 U.S. 260 (2016) (No. 14-840), 2015 WL 4397129, at *18–20.

2. Christopher Flavelle, *A New, Deadly Risk for Cities in Summer: Power Failures During Heat Waves*, N.Y. TIMES (July 2, 2021), https://www.nytimes.com/2021/05/03/climate/heat-climate-health-risks.html.

3. *Spike in Deaths Blamed on 2003 New York Blackout*, REUTERS (Jan. 26, 2012), https://www.reuters.com/article/us-blackout-newyork/spike-in-deaths-blamed-on-2003-new-york-blackout-idUSTRE80Q07G20120127.

4. *See* Robert Walton, *Annual Peak Loads Are Shifting to Winter; ACEEE Report Details How Utilities Can Manage*, UTILITYDIVE (Apr. 23, 2021), https://www.utilitydive.com/news/annual-peak-loads-are-shifting-to-winter-aceee-report-details-how-utilitie/598861/ (discussing how utilities have begun to see peak loads in winter); Robert Walton, *FERC Chair Glick Wants Mandatory Winterization Standards for Power Plants Following Texas Grid Failure*, UTILITYDIVE (Sept. 24, 2021), https://www.utilitydive.com/news/ferc-chair-glick-wants-mandatory-winterization-standards-for-power-plants/607111/ (discussing how failure to winterize exacerbated the Texas blackout).

5. Christine Hauser & Edgar Sandoval, *Death Toll from Texas Winter Storm Continues to Rise*, N.Y. TIMES (July 14, 2021), https://www.nytimes.com/2021/07/14/us/texas-winter-storm-deaths.html.

6. *See, e.g.*, *Market FAQs*, PJM, https://learn.pjm.com/three-priorities/buying-and-selling-energy/markets-faqs/what-is-demand-response.aspx (last visited Mar. 26, 2021).

6 P.M., homeowners in a demand response program can simply reduce their electricity consumption *and* receive payments for doing so. [7] Homeowners who do not make it home until later can also participate by agreeing to have their electricity demand reduced using smart thermostats.[8] Industrial and commercial interests, which provide the majority of demand response, benefit as well.[9] With flexible production cycles, industrial interests slow down their production and curtail their electricity consumption at peak demand.[10] Altogether, demand response can effectively lower peak demand, lessen the need for peak power plants, lower end-user costs, and possibly cut electricity demand as a whole.[11]

Demand response and other recent technologies reflect fundamental changes in how electricity is provided. For instance, in the early decades of the twentieth century, vertically-integrated monopoly utilities provided electricity; today, those companies face competition, whether that competition be from an independent electricity generator or a homeowner with solar panels.[12] Most electricity generation plants used to be huge; now, smaller plants abound and can be more economical.[13] Electricity could not be stored; now, utility-scale and consumer-scale batteries exist and are becoming more efficient and common.[14] Electricity flowed one-way from the generator to the consumer; now, consumers may inject electricity back into the grid.[15] Electricity consumers' relationship with electricity providers was only that of a customer; now, they can actively participate in producing their own electricity.[16]

In light of the introduction of demand response to this changing market, the Federal Energy Regulatory Commission ("FERC") began to integrate demand response into wholesale markets in 2008.[17] FERC's action integrating demand response sparked a jurisdictional battle between FERC and the states.[18] Under the Federal Power Act and relevant precedent, a bright-line test determined who had jurisdiction: the states could regulate retail markets and generation, and FERC could

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7. *Id.*

8. *Id.*

9. *See* Smart Elec. Power All., *2018 Utility Demand Response Market Snapshot* 9, https://sepapower.org/resource/2018-demand-response-market-snapshot/.

10. *Id.*

11. *See infra* Section II.A.

12. Fed. Energy Regul. Comm'n v. Elec. Power Supply Ass'n, 577 U.S. 260, 267-68 (2016).

13. *See* Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. 21,540, 21,544 (May 10, 1996).

14. *See EPSA*, 577 U.S. at 267–68.

15. *See* Nat'l Ass'n of Regul. Utility Comm'rs v. Fed. Energy Regul. Comm'n, 964 F.3d 1177, 1182 (D.C. Cir. 2020).

16. *Id.* at 1182–83.

17. *See EPSA*, 577 U.S. at 272.

18. *Id.* at 272–77.

regulate wholesale markets.[19] Demand response presents a difficult application of that test. It takes commitments from consumers in the retail markets and sells them in the aggregate on the wholesale market.[20] Who has jurisdiction over demand response when it arguably falls on both sides of a bright-line test?

In *Federal Energy Regulatory Commission v. Electric Power Supply Association* ("*EPSA*"), the Supreme Court answered that question.[21] Under FERC's jurisdiction to regulate all rules or practices affecting wholesale market rates, FERC—and only FERC—could regulate wholesale demand response.[22] In addition, the *EPSA* decision outlined a three-element test for determining whether an area falls within FERC's jurisdiction. Specifically, if a potential transaction falls on both sides of the bright-line test, FERC may regulate it if its regulation "*directly affects wholesale prices*."[23]

Regrettably, FERC's action integrating demand response allowed states to opt out; specifically, the states that opted out could block consumers within their borders from selling demand response into wholesale markets.[24] The Supreme Court deemed that opt-out to be important in its analysis of whether FERC had exceeded its jurisdiction, leaving open the question of whether the same action without a state opt-out would be upheld.[25] The D.C. Circuit likely answered that question several years later in *National Association of Regulatory Utility Commissioners v. Federal Energy Regulatory Commission* ("*NARUC*").[26] In *NARUC*, the D.C. Circuit upheld FERC's action, which integrated electric storage resources but did not provide a state opt-out.[27] Electric storage resources, which include the batteries of electric vehicles, can both take energy from, and give energy to, the grid.[28] Like demand response, electric storage resources fundamentally change the nature of electricity provision and challenge seemingly clear jurisdictional boundaries.[29] This decision both extended FERC's jurisdiction over rules and practices affecting wholesale rates and provided the possibility that FERC's jurisdiction goes beyond what was upheld in *EPSA*.[30]

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19. *Id*. at 265–67.

20. *Id*. at 270–71.

21. *Id.*

22. *Id.* at 289–90.

23. *Id.* at 279 (emphasis added).

24. Demand Response Competition in Organized Wholesale Energy Markets, 76 Fed. Reg. 16658 ¶¶ 114–15 (Mar. 24, 2011) ("FERC Order 745") ("By issuing this Final Rule, the Commission is not requiring actions that would violate state laws or regulations . . . [T]his Final Rule is not intended to usurp state authority or impede states from taking any actions within their authority.").

25. *EPSA*, 577 U.S. at 287 (stating that "the finishing blow to [the argument FERC did not have jurisdiction] comes from FERC's notable solicitude toward the States" but not indicating whether the solicitude and opt-out were necessary to sustain FERC's jurisdiction).

26. *NARUC*, 964 F.3d at 1177.

27. *Id.* at 1190.

28. *Id.* at 1182.

29. *See infra* Section I.D.

30. *See infra* Section I.D.

Altogether, these decisions suggest that FERC very likely has the jurisdiction to remove the state opt-out for demand response. FERC has recently indicated that it may revisit the issue.[31] This Note reviews FERC jurisdiction and argues that FERC should remove the state opt-out for demand response to encourage lower wholesale prices and higher reliability during times of high demand. In Part I, this Note explains the history and regulation of electricity production, outlining several fundamental changes in production and regulation that set demand response up for a uniquely large impact. In Part II, this Note examines the benefits of FERC removing the state opt-out for demand response and analyzes the likely success of a FERC order removing the state opt-out for demand response.

I. THE TRADITIONAL MODEL OF ELECTRICITY GENERATION UPENDED FROM 1935 TO TODAY

A. The Federal Power Act, the Regulated Utility, and the Traditional Model

Before 1935, states ruled the electricity regulatory roost and had "broad authority to regulate public utilities" as part of their police power.[32] However, the Supreme Court limited that authority by proscribing state regulations that "directly burden[] interstate commerce."[33] In *Public Utilities Commission of Rhode Island v. Attleboro Steam & Electric Co.*, the Supreme Court invalidated a state electricity commission's regulation of interstate rates charged by a Rhode Island electricity plant to a Massachusetts electricity reseller servicing Attleboro, Massachusetts. [34] The Supreme Court ruled that states may not regulate sales of electricity in interstate commerce because doing so violates the Dormant Commerce Clause.[35] The state utility commission regulation could not survive the Dormant Commerce Clause challenge because it "place[d] a direct burden upon interstate commerce."[36] This ruling created the "*Attleboro* gap" for electricity sales in interstate commerce: the states could not regulate them, and Congress had not acted to regulate them, so no authority regulated them.[37]

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31. *See* Notice of Inquiry re Participation of Aggregators of Retail Demand Response Customers in Markets, 174 FERC ¶ 61,198, ¶ 2 (Mar. 18, 2021) ("It has been over a decade since the Commission established the Demand Response Opt-Out in Order Nos. 719 and 719-A. In that time, there have been significant legal, policy, and technological developments that may warrant reconsideration of the Demand Response Opt-Out.").

