Demand Response Aggregators and the MISO Wholesale Markets: A Survey of State Laws

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- Summary

Demand response-programs designed to encourage end-users to reduce electricity use during peak periods-has played a large role in contemporary energy markets. This growing market has created a new market actor: demand response aggregators. These aggregators have not enjoyed success in many of the states in the Midcontinent Independent System Operator (MISO): at least 10 of the 15 states prohibit aggregators from directly bidding into MISO wholesale markets, and these prohibitions vary significantly in their rationale. This Article argues that legislatures are in the best position to clarify the role for demand response aggregators in the current regulatory structure. If legislatures do not act, other institutional actors may take action to fill the void: utility commissions could allow aggregators to bid into wholesale markets, or FERC could issue an order overruling the state's veto. Time will tell how the legal system chooses to keep up with rapid technological developments in this area.

The United States is currently in a rapidly changing electricity market.¹ Part of this change is technological: new technologies, coupled with energy-efficiency goals, are changing the way users think about energy.² But another part of this changing dynamic is regulatory: traditionally, the regulation of public utilities fell exclusively within the purview of state regulatory authority. More recently, the federal government, acting through the Federal Energy Regulatory Commission (FERC), has increasingly played a role in regulating the electricity sector. Challenges have arisen as both actors—state and federal governments—have attempted to respond to emerging technologies and energy-efficiency goals.

Regional transmission organizations (RTOs) and independent system operators (ISOs) fall at the center of this changing market.³ These organizations operate transmission lines, ensuring both that transmission lines are not discriminatory and that the grid remains reliable.⁴ The system works as follows: RTOs accept bids from electricity generators and match them up with "load serving entities" (LSEs)—those wishing to purchase electricity in the marketplace.⁵ Because electricity cannot be stored, this involves a constant balancing of supply and demand. RTOs are the organizations responsible for juggling that supply and demand.

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- See, e.g., Sharon B. Jacobs, Bypassing Federalism and the Administrative Law of Negawatts, 100 Iowa L. Rev. 885, 891 (2015) (describing the "dramatic shifts that have taken place in the United States electricity markets in the past several decades"); Giovanni S. Saarman González, Evolving Jurisdiction Under the Federal Power Act: Promoting Clean Energy Policy, 63 UCLA L. Rev. 1422, 1434 (2016) ("While the jurisdictional divide established by the [Federal Power Act] has demonstrated underlying tensions from its inception, regulatory developments beginning in 1978 with the passage of [the Public Utility Regulatory Policies Act] and continuing with the restructuring of the electricity sector have shifted its application and importance.").
- 2. Fact Sheet, The White House, Obama Administration Announces Initiative to Scale Up Investment in Clean Energy Innovation (Feb. 10, 2015) (providing an overview of the Barack Obama Administration's clean energy initiatives), https://obamawhitehouse.archives.gov/the-press-office/2015/02/10/fact-sheet-obama-administration-announces-initiative-scale-investment-cl; Sebastien Malo, *In New York, Neighbors Trading Solar Energy Electrify Community*, REUTERS, Mar. 29, 2017 (outlining a New York City local effort to produce and sell solar energy), http://www.reuters.com/article/us-energy-usa-blockchain-idUSKBN171003; Jackie Wattles, *Where Apple Stands in Its Quest for 100% Clean Energy*, CNN, Apr. 23, 2017 (describing Apple's effort to implement clean energy initiatives), http://money.cnn.com/2017/04/22/technology/apple-clean-energy.
- 3. RTOs and ISOs are technically distinct. These differences will be addressed later in the Article. To avoid repeating "RTOs and ISOs" throughout the Article, and because the Midcontinent Independent System Operator (MISO) is an RTO, they will be referred to as RTOs—unless otherwise stated.
- 4. See infra notes 62-81 and accompanying text (describing the role of RTOs).
- 5. JOEL B. EISEN ET AL., ENERGY, ECONOMICS, AND THE ENVIRONMENT 652 (4th ed. 2015).

Recently, RTOs began taking on another role: implementing demand response programs. Demand response programs are systems designed to encourage end-users to reduce electricity use during peak periods. These programs seek to accomplish this goal through one of two ways: (1) an incentive payment, or (2) charging higher prices during peak periods. Advocates of demand response claim that it has the potential to reduce costs, enhance grid reliability, and even produce environmental benefits. Critics of demand response question these premises by pointing out that users may simply shift their electricity consumption to non-peak periods. Whatever one makes of the costs or benefits of the program, one thing is clear: it is here to stay and "will only grow in importance."⁶

Demand response aggregators have emerged as key players in this new electricity market. Essentially, their business model breaks down as follows: These aggregators represent several clients and make demand response bids into RTOs. These bids are essentially commitments not to consume energy during specified periods.⁷ In exchange, the RTO provides the incentive payment to the power aggregator. The aggregator retains a portion of the payment from the RTO as its fee and distributes the rest to its customers. The aggregator serves an important function by making demand response available to smaller customers.