32. N.Y. v. Fed. Energy Regul. Comm'n, 535 U.S. 1, 5 (2002).

33. *Id.*

34. 273 U.S. 84 (1927).

35. *Id.*

36. *Id.*

37. *N.Y.*, 535 U.S. at 5–6.

In 1935, Congress passed the Federal Power Act to fill the *Attleboro* gap.[38] The Federal Power Act created the Federal Power Commission, FERC's predecessor,[39] and vested it with powers including the regulation of interstate sales of electricity.[40] At that time, most companies that sold electricity operated as vertically-integrated natural monopolies.[41] Vertical integration meant that these companies owned and operated the generation, transmission, and distribution of electricity.[42] Specifically, they generated the electricity in their own power plants, transmitted the electricity across their own power lines, and distributed the electricity to final customers on their own local distribution networks.[43] Regulation of vertically-integrated natural monopolies reflected a bargain made from a political struggle.[44] Regulators granted monopoly power to privately-owned utility companies but obligated them to a duty of universal service of a given geographic area and regulation of electricity rates by government actors.[45] Regulation was especially important because utilities could not store energy.[46] This meant that without price control, utilities could have discriminated between the most favorable customers (big industrial interests) and the least favorable customers (isolated individual homes).[47] This also meant that utilities could engage in price gouging of their customers.[48]

The regulatory model at the time of the Federal Power Act's passage assumed this framework and was divided between state and federal actors: states regulated intrastate electricity sales, while federal actors regulated interstate electricity sales.[49] This division of jurisdiction worked well for decades, with few jurisdictional conflicts being resolved by the courts.[50] State utility commissions

38. Federal Power Act of 1935, ch. 687, § 33, 49 Stat. 838, 847 (1935) (repealed 2005); *see also* Fed. Energy Regul. Comm'n v. Elec. Power Supply Ass'n, 577 U.S. 260, 266 (2016) ("Congress responded to that invitation [to regulate interstate electricity sales] by passing the FPA in 1935.").

39. FERC replaced the FPC in 1977, assuming most of its functions. 42 U.S.C. § 7172.

40. *Id.* For a fulsome discussion of how the Federal Power Act separated state and federal powers, *see infra* Section I.D.

41. *N.Y.*, 535 U.S. at 5. Some scholars believe that the presence of monopolistic firms does not necessarily lead to monopolistic market pricing, putting more emphasis on the market effect of barriers to entry and exit. *See* Elizabeth E. Bailey & William J. Baumol, *Deregulation and the Theory of Contestable Markets*, 1 YALE J. ON REGUL. 111 (1984).

42. *EPSA*, 577 U.S. at 267.

43. *Id.*

44. David B. Spence, *The Politics of Electricity Restructuring: Theory vs. Practice*, 40 WAKE FOREST L. REV. 417, 417–20 (2005).

45. *Id.*

46. *Id.*

47. *Id.*

48. *See id.*

49. *Id.*

50. After a 1972 Supreme Court decision, for example, no conflicts over state versus federal jurisdiction arose for many years. *See* Fed. Power Comm'n v. Fla. Power & Light Co., 404 U.S. 453 (1972).

continued to regulate retail sales of electricity as well as local distribution networks.[51] Pursuant to the Federal Power Act, the Federal Power Commission (now FERC) set rates subject to its jurisdiction to ensure that the rates were "just and reasonable" or otherwise not unduly discriminatory.[52] Courts reviewing those rates would halt their review if the rates were sufficient to maintain the financial integrity of the utility, compensate the utility's investors for the risks assumed, and enable the utility to attract necessary new capital.[53] This effectively gave utilities the right to earn a profit, but not necessarily the right to earn the profit they believed they deserved.[54]

B. A New Challenger Arrives: Competition Upsets the Traditional Model

At the beginning of federal regulation in 1935, "[c]ompetition among utilities was not prevalent."[55] Since then, the domination of vertically-integrated regulated monopolies in electricity supply has decreased due to technological advances and changes in policy resulting in greater generation competition and grid interconnectivity.[56] In light of this change, Congress and FERC updated their respective regulatory models accordingly.[57]

1. Innovation Disrupts Big Generators

Until the 1970s, large generation plants produced electricity at a significantly lower cost than small generation plants.[58] This created a competitive advantage for large vertically-integrated utilities which could achieve economies of scale.[59] However, starting in the 1970s, this no longer was the rule because large plants "need[ed] relatively greater maintenance and experience[d] longer

51. Fed. Energy Regul. Comm'n v. Elec. Power Supply Ass'n, 577 U.S. 260, 265–67 (2016).

52. 16 U.S.C. §§ 824(d)(a)–(b).

53. Fed. Power Comm'n v. Hope Nat'l. Gas. Co., 320 U.S. 591, 605 (1944).

54. *Id.* at 602. In *Hope Natural Gas*, the utility and the FPC came up with different values for "just and reasonable" rates the utility should be able to charge. *Id.* The Court noted that a utility challenging a ratemaking order carries "the heavy burden of making a convincing showing that it is invalid because it is unjust and unreasonable in its consequences." *Id.* That is, a utility challenging a ratemaking order may not challenge the rate as less than it wanted; a utility challenging a ratemaking order may only challenge the rate as less than is necessary to ensure the current and future financial health of the utility. *Id.*

55. New York v. Fed. Energy Regul. Comm'n, 535 U.S. 1, 5 (2002).

56. *See id.* at 5–8.

57. *See id.* at 5–12.

58. Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. 21,540, 21,544 (May 10, 1996).

59. *Id.*

downtimes."[60] In contrast, new technologies and several other efficiencies combined to make small generation plants more efficient.[61]

These new technologies included combined cycle units and advancements in conventional steam units.[62] The combined cycle unit was "made possible by the development of more efficient gas turbines, shorter construction lead times, lower capital costs, increased reliability, and relatively minimal environmental impacts."[63] The steam unit advancement "provide[d] a more efficient and less polluting resource."[64] Thus, with the introduction of these two technologies, small generators producing less than 200 megawatts began producing electricity at a lower cost than large generators producing about 500 megawatts, thereby eroding the competitive advantage for large vertically-integrated utilities.[65]

2. Congress and FERC Increase Competition

On top of technological advancements, legislative and regulatory developments also hastened progress in the area. Specifically, in 1978, Congress, through the Public Utility Regulatory Policies Act, further encouraged competition in energy generation.[66] The Act required large electric utilities to purchase electricity from smaller generators if the smaller generator's rates fell below the utility's incremental cost for generating or purchasing electricity.[67] Under new provisions of the Act, FERC also applied a lighter regulatory load to these smaller generators, including the ability to sell electricity at market rates—as opposed to FERC-determined rates—if they could demonstrate that they did not have market power over their buyer.[68]

As the optimal generator size changed, so too did the nature of the electricity grid.[69] At first, the electricity grid which delivered electricity from

60. *Id.*

61. *Id.*

62. *Id.*

63. *Id.*

64. *Id.*

65. A megawatt is equal to 1,000,000 watts. A typical coal generation plant produces 600 megawatts of electricity. *How Is Electricity Measured?*, UNION OF CONCERNED SCIENTISTS (Oct. 22, 2013); Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. 21,540, 21,544 (May 10, 1996). The optimal size depended on what fuel the generator used. *Id. See also* New York v. Fed. Energy Regul. Comm'n, 535 U.S. 1, 5–12 (2002).

66. Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (codified as amended in scattered sections of 16 U.S.C.).

67. 16 U.S.C. § 824a-3.

68. *See, e.g.*, Dartmouth Powers Assocs. Ltd. Partnership, 53 FERC ¶ 61,117 (1990).

69. *See* New York v. Fed. Energy Regul. Comm'n, 535 U.S. 1, 7–8 (2002).

generators to customers was most commonly a closed network.[70] By the late 1960s, however, utilities had interconnected these networks so much that large regional grids had formed, covering nearly the whole of the continental United States.[71] Utilities could and often did use their power to deny market access to other generators, including smaller generators integrated by the Public Utility Regulatory Policies Act.[72] By refusing to allow use of their transmission lines, utilities effectively blocked smaller generators' access to those markets.[73] In industry parlance, allowing use of transmission to reach other markets is known as "wheeling."[74]

Authorized by the Energy Policy Act of 1992,[75] FERC Order 888 acted to remedy this discrimination by ordering "functional unbundling" of wholesale generation and transmission services.[76] This Order required each utility to state separate rates for its wholesale generation services and its transmission services.[77] It further required "wheeling" for three categories of electricity sales: (1) wholesale sales, (2) unbundled retail sales in interstate commerce, and (3) retail sales in which the utility voluntarily offered (or the state required) unbundled retail access.[78]

Order 888 ultimately led to an open access market, with more widespread permission to base sales on market-based rates.[79] It also included encouragement to form regional transmission entities that it labelled Independent System Operators, and FERC followed that up with Order 2000, which encouraged the formation of Regional Transmission Organizations.[80] In particular, Order 2000 required transmission-owning utilities to "make certain filings with respect to forming and participating in a Regional Transmission Organization (RTO)."[81]

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70. *Id.*

71. *Id.* In 1967, one regional electric grid covered at least Florida, Georgia, Alabama, Mississippi, Tennessee, and some central and midwestern states. Interconnections between utilities in these states formed these grids. Florida Power & Light Co., 37 F.P.C. 544, 548 (1967).

72. New York v. Fed. Energy Regul. Comm'n, 535 U.S. 1, 9 (2002).

73. *Id.* at 8-9.

74. *Id.* at 9.

75. Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (1992) (codified at, among other places, 15 U.S.C. 79z–5a and 16 U.S.C. 796 (22–25), 824j–l); Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. 21,540, 21,546 (May 10, 1996).

76. Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. 21,540, 21,551 (May 10, 1996). The Supreme Court upheld FERC's jurisdiction to issue this Order in 2002. New York v. Fed. Energy Regul. Comm'n, 535 U.S. 1, 2 (2002).

77. New York v. Fed. Energy Regul. Comm'n, 535 U.S. 1, 2 (2002).

78. *Id.* at 11.

79. David B. Spence, *The Politics of Electricity Restructuring: Theory vs. Practice*, 40 WAKE FOREST L. REV. 417, 425 (2005).

80. Regional Transmission Organizations, Order No. 2000, FERC Stats. & Regs. ¶ 61,285 (1999) ("FERC Order 2000") (codified at 18 C.F.R. § 35.34).

81. *Id.* at § 35.34(a).

It is these wholesale market managers, the Regional Transmission Organizations and Independent System Operators, that largely operationalize FERC's management of the grid today.[82] They own and manage regional transmission networks.[83] They also hold several different types of auctions for electricity, including same-day auctions, next-day auctions, and several-year auctions, which are subject to FERC jurisdiction and follow market-based pricing.[84] Regional transmission organizations in particular must be independent from utilities, regional in scope and configuration, reliable, and have operational authority.[85] Regional transmission organizations must also administer and design transmission rates, manage congestion, monitor markets, and plan for the future, among other requirements.[86]

Currently, seven wholesale market managers are in operation and correspond to different regions in the United States.[87] Despite the presence of wholesale market managers in much of the country, broad swaths of the United States have no wholesale market manager.[88] Without a wholesale market manager, these regions are still connected to the grid, but lack an independent entity that efficiently manages wholesale transactions including demand response transactions.[89]

C. Emerging Participation Models and Energy Technologies Challenge the Traditional Model

Recently, new models of participation and technologies in the electricity wholesale market have challenged assumptions underlying the traditional model of

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82. *See* Hughes v. Talen Energy Mktg., 578 U.S. 150, 154–58 (2016). This Note will refer to Regional Transmission Organizations and Independent System Operators collectively as wholesale market managers because they both perform very similar functions in managing the wholesale markets.

83. *Id.* at 154-55.

84. *Id.* at 154-58. The several-year auctions are known as capacity auctions and formed the basis of the dispute in *Hughes*.

85. *See* Regional Transmission Organizations, Order No. 2000, FERC Stats. & Regs. ¶ 61,285 (1999) (codified at 18 C.F.R. § 35.34).

86. *Id.*

87. *RTOs and ISOs*, FED. ENERGY REGUL. COMM'N, https://www.ferc.gov/industries-data/electric/power-sales-and-markets/rtos-and-isos (last updated Feb. 17, 2022). These wholesale market managers are CAISO (California), ERCOT (Electric Reliability Council of Texas, covering most of Texas), SPP (Southwest Power Pool, covering most of Oklahoma north through the Dakotas), MISO (Midcontinent ISO, covering most of Louisiana north through Michigan and Minnesota), PJM (Pennsylvania, Jersey, and Maryland, which actually covers a large block of states from Illinois to New Jersey), NYISO (New York), and ISO-NE (New England).

88. *Electric Power Markets*, FED. ENERGY REGUL. COMM'N, https://www.ferc.gov/industries-data/market-assessments/electric-power-markets (last updated July 20, 2021). Regions without a wholesale market manager include the southwest (Colorado, New Mexico, and Arizona), northwest (from Utah to Washington), and southeast (from Alabama to the Carolinas and Florida)

89. *See RTOs and ISOs*, *supra* note 87; *see also supra* notes 80–88 and accompanying text (describing wholesale market managers and their functions in promoting an efficient wholesale market).

energy production and regulation. This has resulted in shifts in the regulatory regime. Specifically, demand response challenges the traditional model's assumption that only generators respond to increases in demand.[90] Customers may now choose to *use less* electricity during peak time when electricity demand is highest—say, 5 P.M. in the summer—and markets pay that customer as they would a supplier.[91] Thus, demand response works by calling on commitments not to consume electricity and treating them as supply, rather than actually meeting the demand with increased electricity generation from expensive and polluting peak generation plants.[92] By treating a user's decision not to demand electricity as supply of electricity, the wholesale market incentivizes the reduction of demand: a consumer committing not to use electricity during peak demand not only does not pay peak price but also gets paid not to use electricity.[93] This has the benefit of "curb[ing] wholesale rates and prevent[ing] grid breakdowns."[94] Now, not only can generators respond to increases in demand using additional electricity generation, but customers can also respond to increases in demand using demand response.[95]

Similarly, electric storage resources, which can "both inject energy into the grid and receive energy from it," challenge the traditional assumption that energy must be generated in real time to match demand.[96] Electric storage resources allow those who would typically be customers to sell stored energy—say, from their electric car batteries—back to the grid, which also curbs wholesale rates.[97] The innovation of demand response and electric storage resources have already been integrated into the regulatory regime.[98]

Recently, FERC issued Order 2222, which requires wholesale market managers to update their regulatory model to integrate distributed energy resource

90. *See EPSA*, 577 U.S. at 265.

91. *Id.*

92. *Id.* at 270.

93. *Id.* at 265–72.

94. *Id*. at 270.

95. *Id.* at 270-71.

96. Nat'l Ass'n of Regul. Util. Comm'rs v. Fed. Energy Regul. Comm'n, 964 F.3d 1177, 1182 (D.C. Cir. 2020) (quoting Order No. 841, 18 C.F.R. pt. 35, para. 2, 7 (May 23, 2019)). As the *NARUC* decision notes, electric storage resources "obliterate a foundational notion underpinning our electrical systems—that electricity cannot be efficiently stored for later use." *NARUC*, 964 F.3d at 1182. Four years before that decision, the Supreme Court explained in *EPSA* that real-time demand auctions are "needed because, unlike most products, electricity cannot be stored effectively." *EPSA*, 577 U.S. at 268. Although accurate at the time and a longstanding assumption of the regulatory model, that assumption no longer stands.

97. *NARUC*, 964 F.3d at 1183-86.

98. *See EPSA*, 577 U.S. 260 (demand response); *NARUC*, 964 F.3d 1177 (electric storage resources).

aggregators.[99] Distributed energy resources are "any resource located [either] on the distribution system," on a distribution subsystem, "or behind a customer meter."[100] Some examples of distributed energy resources are "electric storage resources, distributed generation, demand response, energy efficiency, thermal storage, and electric vehicles and their supply equipment."[101] These distributed energy aggregators contract with many of the distributed energy resources so that, in the aggregate, they may be able to participate in wholesale markets.[102]

Finding "that existing [wholesale market manager] market rules… present barriers to the participation of distributed energy resource aggregations in the [federally managed] markets, and such barriers reduce competition and fail to ensure just and reasonable rates," FERC ordered reforms to remove the qualification and performance requirements that caused those barriers.[103] Unlike in its initial Order on demand response, FERC considered but ultimately decided against providing a state opt-out for distributed energy resources; however, FERC also did not remove the state opt-out for demand response.[104] FERC attributed this refusal to its claim that it does not purport to regulate state-jurisdictional facilities.[105]

FERC's changing attitude towards demand response, electric storage resources, and now distributed energy resource aggregators suggest these innovations may fall on both sides of fairly well-defined jurisdictional lines.[106] As a result, these innovations present jurisdictional issues for regulators attempting to integrate them into the existing regime.[107] This problem, in addition to the problem presented by

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99. Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators, 85 Fed. Reg. 67,094, 67,095 (proposed Oct. 21, 2020) (to be codified at 18 C.F.R. pt. 35).

100. *Id.* at 67,114.

101. *Id.* at n.1.

102. *Id.* at ¶ 5.

103. *Id.* at ¶ 26.

104. The Order provides an opt-out for small utilities, defined as "those with a total electric output for the preceding fiscal year not exceeding 4 million MWh." *Id.* at p. 45 n. 136.

105. FERC wrote that "this final rule 'addresses—and addresses only—transactions occurring on the wholesale market.'" *Id.* at ¶ 58 (quoting Fed. Energy Regul. Comm'n v. Elec. Power Supply Ass'n, 577 U.S. 260, 282 (2016)).

106. *See infra* Section I.D.