These forces set the stage for the federal government to enter the picture. In 2005, the U.S. Congress did just that and "added to the chorus of voices praising wholesale demand response."⁸ Essentially, it declared that its policy was to encourage demand response. Responding to this call to arms, FERC issued Order 719, which requires RTOs to "receive demand response bids" from aggregators, except when doing so would be contrary to state law.⁹ As the U.S. Supreme Court recently upheld Order 745—an order that builds on Order 719—in *Federal Energy Regulatory Commission v. Electric Power Supply Ass'n*,¹⁰ it seems like demand response is here to stay.

However, an important caveat on Order 719 remains: states are free to restrict an aggregator's ability to place retail customers' bids directly into the wholesale market. Some states have done just that. This challenge is particularly acute in the Midcontinent Independent System Operator (MISO), which is an RTO that operates in the midwestern and southern United States. Currently, at least nine of the 15 states in MISO prohibit aggregators from participating in wholesale markets on behalf of their enduse consumers.

This Article surveys state laws within MISO that prohibit aggregators from directly bidding into wholesale markets, and offers suggestions about where states should go from here. Part I begins by briefly describing the basic structure of the electrical grid: generation, transmission, and distribution. It then outlines the traditional model of utility regulation and a subsequent period of restructuring. This period of restructuring resulted in a need for new market actors: RTOs. Part I then describes both (1) the forces that led to the creation of RTOs and (2) RTO operations. The part concludes by briefly introducing MISO.

Part II introduces demand response, a system designed to encourage consumers of electricity to reduce their usage during peak periods. It also outlines the potential costs and benefits of demand response. The part continues by discussing demand response aggregators and the role they currently play in energy markets. Part II concludes by discussing the federal government's policy toward demand response, including Order 719.

Part III surveys the state laws that continue to prohibit aggregators from operating in the marketplace. As mentioned, at least nine out of 15 states within MISO have issued such prohibitions. These prohibitions usually take the form of a utility commission decision. In these decisions, state utility commissions have provided various rationales for denying aggregators the opportunity to bid into the wholesale marketplace.

Part IV offers both modest suggestions for states on how to proceed and insights as to what will happen next. I argue that the state legislature is the actor best-situated to effectuate meaningful change in this area of the law. Legislatures have an opportunity to provide much-needed clarification for both utility commissions and aggregators. If legislatures do not act, utility commission courts still may eventually allow aggregators into the wholesale market. However, as progress has been slow, this is unlikely to happen at any point in the near future. FERC, another important actor, claims it has the authority to override states on this issue, but it likely will not do so because of federalism issues.

I. The Electric Grid, Applicable Laws, and the Need for RTOs

This part provides background information necessary to understand the dynamic between all of the relevant actors in the electrical grid: aggregators, RTOs, and state and federal governments.

A. The Basic Structure of the Electrical Grid

Electricity is a "secondary" energy source, meaning that it is converted from other sources of energy.¹¹ The electricity

^{6.} Jacobs, supra note 1, at 888.

^{7.} See infra notes 103-07 (describing the aggregator business model).

Federal Energy Regulatory Comm'n v. Electric Power Supply Ass'n, 136 S. Ct. 760, 770, 46 ELR 20021 (2016).
See, e.e., id. at 771.

^{11.} See, e.g., Erich W. Struble, National Interest Electric Transmission Corridors: Will State Regulators Remain Relevant?, 113 PA. ST. L. REV. 575, 580-81 (2008); U.S. Dep't of Energy Office of Elec. Delivery & Energy Reliability, Electricity 101 ("Electricity is a secondary energy source which means that we get it from the conversion of other sources of energy, like coal, natural gas, oil, nuclear power and other natural sources, which are called primary sources."), https://energy.gov/oe/information-center/educational-resources/ electricity-101 (last visited Oct. 6, 2017); see also EISEN ET AL., supra note 5, at 2 ("The laws of thermodynamics tell us that we cannot create energy; we can only transform it. We must start with the resources found in nature and convert them to forms suitable to meet our needs.").