107. The jurisdictional issues arise from tough applications of the jurisdictional test. They do not arise from an unclear test. However, some view *EPSA* and other Supreme Court decisions as muddling the Federal Power Act's bright line. *See* Robert R. Nordhaus, *The Hazy "Bright Line": Defining Federal and State Regulation of Today's Electric Grid*, 36 ENERGY L.J. 203 (2015). I disagree. *EPSA* did not destroy the previous bright line jurisdictional test. Demand response, battery resources, and other innovations simply present difficult applications of the jurisdictional test because they can affect resources delegated to the states and resources delegated to the Federal government at the same time. *See also* Matthew R. Christiansen & Joshua C. Macey, *Long Live The Federal Power Act's Bright Line*, 134 HARV. L. REV. 1360, 1361–71 (2021).

several other developing technologies and participation models, are explored in detail in the following section, Section I.D, as well as in Section II.B.

D. Refereeing Offsides in Federal and State Electricity Jurisdiction

The Federal Power Act gives FERC jurisdiction over electricity transmission in interstate commerce and to wholesale sales in interstate commerce, as well as the attendant facilities.[108] FERC must ensure the rates charged in wholesale sales, and all rules and regulations affecting such rates, are "just and reasonable."[109] The Federal Power Act leaves intact the states' jurisdiction over electricity generation, local distribution, intrastate transmission, electricity consumed wholly by the transmitter, and the attendant facilities.[110] The Act set out clear jurisdictional lines that worked well for the early model of electricity supply by a vertically-integrated monopoly utility, but courts later had to make decisions that dealt with subsequent technological, competitive, and regulatory advances that did not fall as clearly on one side of those lines.[111] This resulted in courts having to "referee…offsides" in disputes between federal and state governments regarding which had jurisdiction over a given issue or transaction.[112]

In 1964, the Supreme Court drew a jurisdictional line that made FERC jurisdiction "plenary and extending to all wholesale sales in interstate commerce" regardless of how much of the electricity in the sale came from interstate transactions.[113] Notably, the Supreme Court later clarified that FERC has jurisdiction over virtually *all* wholesale sales, given the interconnected nature of the grid and the possibility that any given wholesale could contain electricity produced in another state.[114] States, conversely, retained their authority to regulate electricity generation facilities, local distribution facilities, intrastate transmission facilities, and transmission facilities for electricity consumed wholly by the transmitter.[115] As a result, state regulations that aim at FERC's jurisdiction over facilities or transactions may be challenged as preempted by the Federal Power Act.[116] For example, a state could not subsidize wholesale market prices by guaranteeing a minimum price for a

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108. 16 U.S.C. § 824(b)(1). The Federal Power Act defines wholesale as "a sale of electric energy to any person for resale." *Id.* § 824(d).

109. *Id.* § 824d(a).

110. *Id.* § 824d(a). *See also Adam Vann*, *Cong. Rsch. Serv.*, *IF11411*, *The Legal Framework of the Federal Power Act* (2020).

111. *Supra* Part I; *see also* Nordhaus, *supra* note 1077; Matthew R. Christiansen, *FERC v. EPSA: Functionalism and the Electricity Industry of the Future*, 68 STAN. L. REV. ONLINE 100, 101 (2016).

112. Nat'l Ass'n of Regul. Util. Comm'rs v. Fed. Energy Regul. Comm'n, 964 F.3d 1177, 1181 (D.C. Cir. 2020).

113. Fed. Power Comm'n v S. Cal. Edison Co., 376 U.S. 205, 216 (1964).

114. Fed. Power Comm'n v. Fla. Power & Light Co., 404 U.S. 453 (1972).

115. S. Cal. Edison Co., 376 U.S. at 216; 16 U.S.C. § 824(b)(1).

116. *See, e.g.*, Hughes v. Talen Energy Mktg., LLC, 578 U.S. 150, 164 (2016).

wholesale transaction.[117] The Federal Power Act preempts such a guarantee by the state because it aims at prices of wholesale sales.[118]

In 2016, the Supreme Court clarified the extent of FERC jurisdiction in *EPSA*, where the Court considered FERC's Order 745, which required wholesale market managers to permit the participation of demand response in wholesale markets.[119] Importantly, FERC Order 745 gave states an opt-out through which they could prohibit demand response within their boundaries.[120] Thus, states using this opt-out can effectively prevent consumers from selling their demand response onto wholesale markets.[121] In upholding FERC's regulation of demand response as within its jurisdiction, the Court judged FERC to be "onside" of the traditional jurisdictional bright line even though it affected what would normally be on the states' side of that line—retail consumers and their transactions.[122]

In *EPSA*, FERC asserted jurisdiction over demand response through a Federal Power Act provision granting it jurisdiction over "any rule, regulation, practice, or contract affecting such [wholesale] rate[s]."[123] The Court upheld FERC's action but limited this jurisdiction with a three-step test.[124] First, FERC's action must "directly affect wholesale rates."[125] Second, FERC's action must not regulate a sphere left to the states by the Federal Power Act.[126] Third, the first and second determinations must not conflict with the Federal Power Act's core purposes to "curb prices and enhance reliability in the wholesale electricity market."[127]

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117. *Id.* at 165–66.

118. *Id.*

119. Fed. Energy Regul. Comm'n v. Elec. Power Supply Ass'n, 577 U.S. 260 (2016).

120. Demand Response Competition in Organized Wholesale Energy Markets, 76 Fed. Reg. 16658 ¶¶ 114–15 (Mar. 24, 2011) (codified at 18 C.F.R. § 35.28(g)(1)(v)).

121. *Id.*

122. *EPSA*, 577 U.S. at 266; 16 U.S.C. § 824(b)(1).

123. *EPSA*, 577 U.S. at 266 (citing 16 U.S.C. § 824e(a)).

124. *Id.* at 276–77.

125. *Id.* at 277–79. Demand response directly affects wholesale rates by accepting bids not to purchase power only if that bid "displac[ed] higher-priced generation," lowering the auction price and putting downward pressure on generation bids. *Id.* This element of the test also limits FERC's jurisdiction further than the Federal Power Act does, which gives it jurisdiction to change all rules and regulations affecting wholesale rates. The Court limited that statutory language to give FERC jurisdiction only to change all rules and regulations *directly* affecting jurisdiction; in doing so, the Court noted that "a non-hyperliteral reading is needed to prevent the statute from assuming near-infinite breadth." *Id.*

126. *Id.* at 279–88. Demand response did not regulate retail sales; demand response regulated wholesale sales by integrating another supplier into the market. The effect on retail sales of FERC's Order is "of no legal consequence" so long as FERC does not regulate retail sales. *Id.*

127. *Id.* at 288–91. Here, the Court opined that the position that FERC could not regulate demand response would "subvert the [Federal Power Act]" by placing a practice that could enhance reliability and curb prices outside the jurisdiction of any regulatory body. *Id.* That would further mean that, under the Federal Power Act's requirement that some entity have jurisdiction over transactions for electricity, no transaction for demand response could proceed. *Id.*

In a later case, the D.C. Circuit upheld another FERC assertion of jurisdiction over electric storage resources.[128] An electric storage resource can "both inject energy into the grid and receive energy from it," and an electric car battery is a familiar example of an electric storage resource.[129]The vast majority of electric storage resources on the grid are utility-scale pumped hydroelectric storage,[130] but that may change after FERC's Order 841. The D.C. Circuit upheld FERC Order 841 in *NARUC*, which required wholesale market managers to integrate electric storage resources into wholesale markets and barred states from prohibiting electric storage resources participating in federal wholesale markets.[131] First, proceeding under *EPSA*'s three-element test, the Court found that electric storage resources could lower wholesale prices.[132] Second, the Order regulated who had access to federal wholesale markets and did not regulate local distribution facilities.[133] Third and finally, the Court determined that the prior elements did not conflict with the Federal Power Act's core purposes of lowering price and enhancing reliability.[134] In upholding Order 841 as within FERC's jurisdiction, the D.C. Circuit judged FERC to be "onside" of the traditional jurisdictional bright line again even though the Order affected local distribution facilities.[135] For example, a Tesla owner who sold leftover electricity from their car battery onto the wholesale market would affect local distribution facilities because those local distribution facilities would be required to transport the electricity to the interstate market. Thus, in regulating storage resources, FERC necessarily *affected* local distribution facilities without *regulating* those facilities.[136]

Although *EPSA* and *NARUC* did not fundamentally change state or federal jurisdiction over electricity, these precedents did clarify that FERC may be able to regulate facilities or transactions traditionally within the states' jurisdiction so long as its rules directly affect or aim at wholesale markets.[137] States, however, still retain

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128. Nat'l Ass'n of Regul. Util. Comm'rs v. Fed. Energy Regul. Comm'n, 964 F.3d 1177 (D.C. Cir. 2020).

129. *Id.* at 1182.

130. Pumped hydroelectric storage uses electricity to pump water to an elevated reservoir; when electricity is needed, the reservoir can be released to flow through a turbine and generate electricity. *Electricity Storage*, U.S. ENVIRONMENTAL PROTECTION AGENCY (last visited Jan. 21, 2022), https://www.epa.gov/energy/electricity-storage.