NEWS & ANALYSIS

infrastructure consists of three distinct parts: (1) generation, (2) transmission, and (3) distribution.¹²

Generation denotes the step at which primary sources of energy are converted to electricity.¹³ Power plants can generate electricity using either non-renewable resources (e.g., coal, natural gas, uranium) or renewable resources (e.g., wind, solar, hydro).¹⁴ But at any given time, multiple types of power plants will be producing electricity. These different types of plants break down into four categories: (1) base load plants; (2) variable "must run" plants; (3) intermediate load plants; and (4) peak plants.¹⁵

These different types of power plants are necessary given the nature of electricity: it "cannot be easily stored."¹⁶ Because of this, it "is constantly coursing through the grid's wires at nearly the speed of light."¹⁷ To maintain a reliable system, market actors must continuously ensure that supply matches demand.¹⁸ This consumer demand, however, is "highly variable": consumer energy usage differs widely depending on the time of day and year.¹⁹ At certain times—called "peak periods" or "peak times" consumers use electricity more, requiring more supply. Consumer demand and power plants' limited capacity therefore require that, at periods of high demand, multiple power plants will have to operate at the same time.²⁰ Peak plants, however, operate only in peak periods, "sit[ting] idle

- 14. EISEN ET AL., *supra* note 5, at 67.
- 15. 10

20. See, e.g., WISCONSIN ELECTRICITY REPORT, supra note 18, at 1.

for most of the year."²¹ In this way, demand dictates how many generation plants are online at any given time.²²

Transmission refers to the process of transporting—or, in other words, transmitting—electricity from the generation facility to distribution substations. The transmission system consists of an "interconnected system of lines, distribution centers, and control systems."²³ This system is massive: in the early 2000s, the United States had more than 150,000 miles of these lines.²⁴ To carry electricity across large distances, these wires are high-voltage²⁵ and eventually deliver the electricity to distribution substations.

These distribution substations reduce the electricity voltage, and distribution lines eventually deliver electricity to retail consumers.²⁶ But the distribution system also consists of other key systems that contribute to an orderly operation of the electric power industry: these systems include "metering, billing, and related support systems involved in the retail side of electricity delivery."²⁷ The distribution system indeed comprises "many of the common activities that the average person associates with the work of an electric utility."²⁸

B. Traditional Model of Utility Regulation: Natural Monopolies and the "Regulatory Compact"

Beginning in the late 19th century, the law had to grapple with how it would regulate the electric power industry. Specifically, would it allow competition or would it confer a monopoly on entities that provide electricity?²⁹ As time wore on, the business model of providing electricity began to be known as a natural monopoly.³⁰ While several definitions of "natural monopoly" exist, the central notion is that market forces "make it economical for a single firm to supply services in the relevant market rather than two or more competing."³¹ A natural monopoly exists if

See, e.g., EISEN ET AL., supra note 5, at 66; Richard J. Pierce Jr., A Proposal to Deregulate the Market for Bulk Power, 72 VA. L. REV. 1183, 1187 (1986) ("For analytical purposes, the electricity industry can be divided into three parts: generation, transmission, and distribution.").

^{13.} EISEN ET AL., *supra* note 5, at 67. For an overview of the science behind electricity generation, see U.S. Energy Info. Admin., *Electricity Explained: How Electricity Is Generated*, https://www.eia.gov/energyexplained/index. cfm?page=electricity_generating (last updated Nov. 21, 2016).

^{16.} Id.; see also Bruce R. Huber, Demand Response and Market Power, 100 Iowa L. REV. BULL. 87, 88 (2015). Notably, scientists are racing to develop technology that is in fact capable of storing electricity more easily and efficiently. See, e.g., Electricity Generation: Hearing Before the Senate Committee on Energy and Natural Resources, 108th Cong. 6-8 (2007) (statement of Dr. Richard E. Smalley, Director, Carbon Nanotechnology Laboratory, Rice University) (describing energy storage efforts and goals); Jeff Brady et al., Solar and Wind Energy May Be Nice, But How Can We Store It?, NPR, Apr. 5, 2016 (describing efforts to store renewable energy), http://www.npr.org/sections/ alltechconsidered/2016/04/05/470810118/solar-and-wind-energy-may-benice-but-how-can-we-store-it; Dianne Cardwell & Clifford Krauss, A Big Test for Big Batteries, N.Y. TIMES, Jan. 14, 2017 (noting California efforts to use batteries to store energy), https://www.nytimes.com/2017/01/14/business/energy-environment/california-big-batteries-as-power-plants.html?_r=0. But energy storage is a problem that has "vexed engineers, researchers, policy makers, and entrepreneurs for centuries." Cardwell & Krauss, supra. This has made progress slow.

^{17.} Jacobs, *supra* note 1, at 894-95.

^{18.} See, e.g., PUB. SERV. COMM'N OF WIS., ELECTRIC POWER PLANTS 1 (2011) [hereinafter WISCONSIN ELECTRICITY REPORT] ("The balancing of supply and demand is required in order to maintain a reliable electric system without a power interruption to the consumer."), https://psc.wi.gov/ Documents/Electric%20Power%20Plant.pdf; Jacobs, *supra* note 1, at 895 ("[S]ince our ability to store energy efficiently is minimal, supply and demand must be maintained in perpetual balance.").

^{19.} Jacobs, *supra* note 1, at 895. As scholar Sharon Jacobs put it, "This variability is due to both weather variations and human behavior patterns." *Id.* Concrete examples help one conceptualize this: "A manufacturing plant assembly line starts and stops throughout the day and week. Air conditioners are turned on and off seasonally." WISCONSIN ELECTRICITY REPORT, *supra* note 18, at 1.

^{21.} Jacobs, supra note 1, at 895.

^{22.} To some extent, demand response has altered this system. *See infra* notes 82-102 (describing demand response and its purpose).

^{23.} EISEN ET AL., *supra* note 5, at 68; *see also* MATTHEW H. BROWN & RICHARD P. SEDANO, NAT'L COUNCIL ON ELEC. POLICY, ELECTRICITY TRANSMISSION: A PRIMER 1 (2014) (describing the transmission system as "a network of high capacity wires that deliver power over great distances"), *available at* https:// energy.gov/sites/prod/files/oeprod/DocumentsandMedia/primer.pdf.

^{24.} BROWN & SEDANO, supra note 23, at 6.

^{25.} *Id.*; *see also* EISEN ET AL., *supra* note 5, at 68 (discussing the physics behind transmission lines).

Edison Elec. Inst., *Distribution*, http://www.eei.org/issuesandpolicy/distribution/Pages/default.aspx (last visited Oct. 6, 2017).

^{27.} Id.

^{28.} EISEN ET AL., *supra* note 5, at 69.

See, e.g., Joseph P. Tomain, *The Past and Future of Electricity Regulation*, 32 ENVTL. L. 435, 443-48 (2002) (discussing early electricity regulation).

^{30.} See, e.g., George L. Priest, The Origins of Utility Regulation and the "Theories of Regulation" Debate, 36 J.L. & ECON. 289, 296 (1983) ("[P]ublic utilities have long been operated as monopolies and have been believed to be natural monopolies ..."); Joseph P. Tomain, Electricity Restructuring: A Case Study in Government Regulation, 33 TULSA L.J. 827, 832 (1998) ("The second idea that drove electricity regulation was based on the economic notion that utilities had characteristics of a natural monopoly.").

Paul L. Joskow, *Regulation of Natural Monopolies*, in 2 НАNDBOOK OF LAW AND ECONOMICS 1227, 1229 (A. Mitchell Polinsky & Steven Shavell eds., N. Holland 2007); see also Tomain, supra note 29, at 445-46 ("[T]he central idea [of a natural monopoly] is that one firm can realize economies of

a firm has "decreasing average costs over its entire range of production."³² The natural monopoly firm can provide goods or services cheaper than multiple firms operating in a single market.³³ Moreover, these market actors usually incur large capital costs.³⁴ The electricity market fit this model well. As one scholar noted, "A specific service area needs only one set of electric or telephone wires; the investment in any other set of wires is wasteful."³⁵

Once the law recognized that utilities—the entities that provide electric power—possessed the features of a natural monopoly, the law responded accordingly by granting utilities "monopolies over service territories."³⁶ In this system, a single entity owned all three stages of the market: generation, transmission, and distribution.³⁷ Once the state conferred a monopoly on utilities, however, it had to grapple with the effects of a monopolistic market actor: namely, "raising prices, reducing output, and causing losses of consumer surplus."³⁸

To deal with these effects, states regulated utilities heavily. First, states imposed a duty on utilities to serve the public.³⁹ Second, states regulated the prices that utilities could charge their customers: utilities could only charge customers a reasonable rate.⁴⁰ The pricing formula employed by several states was not just a control on the amount that a company could charge, however; it also provided companies with a practically guaranteed rate of return on capital investments.⁴¹ Thus, state utility regulation forged a mid-