131. *NARUC*, 964 F.3d at 1182.

132. *Id.* at 1186.

133. *Id.* at 1186–89.

134. *Id.* at 1185–89.

135. *Id.* For an excellent and more lengthy discussion of FERC's jurisdiction, see Matthew R. Christiansen & Joshua C. Macey, *Long Live the Federal Power Act's Bright Line*, 134 HARV. L. REV. 1360 (2021).

136. *NARUC*, 964 F.3d at 1186–89.

137. *See* Fed. Energy Regul. Comm'n v. Elec. Power Supply Ass'n, 577 U.S. 260, 279–88 (2016); *see also NARUC*, 964 F.3d at 1188. The D.C. Circuit has also said that the Order at issue neither "usurp[s] state power" nor "re-draws the jurisdictional divide between FERC and the States." *NARUC*, 964 F.3d

their jurisdiction over electricity generation facilities, local distribution facilities, intrastate transmission facilities, and transmission facilities for electricity consumed wholly by the transmitter.[138] For electric storage resources specifically, states also retain some ability to force them to choose to participate in interstate or intrastate markets, to impose safety and reliability requirements on them, and to require permitting for them.[139] States also retain their ability to insulate retail prices from wholesale prices[140] and promote certain forms of generation with subsidies linked to wholesale market price.[141] As an additional note, *EPSA* and *NARUC* upheld FERC Orders in response to facial challenges, which suggests that those Orders may still be challenged on as-applied grounds.[142]

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at 1188 (quoting *EPSA*, 577 U.S. at 283). For a contrary view that the Federal Power Act limits federal jurisdiction to only wholesale sales and leaves all other jurisdiction to the states, *see* Scalia's dissent in *EPSA*, 577 U.S. at 297–98 ("The pertinent question under the Act is whether the rule regulates sales '*at wholesale*.' If so, it falls within FERC's regulatory authority. If not, the rule is unauthorized whether or not it happens to regulate '*retail* electricity sales'; for, with exceptions not material here, the [Federal Power Act] prohibits FERC from regulating '*any other* sale of electric energy' that is *not* at wholesale. . . . While the majority would find every sale of electric energy to be *within* FERC's authority to regulate *unless* the transaction is demonstrably a retail sale, the statute actually *excludes* from FERC's jurisdiction all sales of electric energy *except* those that are demonstrably sales at wholesale."). However, this view of the Federal Power Act is unlikely to become the accepted view for two reasons: first, three Justices from the *EPSA* majority—Roberts, Sotomayor, and Kagan—will remain on the Supreme Court; and second, the Supreme Court adheres strongly to stare decisis in matters of statutory interpretation. *See* Hillel Y. Levin, *A Reliance Approach to Precedent*, 47 GA. L. REV. 1035, 1050-51 (2013) ("Traditionally, courts have given even greater deference to precedents concerning questions of statutory interpretation and application than they have to constitutional and common law precedents. The justification for this 'super-strong' statutory precedent rule is that legislative silence suggests acquiescence to a court's interpretation of a statute, or even that the legislature agrees that the court's interpretation of the statute was correct.").

138. 16 U.S.C. § 824d(a)-(d); *see also EPSA*, 577 U.S. at 279-80 (federal jurisdiction over retail sales to the extent that the regulation aims at wholesale markets); *see also NARUC*, 964 F.3d 1177 at 1188 (federal jurisdiction over local distribution networks to the extent that the regulation aims at who may participate in wholesale markets).

139. *NARUC*, 964 F.3d at 1188.

140. *EPSA*, 577 U.S. at 283.

141. Coal. for Competitive Elec. v. Zibelman, 906 F.3d 41, 56 (2d Cir. 2018) (In doing so, states must be careful to link the subsidy to wholesale market *price* without linking it to wholesale market *transactions)* (emphasis added). *Compare id.* (upholding state subsidy for nuclear energy linked to calculation based on wholesale market price), *with* Hughes v. Talen Energy Mktg., LLC, 136 S.Ct. 1288 (2016) (invalidating state subsidy for wholesale electricity capacity linked to transactions occurring on wholesale markets).

142. *See EPSA*, 577 U.S. at 295; *NARUC*, 964 F.3d at 1188–89 ("A facial challenge prevails where 'no set of circumstances exists under which the [Orders] would be valid.'" (quoting Ass'n of Priv. Sector Colls. & Univs. v. Duncan, 681 F.3d 427, 442 (D.C. Cir. 2012))).

II. WHY AND HOW FERC SHOULD RETHINK THE STATE OPT-OUT FOR DEMAND RESPONSE IN THE FEDERAL WHOLESALE MARKET

FERC has the power to remove the state opt-out under *EPSA*'s and *NARUC*'s recognition that FERC has broad power to incidentally affect retail or distribution practices that directly affect wholesale prices.[143] *EPSA* and *NARUC* allow FERC to issue rules and regulations that have the purpose of regulating the wholesale market, and who may participate in it, but also regulate areas of the electricity delivery system that are conventionally subject to state jurisdiction.[144]

FERC has recently raised the possibility that it may remove the state opt-out for demand response.[145] This Note argues that it should. Specifically, FERC should remove the state opt-out because the existing opt-out hinders demand response's potential to increase reliability, reduce market prices, prevent damaging blackouts, and fight climate change. In addition, FERC likely has the legal authority to do so under *EPSA* and almost certainly under *NARUC*.

A. Why FERC Should Remove the State Opt-Out for Demand Response

Several legal and practical realities support FERC removing the state opt-out for demand response. First, only FERC has the authority to remove the state opt-out and is hence the only actor that can ensure the wholesale market enjoys full participation of demand response. Second, by removing the state opt-out, FERC would be responding to the demand of wholesale market operators to fully integrate demand response. Third, integrating demand response fully will ensure that demand response can combine with other exciting technologies and models of participation that remove historical limits on the provision of electricity. Fourth, demand response has not achieved its full potential, and removing the opt-out would push it in this direction. Fifth, FERC should act quickly to remove the opt-out because any legal challenges would create a regulatory lag. Each of these points is addressed in turn below.

First, the Supreme Court has indicated that only FERC may assert jurisdiction over participants in the wholesale market, and accordingly only FERC may act to ensure all states have wholesale demand response.[146] If FERC will not regulate, then in states that opt out of demand response there can be no demand

143. *See supra* Section I.D.

144. *EPSA*, 577 U.S. at 264-65; *NARUC*, 964 F.3d at 1181-82.

145. *See* Notice of Inquiry re Participation of Aggregators of Retail Demand Response Customers in Markets, 174 FERC ¶ 61,198 (Mar. 18, 2021).

146. *See EPSA*, 577 U.S. at 288–89 (discussing how states may not regulate demand response but FERC may).

response in wholesale markets at all.[147] Some states, mostly in the Midwest, have used this veto.[148] Thus, the state opt-out effectively leaves a decision about whether federal regulations will apply within a state's boundaries in the states' hands.[149] The result is that the regulation is no longer mandatory but rather optional, thus undercutting FERC's power over wholesale markets. By removing the state opt-out, FERC would not infringe upon any jurisdictional boundaries and would maintain control over its regulatory prerogative.

Second, the original purpose behind FERC's integration of demand response was to realize the benefits from managing supply and demand in wholesale markets.[150] These benefits include increasing reliability and alleviating the stress on the grid and electricity providers during times of peak demand.[151] During peak demand, wholesale markets often see service interruptions or grid breakdowns, price increases disproportionate to demand increases, and activation of peak generators which tend to be the most expensive and polluting.[152] Demand response effectively lowers peak demand by providing payments for not consuming electricity during peaks, thereby helping to reduce some of the worst problems with peak demand.[153] Furthermore, although states may insulate retail prices from wholesale prices, the prices of retail and wholesale markets tend to be linked, and a decrease in wholesale prices should lead to a decrease in retail prices.[154] In sum, integrating "[d]emand

147. *See id.* ("If neither FERC nor the States can regulate wholesale demand response, then by definition no one can. But under the Act, no electricity transaction can proceed unless it is regulable by someone.")

148. JOEL B. EISEN ET AL., ENERGY, ECONOMICS & THE ENVIRONMENT 985 (5th ed. 2020).

149. *See EPSA*, 577 U.S. at 287–88.

150. For an early example of a wholesale market operator seeking and obtaining approval for demand response, see PJM Interconnection, Order Accepting Tariff Sheets as Modified, 95 FERC ¶ 61,306 (2001).

151. *See EPSA*, 577 U.S. 270–72; *see also* MICHAEL MILLIGAN & BRENDAN KIRBY, UTILIZING LOAD RESPONSE FOR WIND AND SOLAR INTEGRATION AND POWER SYSTEM RELIABILITY 1–2 (2010) (describing benefits of demand response).

152. *EPSA*, 577 U.S. at 269-70. Demand response can often be a more efficient peak management strategy than additional generation. *See, e.g.*, MILLIGAN & KIRBY, *supra* note 151. At peak use, increasing generation "uses excessive amounts of fuel, causes increased wear and tear on generators, and creates additional levels of pollution compared to running generators at a steady rate." Brief of Grid Engineers and Experts as Amici Curiae in Support of Neither Party at 18–20, *EPSA*, 577 U.S. 260 (No. 14-840), 2015 WL 4397129, at *18–20.