- 32. EISEN ET AL., *supra* note 5, at 60-61.
- 33. *See, e.g.*, Tomain, *supra* note 30, at 832 (noting that multiple firms within a natural monopoly market "cause unnecessary duplication").
- 34. Jacobs, *supra* note 1, at 891.
- 35. Tomain, supra note 29, at 445.
- 36. Jacobs, supra note 1, at 891.
- 37. See, e.g., William Boyd, Public Utility and the Low-Carbon Future, 61 UCLA L. REV. 1614, 1628 (2014) ("The traditional electric power system in the United States was organized primarily into large, vertically integrated [investor-owned utilities] that owned the generation, transmission, and distribution assets"); Jacobs, *supra* note 1, at 891-92.
- Tomain, supra note 30, at 832 n.28; see also Thomas A. Piraino Jr., Identifying Monopolists' Illegal Conduct Under the Sherman Act, 75 N.Y.U. L. Rev. 809, 814 (2000):
 - From the days of early English common law, monopolies have been considered harmful because they raise prices, reduce output and eliminate diversity of choice. Modern economists emphasize that monopolies misallocate and waste economic resources. Since monopolists can price products in excess of the level that would prevail in a competitive market, they are able to bring about a transfer of wealth from consumers to themselves.
- 39. See, e.g., EISEN ET AL, supra note 5, at 59 ("The business has a duty to serve all members of the public, but only for the specific service for which it has a monopoly."); Tomain, supra note 30, at 832 ("A utility was given an exclusive service area and assumed an obligation to serve all persons in that area.").
- 40. See, e.g., CHARLES F. PHILLIPS JR., THE REGULATION OF PUBLIC UTILITIES 119 (3d ed. 1993) ("[P]ublic utilities are obligated to charge only a 'just and reasonable' price for the services rendered. It is up to the various commissions and the courts to interpret this duty. Nonregulated businesses are under no such restraint, as competition is assumed to regulate prices in the public interest."); see also Huber, supra note 16, at 90 ("[S]tate utility commission set [a utility's] rates.").
- 41. See, e.g., Tomain, *supra* note 29, at 447 ("The government, through ratemaking, sets the price of its service at rates that allow a prudently managed

dle ground in its regulation, benefitting both stakeholders involved—the public and the utilities.⁴²

C. State and Federal Regulation

The "regulatory compact^{"43} thus aptly describes the type of regulation in place in the early 20th century: states gave utilities a monopoly and a reasonable rate of return on their capital investments, but in turn regulated these utilities rather heavily. But what government actors were doing the regulating? Traditionally, regulation of the electricity sector fell exclusively within the purview of state regulation.⁴⁴ But beginning in 1920 with the passage of the Federal Water Power Act (FWPA),⁴⁵ the federal government asserted for itself a role in regulating electricity, changing the contours of the regulatory landscape.⁴⁶

In 1927, a Supreme Court decision, *Public Utilities Commission of Rhode Island v. Attleboro Steam & Electric Co.*,⁴⁷ altered the traditional jurisdictional boundaries even further. In *Attleboro*, the Court held that states lacked the power to regulate interstate electricity transactions.⁴⁸ This ruling created what is known as the "*Attleboro* gap": states simply could not regulate interstate electricity sales.⁴⁹ Filling this *Attleboro* gap, Congress passed the Federal Power Act in 1935, giving the Federal Power Commission (the predecessor to FERC) jurisdiction over all wholesale sales

utility to cover its operating expenses and earn a reasonable return on its capital investment, thus yielding a profit.").

- 43. See, e.g., James Boyd, The "Regulatory Compact" and Implicit Contracts: Should Stranded Costs Be Recoverable?, 19 ENERGY J. 69, 73 (1998); see also Jersey Cent., 810 F.2d at 1189 (Starr, J., concurring) ("The utility business represents a compact of sorts....").
- 44. See, e.g., Jacobs, supra note 1, at 892 ("Initially, public utilities were subject only to state regulation."); González, supra note 1, at 1431 (describing the early regulatory scheme); Struble, supra note 11, at 583 (same).
- FWPA, ch. 285, 41 Stat. 1063 (1920), *amended by* Federal Power Act, 16 U.S.C. §§791-828(c).
- 46. See, e.g., Jacobs, supra note 1, at 892 (describing early federal electricity legislation). The FWPA itself dealt largely with hydroelectric power, but it did create the Federal Power Commission (FPC), the predecessor to FERC. Id. Congress did not change the FPC to FERC until 1977. See Department of Energy Organization Act, Pub. L. No. 95-91, 91 Stat. 565 (1977) (codified as amended at 42 U.S.C. \$701); see also Gary D. Levenson, FERC-SEC Overlapping Jurisdiction and the Ohio Power Litigation: A Loss for Ratepayers, 68 IND. L.J. 1417, 1441 n.125 (1993) ("In 1977, the FPC ceased to exist and its functions were transferred to FERC and the Secretary of Energy."); Jason Pinney, The Federal Energy Regulatory Commission and Environmental Justice: Do the National Environmental Policy Act and the Clean Air Act Offer a Better Way?, 30 B.C. ENVTL. AFF. L. REV. 353, 364-66 (2003) (providing a brief history of FERC).
- 47. 273 U.S. 83 (1927).
- Id. at 89-90. The Commerce Clause is the source of law for this limitation. See, e.g., Jim Rossi, The Brave New Path of Energy Federalism, 95 Tex. L. Rev. 399, 409 n.47 (2016) (describing the public consensus at the time of the Attleboro decision).
- 49. See, e.g., Joel B. Eisen, FERC's Expansive Authority to Transform the Electric Grid, 49 U.C. DAVIS L. REV. 1783, 1790 (2016); Rossi, supra note 48, at 408-09 ("Prior to the adoption of the FPA in 1935, state commissions were powerless to regulate any interstate transactions by electric utilities.").

scale throughout a range of production, thus continually lowering cost. A supporting justification is the idea that any capital investment made by a competing firm is duplicative and therefore wasteful.").

^{42.} See Jersey Cent. Power & Light Co. v. Federal Energy Regulatory Comm'n, 810 F.2d 1168, 1189 (D.C. Cir. 1987) (Starr, J., concurring) ("[E]ach party to the compact gets something in the bargain."); Tomain, *supra* note 29, at 446-47 ("The regulatory control of natural monopoly, then, occurs by (1) limiting entry, (2) setting prices, (3) controlling profits, and (4) imposing a service obligation.").

NEWS & ANALYSIS

of electricity in interstate commerce.⁵⁰ This statute therefore demarcated the lines between federal and state jurisdiction: the federal government, through FERC, "has exclusive jurisdiction over wholesale sales of electricity and transmission in interstate commerce; states have jurisdiction over retail sales."⁵¹ These jurisdictional boundaries "remain[] largely unaltered."⁵²

D. Restructuring the Utility System

In the 1970s, "politics and soaring energy prices ignited a movement to deregulate the industry."⁵³ Two key pieces of legislation emerged in the following decades. First, Congress passed the Public Utility Regulatory Policies Act (PURPA).⁵⁴ Among other things, PURPA promoted small renewable generation facilities by creating classes of "qualifying facilities," requiring power utilities to purchase them under certain conditions.⁵⁵ Second, Congress enacted the Energy Policy Act of 1992, which promoted "wheeling," the "transmission of generated power across the grid."⁵⁶ This restructuring movement—led by these two statutes—created palpable effects: the wholesale market "expanded rapidly" during the 1990s.⁵⁷

However, the restructuring movement encountered several structural challenges. First, regulators had to decide what portions of the grid were suitable for introducing competition. PURPA indicated that "the generation market was competitive."⁵⁸ But competitiveness in generation markets does not compel the conclusion that other markets within the grid are competitive. Transmission, for example, still possesses many of the characteristics of a natural monopoly.⁵⁹

Second, and relatedly, regulators had to confront the concept of "bottlenecks," which are points in an infrastructure system through which other goods must go.⁶⁰ The danger of bottlenecks is most acute when the owner of the bottleneck competes with market actors trying to send its goods through the bottleneck. As the generation segment of the grid became subject to competitive market forces, more generators emerged in the marketplace. However, utilities still owned the transmission lines and competed with these generators. This posed a unique problem for generators, whose electricity still had to travel through these transmission lines to actually deliver it to other actors and yield a profit. Regulators therefore feared—and reasonably so—the market power that owners of transmission lines exerted over independent generators.⁶¹

E. The Emergence of RTOs

In light of the challenges posed by restructuring, policymakers examined how to make the electrical grid run most smoothly. To that end, FERC took the first step.⁶² In 1996, it issued Order 888, which "required utilities to make their transmission lines available to independent producers at non-discriminatory prices."⁶³ Order 888's purpose was obvious: "to remedy undue discrimination in access