153. *See EPSA*, 577 U.S. at 270–72.

154. *See* PETER CAPPERS & SEAN MURPHY, UNPACKING THE DISCONNECT BETWEEN WHOLESALE AND RETAIL ELECTRIC *RATES* (Aug. 2019), https://eta-publications.lbl.gov/sites/default/files/wholesale-retail_price_trends_results_20190822_finalv4.pdf. In particular, this report found that, in several RTO markets, wholesale and retail electric rates fell between 2008 and 2016. Wholesale rates fell faster than retail rates (6.2% per year decrease in wholesale rates as compared to 0.8% decrease in retail rates). Additionally, not all regions experienced a decrease in retail rates. The authors offered several reasons for the disconnect, including increases in capital expenditures and increases in operation and maintenance costs. *Id.*

response, then, emerged not as a [FERC] power grab, but instead as a market-generated innovation for more optimally balancing wholesale electricity supply and demand."[155]

Beyond the approval of market operators, Congress also enshrined its approval of demand response in law.[156] It is not difficult to understand why: electricity at peak demand is very expensive, and the cost of blackouts—a possibility when supply cannot meet peak demand—is even higher.[157] Take, for example, the February 2021 Texas blackout. Tragically, Texas officials state that 246 people died during the blackout.[158] Economic losses were also staggering: demand rose so quickly that wholesale prices went from a normal of $50 to over $9,000 per megawatt-hour (a unit of electricity).[159] Beyond losses on transactions at abnormally high rates, other losses when the power goes out include water damage from pipes bursting, lost output from factories, and lost output from businesses.[160] Although it will take some time for accurate accounting, sources estimate that the economic cost of the February 2021 Texas blackouts could range from 125 to over 200 billion dollars.[161] Although demand response alone could not have prevented this disaster, it could be an integral part of a market strategy that could have beneficial spillover effects. In particular, if FERC removed the state opt-out, it would heighten wholesale reliability and lower wholesale prices with positive knock-on effects for the retail market.

Third, integrating demand response and electric storage resources altered fundamental and limiting assumptions about electricity delivery, and in light of forthcoming integration of distributed energy resources, FERC should remove the state opt-out to demand response to allow the combination of demand response with

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155. *EPSA*, 577 U.S. at 286.

156. *See* Energy Policy Act of 2005, Pub. L. No. 109-58, § 1252, 119 Stat. 594, 965.

157. *See* U.S. ENERGY INFO. ADMIN., REGIONAL WHOLESALE MARKETS: DECEMBER 2020 (2021), https://www.eia.gov/electricity/monthly/update/wholesale-markets.php (data that shows huge variation in peak demand rates, with some reaching $1300 per MWh while most wholesale rates stay under $100 per MWh); *see also* Justine Calma, *Texas' Blackouts May Come at a Steep Cost*, VERGE (Feb. 19, 2021), https://www.theverge.com/2021/2/19/22291426/texas-blackouts-utility-bills-electricity-cost-energy-insecurity (noting that wholesale electricity prices rose from a normal of $50 to over $9,000 per MWh during the recent Texas blackouts); Loren Steffy, *Despite Losing Power for Days, Texans Will Pay Higher Power Bills—Perhaps for Decades to Come*, TEXAS MONTHLY (Mar. 4, 2021), https://www.texasmonthly.com/news-politics/blackout-crisis-texans-electric-bills/ (discussing the high economic cost of the February 2021 blackouts in Texas).

158. Patrick Svitek, *Texas Puts Final Estimate of Winter Storm Death Toll at 246*, TEX. TRIBUNE (Jan. 3, 2022), https://www.texastribune.org/2022/01/02/texas-winter-storm-final-death-toll-246/.

159. Justine Calma, *Texas' Blackouts May Come at a Steep Cost*, VERGE (Feb. 19, 2021), https://www.theverge.com/2021/2/19/22291426/texas-blackouts-utility-bills-electricity-cost-energy-insecurity (noting that wholesale electricity prices rose from a normal of $50 to over $9,000 per MWh during the recent Texas blackouts).

160. Steffy, *supra* note 157.

161. Steffy, *supra* note 157 (estimating that costs could exceed $125B); *see also* Irina Ivanova, *Texas Winter Storm Costs Could Top $200 Billion—More Than Hurricanes Harvey and Ike*, CBS NEWS (Feb. 25, 2021), https://www.cbsnews.com/news/texas-winter-storm-uri-costs/.

other exciting technologies and participation models that enable efficiencies on the grid. For instance, the first wholesale transactions for demand response occurred in the early 2000s,[162] but by 2018, demand response resources totaled over 60 gigawatts,[163] and wholesale demand response resources were equivalent to 6.6% of peak demand.[164] Because peak demand uses more expensive and less clean electricity generators, this increase in demand response participation translated to a relatively larger decrease in wholesale price.[165]

FERC should, therefore, remove the state opt-out for demand response to bring it to all corners of the wholesale market. Demand response, electric storage resources, and distributed energy resources together have the potential to form key elements of a new market strategy that could reduce costs at the best of times and prevent blackouts at the worst of times; FERC should remove the state opt-out to allow the integration of these technologies everywhere.

Fourth, demand response has not achieved its estimated potential because the state opt-out has restricted its penetration into federal wholesale markets. FERC estimated in 2009 that demand response has the potential to reduce peak demand by 38 to 188 gigawatts by 2019.[166] A typical peak power plant is 75 megawatts (or 0.075 gigawatts).[167] Put another way, demand response has the potential to reduce the need for roughly 500 to 2,500 peak plants.[168] In that 2009 report, FERC estimated that expanding demand response to all states would reduce peak demand by 82 gigawatts by 2019.[169] Since then, FERC has produced annual reports on demand response which detail wholesale demand response resources and retail demand response resources.[170] For 2018, the most recent year with comprehensive data available,

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162. *See, e.g.*, *PJM Interconnection, L.L.C.*, Order Accepting Tariff Sheets as Modified, 95 FERC ¶ 61,306 (2001).

163. A gigawatt is equal to 1,000 megawatts. A megawatt is equal to 1,000,000 watts. A typical coal generation plant produces 600 megawatts of electricity, which is equal to 0.6 gigawatts of electricity. *How Is Electricity Measured?*, UNION OF CONCERNED SCIENTISTS (Oct. 22, 2013), https://www.ucsusa.org/resources/how-electricity-measured..

164. *See* FED. ENERGY REGUL. COMM'N, 2020 ASSESSMENT OF DEMAND RESPONSE AND ADVANCED METERING 16–21 (2020), https://cms.ferc.gov/sites/default/files/2020-12/2020%20Assessment%20of%20Demand%20Response%20and%20Advanced%20Metering_December%202020.pdf.

165. ISO/RTO COUNCIL, HARNESSING THE POWER OF DEMAND 40–42, https://www.naesb.org//pdf3/irc_dr_report_101607.pdf (model finding that reducing peak load by 3% could reduce wholesale prices by 6–12%.)

166. *Id.*

167. *See* FED. ENERGY REGUL. COMM'N, A NATIONAL ASSESSMENT OF DEMAND RESPONSE POTENTIAL x (2009).

168. *Id.*

169. *Id.*

170. *See, e.g.*, *supra* note 164, at 16-21 (report on integration of demand response and advanced metering in wholesale and retail markets).

demand response resources contributed 63.3 gigawatts.[171] Even if wholesale demand response resources grew in 2020 at five times the rate they did in 2019, demand response resources still would not meet FERC's projection of 82 gigawatts of demand resources if demand response were extended to all states.[172]

For example, if the Southwest Power Pool, which contributed almost no wholesale demand response resources in the past year,[173] realized its full potential, it could contribute up to 5 gigawatts of demand response resources.[174] The northwest, southwest, and southeast electricity markets, which do not have wholesale market managers and thus do not report wholesale demand response, also have huge potential to add wholesale demand response resources. Together, they could contribute roughly 5.2 to 26 gigawatts if wholesale demand response penetrated those markets to the same extent that it did in other markets.[175]

Regardless of whether the additional demand response resources come from those specific markets or from advances in all wholesale markets, removing the state opt-out could reduce the need for hundreds of dirty and expensive peak power plants.[176] In light of its benefits to the wholesale market and the current failure for demand response resources to live up to their potential, FERC should remove the state opt-out so as to realize the full potential of demand response.

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171. *See id.* In 2018, retail demand response resources contributed 30.9 gigawatts (a 1.9% decrease from the previous year) and wholesale demand response resources contributed 32.4 gigawatts (a 9.2% increase from the previous year). *Id.; see also* FED. ENERGY REGUL. COMM'N, 2019 ASSESSMENT OF DEMAND RESPONSE AND ADVANCED METERING (2019).