- 60. See, e.g., Tomain, supra note 30, at 836 (describing the concept).
- 61. See id.; see also Jacobs, supra note 1, at 893 ("Utilities were proving reluctant to open up their transmission networks to independent power producers, which limited those producers' ability to get their power to consumers."). Another problem presented by restructuring beyond the scope of this Article is the problem of stranded costs. In a move to a restructured system, lawmakers must debate the proper way to treat entities—here, utilities—that incurred significant costs in reliance on the legal structure. For an overview of this problem, see Tomain, supra note 30, at 836.
- 62. FERC may have taken the first step because of congressional gridlock. See, e.g., David B. Spence, Naïve Energy Markets, 92 NOTRE DAME L. REV. 973, 975 (2017) ("Congressional gridlock over the last twenty years has shifted the battle over [energy policy] from Congress to states, regulatory agencies, the courts, and quasi-governmental and private governance institutions."); see also Jody Freeman & David B. Spence, Old Statutes, New Problems, 163 U. PA. L. REV. 1, 2 (2014) ("Congress is more ideologically polarized now than at any time in the modern regulatory era, which makes legislation ever harder to pass.").
- 63. Jacobs, *supra* note 1, at 893; *see also* Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. 21540, 21541 (May 10, 1996) (codified at 18 C.F.R. pts. 35, 385) (Order 888). For more information on Order 888, see EISEN ET AL., *supra* note 5, at 642, 649-51.

^{50.} See Federal Power Act of 1935, 16 U.S.C. §§791-828c; Eisen, supra note 49, at 1790; Jacobs, supra note 1, at 892. Wholesale sales are those "other than 'retail' sales of electricity to end consumers." Joel B. Eisen, Regulatory Linearity, Commerce Clause Brinksmanship, and Retrenchment in Electric Utility Deregulation, 40 WAKE FOREST L. REV. 545, 549 (2005).

^{51.} Eisen, supra note 49, at 1790-91; see also González, supra note 1, at 1430-34. Scholar Jim Rossi referred to this regulatory scheme as "dual sovereign-ty," a system in which the "nation and the states were each authorized to control autonomous and distinct domains of social life." Rossi, supra note 48, at 400 n.4 (quoting Robert Post, Federalism in the Taft Court Era: Can It Be "Revived"?, 51 DUKE L.J. 1513, 1518 (2002)). Notably, FERC's jurisdiction is more nuanced than the wholesale-retail dichotomy suggests. FERC has authority over "practice[s] . . . affecting" wholesale rates in interstate commerce. See, e.g., Eisen, supra note 49, at 1795-96; Rossi, supra note 48, at 411-12 (noting that this evinces Congress' intent to have "remedial jurisdiction over discriminatory market conduct that is not itself a wholesale energy sale").

^{52.} Jacobs, *supra* note 1, at 893. *But see* Rossi, *supra* note 48, at 405 (describing a Supreme Court case that "depart[ed]" from this strict jurisdictional dichotomy).

^{53.} Jacobs, *supra* note 1, at 893; Tomain, *supra* note 30, at 835-36. Many scholars claim that "restructuring" is a more appropriate term than "deregulation" to denote this period in electricity regulation. This reflects the fact that "some aspects continue to be regulated, and some have been deregulated." EISEN ET AL., *supra* note 5, at 627; *see also* Tomain, *supra* note 29, at 437. *But see* Jacobs, *supra* note 1, at 893 (employing the "deregulation" nomenclature).

^{54.} PURPA, Pub. L. No. 95-617, 92 Stat. 3117 (1978) (codified as amended at 16 U.S.C. §2601); *see also* EISEN ET AL., *supra* note 5, at 630-34 (discussing PURPA).

^{55.} Eisen, *supra* note 50, at 549; Jacobs, *supra* note 1, at 893; *see also* González, *supra* note 1, at 1434 (describing PURPA).

^{56.} Eisen, *supra* note 50, at 550; *see also* Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (codified as amended in scattered sections of 15, 16, and 42 U.S.C.); Huber, *supra* note 16, at 90 n.19 (describing PURPA and the Energy Policy Act of 1992 as the "key moves from Congress" during the restructuring era). For more on the concept of wheeling, see Tomain, *supra* note 30, at 840 ("Wheeling is the practice of a generating utility using another utility's transmission lines to move electricity to consumers.").

^{57.} Eisen, *supra* note 50, at 550.

^{58.} Tomain, *supra* note 29, at 453.