172. Five times the 2019 growth rate of 9.2% would be 46%. Growth of 46% on 2019's 32.4 gigawatts of wholesale demand resources would mean 47.3 gigawatts of demand resources. After adding in the 30.9 gigawatts of retail demand resources, this would still only be 78.2 gigawatts, less than FERC's original estimate that expansion to all states would create 82 gigawatts of total demand response resources. This assumes that retail demand response does not change much, which has been true over the past few years according to FERC's reports. *See supra* note 164.

173. *See id.*

174. *See* Robert Walton, *Southwest Power Pool Registers Voltus as First Demand Response Services Provider*, UTIL. DIVE (Dec. 11, 2019), https://www.utilitydive.com/news/southwest-power-pool-registers-voltus-as-first-demand-response-services-pro/568853/.

175. The northwest market peaks at 63 gigawatts, and the southwest market peaks at 42 gigawatts. *Electric Power Markets*, FED. ENERGY REGUL. COMM'N (Oct. 23, 2020), https://www.ferc.gov/industries-data/market-assessments/electric-power-markets. The southeast market peaks around 155 gigawatts. John D. Wilson & Maggie Shober, *Electric Demand in the Southeastern United States* 8, S. ALL. FOR CLEAN ENERGY (Apr. 2, 2020), https://cleanenergy.org/news-and-resources/seasonal-electric-demand-in-the-southeastern-united-states/. Thus, together, they have about 260 gigawatts of peak demand. Demand response makes up about 2% of peak demand on the low end and about 10% of peak demand on the high end for federal markets which have seriously integrated them. *Supra* note 164, at 20. Therefore, they could contribute from 5.2 gigawatts (2% of the 260 gigawatts total) to 26 gigawatts (10% of the 260 gigawatts total) of demand response.

176. *See supra* note 175 (if Southwest Power Pool, northwest power market, southwest power market, and southeast power market realized demand response potential, it could equal 10.2 gigawatts to 31 gigawatts); *see also supra* note 167 (peak power plant contributes 0.075 gigawatts).

Fifth, FERC actions face a lot of uncertainty in how long they will take to be integrated into the federal wholesale market. FERC should act now to assure quick integration of demand response in all states. Take demand response and electric storage resources as contrasting examples. Congress signaled its intent for demand response to be an energy priority in the Energy Policy Act of 2005.[177] FERC first asserted jurisdiction via Order 719 in 2008, requiring regional markets to integrate demand response aggregators.[178] FERC then gave its regulations teeth via Order 745 in 2011 by requiring that demand response pay wholesale market price to aggregators of retail customers with demand response agreements.[179] Wholesale power suppliers sued, and the final judgment came down in 2016.[180] Eleven years passed between Congress recognizing demand response as a national energy priority and the Supreme Court upholding FERC's final Order integrating it into the market, and eight years passed between FERC's assertion of jurisdiction and having that assertion upheld. In contrast, FERC first asserted authority over electric storage resources in 2018 and had that authority upheld in 2020.[181] How long the regulatory lag lasts may depend on the type of agency action, the care taken by the agency in the regulatory process, the slow process of judicial review, and how controversial the regulation is, among other things.[182] Given the uncertainty surrounding the regulatory lag, FERC should move quickly to remove the state opt-out as it may take years to realize the benefits of an action to remove it.

B. How FERC May Remove the State Opt-Out Using EPSA and NARUC

EPSA and *NARUC* opened a wide avenue for FERC to remove the state opt-out for demand response in the federal wholesale market. Like how it integrated demand response with a state opt-out, FERC may first conduct a study and find that

177. *Supra* note 156.

178. *See* Wholesale Competition in Regions with Organized Electric Markets, 73 Fed. Reg. 64119 (Oct. 17, 2008) (codified at 18 C.F.R. § 35(g)(1)).

179. *See* Demand Response Compensation in Organized Wholesale Energy Markets, 76 Fed. Reg. 16658 (Mar. 15, 2011) (codified at 18 C.F.R. § 35) (defining and integrating demand response aggregators into the wholesale market).

180. Fed. Energy Regul. Comm'n v. Elec. Power Supply Ass'n, 577 U.S. 260 (2016).

181. After its initial order, FERC reheard and clarified the order in 2018. Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators, 167 FERC ¶ 61,154 (May 16, 2019) (codified at 18 C.F.R. § 35(g)(9)(i)). Opponents sued and challenged both the Order and Rehearing later that year. Petition for Review, Nat'l Ass'n of Regul. Util. Comm'rs v. Fed. Energy Regul. Comm'n (No. 19-1147). The D.C. Circuit upheld FERC's Order in 2020. Nat'l Ass'n of Regul. Util. Comm'rs v. Fed. Energy Regul. Comm'n, 964 F.3d 1177 (D.C. Cir. 2020). The process of asserting jurisdiction over electric storage resources may have been faster than asserting jurisdiction over demand response because it only contained one order and *EPSA* had set a relevant precedent for it.

182. *Compare EPSA*, 577 U.S. 260, 272–76 (carefully taken but controversial agency rulemaking that resulted in litigation lasting five years) *with NARUC* (carefully taken, less controversial agency rulemaking that resulted in litigation lasting than two years).

the state opt-out for demand response directly affects the market price.[183] FERC can assert jurisdiction over all wholesale rules related to demand response like in *EPSA* or *NARUC*, defend against likely court challenges by the states and industry interests, and delegate management and integration to wholesale market managers as much as possible.[184]

Legally, to remove the state opt-out for demand response, FERC may have to overcome both jurisdictional challenges under the *EPSA* test and procedural challenges under the Administrative Procedure Act.[185] FERC can likely satisfy the requirements of both *EPSA* and the Administrative Procedure Act, and the rest of this section will evaluate each in turn.

1. Surviving a Jurisdictional Challenge

EPSA lays out the relevant test for FERC's jurisdiction to regulate rules or practices affecting wholesale market rates.[186] That is, FERC may change a rule or practice if (1) the change directly affects wholesale rates; (2) the change does not infringe upon areas traditionally regulated by the states, and (3) the first and second elements are consistent with the Federal Power Act's core purposes of increasing reliability and decreasing wholesale prices.[187]

For the first element of the *EPSA* test, FERC must establish that the current rule allowing states to opt out of demand response directly affects wholesale rates.[188] As the Supreme Court explained in its *EPSA* decision, demand response has the natural effect of lowering wholesale rates.[189] Because demand response pays customers for commitments not to consume electricity—and only does so when those commitments would actually cost less than the wholesale price—then removing the state opt-out and bringing demand response to all states would also directly affect

183. *See EPSA*, 577 U.S. 260; *NARUC*, 964 F.3d 1177.

184. To integrate more wholesale demand response and the distributed energy resource aggregators effectively, FERC should delegate management and integration to wholesale market managers as much as possible. For example, in integrating demand response, FERC directed wholesale market managers to determine cost-effective price points for integration of demand response in their markets; it may do the same for the additional wholesale response. *See* FERC Order 745, 76 Fed. Reg. 16658 (Mar. 24, 2011). FERC has also directed the integration of distributed energy resource aggregators to the rulemaking of wholesale market managers. FERC Order 2222, 172 FERC ¶ 61,247, p. 4–5 (Sept. 17, 2020). This delegation may both encourage more tailored regional approaches and prevent FERC from having mandatory oversight over an overwhelming number of transactions. FERC may always restart this process and mandate one national approach if one wholesale market manager's approach proves to be the best at curbing prices and increasing reliability and the benefits of doing so outweigh the costs.

185. *NARUC*, 964 F.3d at 1185–86.

186. *See id.*

187. *See id.* (citing *EPSA*, 577 U.S. at 276-77).

188. *EPSA*, 577 U.S. at 276.

189. *See id.* at 278–79 (explaining that demand response bids are accepted "if and only if they bring down the wholesale rate by displacing higher-priced generation").

wholesale rates and reduce them.[190] Moreover, state action forbidding demand response from participating in the wholesale market amounts to that state directly regulating the wholesale market; as *NARUC* made clear, states may do no such thing.[191]

For the second element of the *EPSA* test, FERC must establish that the proposed rule eliminating state opt-outs for demand response does not regulate a sphere left to the states by the Federal Power Act, including retail sales.[192] There, the Supreme Court noted that the state opt-out to demand response programs proved the "finishing blow" to states' arguments that FERC had regulated retail sales in integrating retail customers' commitments as wholesale demand response.[193] However, both *EPSA* and *NARUC* offer support to the notion that a FERC order removing the state opt-out to demand response would likely be upheld.

In *EPSA*, the Supreme Court also dismissed state arguments that FERC regulated retail rates and therefore failed the second element of the *EPSA* jurisdictional test.[194] The Court instead held that where FERC regulations aim at the wholesale market, their effect on state-jurisdictional facilities is legally irrelevant because the question is what FERC regulations aim at, not what effect the regulations may have.[195] Thus, in integrating demand response into the wholesale market, FERC regulated only wholesale market prices. Although the regulation may have had a residual effect on retail market prices and brought commitments by some retail customers into the wholesale market, that was "of no legal consequence" to the Court because FERC's regulation only aimed at and directly affected wholesale market rates.[196] Moreover, the Court noted that states may still insulate their retail market from changes in wholesale prices as is their historical and jurisdictional prerogative.[197] Therefore, according to the Court, if FERC focuses on regulating federal wholesale

190. *See id.* (explaining that, in a competitive wholesale market, more demand response decreases wholesale rates). That is, wholesale demand response would only come into play in competitive markets where demand response would actually lower wholesale costs by displacing higher-priced generation. *Id.* Specifically, FERC developed a mechanism that required demand response bids not to be accepted if they did not satisfy a "net benefits test" that compared the cost of the demand response bid with a calculation that took into account the full effect of demand response on the marketplace. FERC Order 745, 76 Fed. Reg. 16658 (Mar. 24, 2011). Each wholesale market manager is to determine on a monthly basis "a price level at which the dispatch of demand response resources will be cost-effective" using historical data. *Id.*

191. *NARUC*, 964 F.3d at 1187–88.

192. *EPSA*, 577 U.S. at 279.

193. *Id.* at 287.

194. *See id.*

195. *See id.* at 279–85 (disregarding effect of FERC regulation on state-jurisdictional facility).

196. *Id.* at 281-82.

197. *See id.* at 286-87.

markets in removing the state opt-out for demand response, its transgressions into the states' jurisdiction over retail transactions should be overlooked.[198]

In *NARUC*, the D.C. Circuit followed the *EPSA* test and rebuffed state arguments that allowing electric storage resources to participate in wholesale markets did not regulate facilities over which states have jurisdiction even though the electric storage resources had to use state distribution networks to access the wholesale market.[199] FERC argued on the premise that it had not regulated state distribution networks so as to stay clearly on its side of the Federal Power Act's jurisdictional lines. The D.C. Circuit agreed. It held that, where FERC's ability to make rules or regulations affecting wholesale transactions clashed with state regulation of distribution networks, the Supremacy Clause of the Constitution ensured that federal regulatory authority prevailed over state regulatory authority.[200]

For the third element of the *EPSA* test, FERC must establish that the first and second determinations do not conflict with the Federal Power Act's core purposes to "curb prices and enhance reliability in the wholesale electricity market."[201] Since the Supreme Court in *EPSA* opined that demand response with a state opt-out did not conflict with these core purposes, a challenge to removal of the state opt-out, which would further lead to lower prices and greater reliability in the wholesale market, would be unlikely to succeed on this element.[202] Beyond challenges that an order to remove the state opt-out for demand response would exceed FERC's jurisdiction under the *EPSA* test, such an order would also likely be upheld against Administrative Procedure Act challenges.[203]

2. Surviving an Administrative Procedure Act Challenge

To survive an Administrative Procedure Act ("APA") challenge, FERC must show its order "has examined the relevant considerations and articulated a satisfactory explanation for its action, including a rational connection between the

198, Despite the benefits for retail consumers, as described in Section II.A, FERC's focus should remain on the benefits for the wholesale market lest states or retailers call foul.

199. *Nat'l Ass'n of Regul. Util. Comm'rs v. Fed. Energy Regul. Comm'n*, 964 F.3d 1177, 1185–89 (D.C. Cir. 2020).

200. *Id.*

201. *EPSA*, 577 U.S. at 277. Here, the Supreme Court opined that the position that FERC could not regulate demand response would "subvert the [Federal Power Act]" by placing a practice that could enhance reliability and curb prices outside the jurisdiction of any regulatory body. *Id.* at 288. That would further mean that, under the Federal Power Act's requirement that some entity have jurisdiction over transactions for electricity, no transaction for demand response could proceed. *Id.* at 288-91.

202. *See id.* (explaining that the practice of demand response enhances the Federal Power Act's core purposes to lower prices and enhance reliability in wholesale markets).

203. *Id.* at 291–95; *NARUC*, 964 F.3d at 1189–90 (Both *EPSA* and *NARUC* withstood Administrative Procedure Act arbitrary and capricious challenges).

facts found and the choice made."[204] In doing so, the Court will examine the record FERC has built regarding its findings and its consideration of opposing viewpoints.[205] Practically, to be upheld against such a challenge, FERC must follow a certain procedure, and doing so also helps FERC establish jurisdiction under the *EPSA* test.

First, FERC should investigate whether the current market rules or practices—here, of removing the state opt-out for demand response—affect barriers to entry for the newcomer.[206] Second, if FERC finds that these market rules or practices do affect barriers to entry, FERC should change those regulations via informal rulemaking.[207] For informal rulemaking, FERC has consistently used notice-and-comment rulemaking followed by a final order that finds the market has unduly discriminated and orders changes that will produce "just and reasonable" wholesale prices.[208]

To remove the state opt-out, FERC should mirror procedures that it has used successfully before. Specifically, previous sustained FERC actions have done the following: investigation with a finding that the action will reduce prices and increase grid reliability (which would also help satisfy the first and third elements of the *EPSA* test),[209] notice of proposed rulemaking (here, FERC can use the same net benefit test as in FERC Order 745, which will ensure that the action actually lowers wholesale prices and satisfies in part the third element of the *EPSA* test),[210] and a final order.[211] Incorporating the above would aid FERC in two ways: FERC would strengthen its defense against a claim that its action was arbitrary and capricious in

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204. *EPSA*, 577 U.S. at 292 (citing Motor Vehicle Mfrs. Assn. of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983)); *NARUC*, 964 F.3d at 1189.

205. *See EPSA*, 577 U.S. at 291-95; *NARUC*, 964 F.3d at 1189–90.

206. *See, e.g.*, Demand Response Compensation in Organized Wholesale Energy Markets, 75 Fed. Reg. 15,362 (proposed Mar. 18, 2010) (to be codified at 18 C.F.R. pt. 35) (addressing concerns that current compensation schemes in markets impeded demand response participation).

207. *See, e.g.*, New York v. Fed. Energy Regul. Comm'n, 535 U.S. 1, 27–28 (2002); 16 U.S.C. § 824e(a).

208. *See, e.g.*, Demand Response Compensation in Organized Wholesale Energy Markets, 76 Fed. Reg. 16,658 (Mar. 24, 2011) (to be codified at 18 C.F.R. pt. 35) (codifying changes made in response to FERC's investigation of the integration of demand response into markets).

209. This finding would satisfy the first element, which requires a finding that the rule or practice would directly affect the wholesale price. This finding would also help satisfy the third element, which requires the rule or practice to be in harmony with the Federal Power Act's purposes of curbing prices and enhancing grid reliability. *EPSA*, 577 U.S. at 277.

210. This assures partial satisfaction of the third step of the *EPSA* affecting jurisdiction test: that FERC's action does not conflict with the Federal Power Act's core purposes of lowering wholesale prices and enhancing wholesale reliability. *Id.*

211. *See, e.g.*, *id.* at 292. Against an arbitrary and capricious challenge, "the court must uphold a rule if the agency has 'examine[d] the relevant [considerations] and articulate[d] a satisfactory explanation for its action[,] including a rational connection between the facts found and the choice made.'" *Id.* (quoting Motor Vehicle Mfrs. Ass'n of United States, Inc. v. State Farm Mut. Automobile Ins. Co., 436 U.S. 29, 43 (1983)).

violation of the APA and also establish a factual basis to support it against an *EPSA* exceeding-jurisdiction challenge.[212]

An order removing the state opt-out would likely face a facial challenge but may also face as-applied challenges, as *NARUC* pointedly noted.[213] For example, FERC could face an as-applied challenge by a state alleging that an Order removing the state opt-out would conflict with its own regulations limiting how customers may participate in the electricity retail market. In deciding to litigate or try to settle these as-applied cases, FERC should consider the potential impact of demand response in the market at issue, the extent of the as-applied challenge, whether FERC can extract concessions in a settlement, the challenger's resources, and its own resources, among other things.

An order removing the state opt-out, if done carefully and to satisfy the *EPSA* test and APA requirements, could succeed in promoting wholesale demand response. The solution offered in this Note is preferable because FERC has sole authority to remove the state opt-out and because full participation of demand response in the wholesale market has extensive benefits for wholesale market prices and reliability.

CONCLUSION

Since Congress enacted the Federal Power Act in 1935, the traditional model of electricity generation and several of its accompanying assumptions have been fundamentally undermined. The Act and subsequent precedent drew a bright-line test between state and federal jurisdiction, but new technologies and participation models presented challenging applications of that test because many seem to fall on both sides of the line. These changes, and especially FERC's action to integrate wholesale demand response, have improved wholesale markets. However, in giving states an opt-out to wholesale demand response, FERC limited demand response's potential. While removing the opt-out would likely be sustained under the *EPSA* test, the recent *NARUC* case offers even stronger support for removing the opt-out. Such an action could lower wholesale costs, increase reliability, reduce reliance on dirty peak plants, cut greenhouse gas emissions, and help avert the next blackout catastrophe.

212. *Id.* at 291–95; *NARUC*, 964 F.3d at 1189–90 (Both *EPSA* and *NARUC* withstood Administrative Procedure Act arbitrary and capricious challenges).

213. *NARUC*, 964 F.3d at 1189–90.