Joseph P. Tomain, The Persistence of Natural Monopoly, 16 NAT. RESOURCES & ENV'T 242, 246 (2002):

[[]I]ndustry and regulators noted competition at the generation end and are now focusing on transmission. The question is fairly raised whether the transmission segment is a natural monopoly or whether it is subject to competitive forces in the same manner as the generation segment now is. The simple answer is that for the foreseeable future transmission is a natural monopoly.

to the monopoly owned by transmission wires that control whether and to whom electricity can be transported."⁶⁴

To help implement the open access provisions, FERC also included within Order 888 a provision encouraging the formation of ISOs.⁶⁵ In the order, FERC established certain standards for ISOs. For example, each ISO must be structured in "a fair and non-discriminatory manner."⁶⁶ This means that "a single, unbundled, grid-wide tariff . . . applies to all eligible users."⁶⁷ Further, no one working for an ISO can have a financial interest in any market participant.⁶⁸ These criteria demonstrate FERC's commitment to ensuring fair and non-discriminatory access. But FERC also stressed the importance of grid reliability, noting that this is a "critical function[] for a system operator."⁶⁹

FERC continued to encourage the formation of RTOs in Order 2000.⁷⁰ This order set out "minimum characteristics" that RTOs must meet and "minimum functions" that RTOs must perform.⁷¹ Here, too, FERC accentuated the importance of independence.⁷² Functionally, RTOs are required to, among other things, provide transmission service,⁷³ set tariffs,⁷⁴ and manage congestion in the transmission network.⁷⁵

Thus, RTOs are entities that operate transmission lines. But what does that mean? At a risk of overgeneralization, the day-to-day responsibilities of RTOs are as follows:

[S]pecifically, [RTOs] determine which generators may send electricity through the wires, and when; and they run markets for electricity, accepting bids from generators who want to send electricity through the wire and bids from "load serving entities" (LSEs) who want to purchase electricity sent by generators through the wires. Generators bid in the amount of power they want to send through the grid at a particular price, and LSEs place bids for how much power they need. The ISO or RTO then accepts the generation bids up to the point at which all LSE demand will be fulfilled, taking the lowest-price bids first and moving up.⁷⁶

The RTOs, then, operate a marketplace in which they continually match supply (generation bids) with demand (bids from LSEs). In doing so, RTOs seek to promote the overarching goals laid down by FERC: fair, open access and grid reliability.

Currently, there are seven RTOs operating throughout the United States, covering territory from coast to coast.⁷⁷ MISO is the RTO that operates throughout the Midwest and portions of the South: it operates transmission lines in portions of 15 states and the Canadian province of Manitoba.⁷⁸ These transmission lines span 65,800 miles⁷⁹ and transmit electricity from more than 6,500 generating units.⁸⁰ It is estimated that the RTO indirectly serves approximately 42 million people.⁸¹

II. Demand Response, Aggregators, and Orders 719 and 745

A. Demand Response: Definition and Costs and Benefits

At about the same time as FERC promoted the use of RTOs, various stakeholders began closely scrutinizing American energy consumption. The traditional ratemaking model incentivized utilities to generate electricity.⁸² Because utilities were guaranteed a reasonable rate of return on their capital investments, more sales—and thus more power plants⁸³—meant more profits for the utilities.⁸⁴ This ratemaking system inherently came into considerable tension with conservation and efficiency efforts.⁸⁵

Recently, policymakers began focusing on the *demand* side of the supply-and-demand equation to achieve conservation and efficiency goals. Enter demand response. Demand response is a capacious term that encompasses various measures that regulators can use to reduce an end-

Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. at 21541.

^{65.} *Id.* at 21595 ("While [FERC] is not requiring any utility to form an ISO at this time, we wish to encourage the formation of properly-structured ISOs.").

^{66.} Id. at 21596.

^{67.} Id.

^{68.} *Id.*

^{69.} *Id.* 70. Re

^{70.} Regional Transmission Organizations, 65 Fed. Reg. 810 (Jan. 6, 2000) (codified at 18 C.F.R. pt. 35). As a matter of nomenclature, FERC labeled these organizations as RTOs. *See, e.g., id.* RTOs and ISOs are essentially the same organizations: the only difference is the standards under which they were organized. *See* EISEN ET AL., *supra* note 5, at 652.

^{71.} Regional Transmission Organizations, 65 Fed. Reg. at 811.

^{72.} See id. at 842-59.

^{73.} Id. at 877.

^{74.} Id.

^{75.} Id. at 887.

^{76.} EISEN ET AL., *supra* note 5, at 652.

Jacobs, supra note 1, at 894 n.39; see also FERC, Regional Transmission Organizations (RTO)/Independent System Operators (ISO) (listing the different ISOs), https://www.ferc.gov/industries/electric/indus-act/rto.asp (last updated May 11, 2017).

MISO, About Us, https://www.misoenergy.org/AboutUs/Pages/AboutUs. aspx (last visited Oct. 6, 2017). These states include Arkansas, Illinois, Indiana, Iowa, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Montana, North Dakota, South Dakota, Texas, and Wisconsin. See, e.g., Org. of MISO States, Members, http://www.misostates.org/index.php/ about/members (last visited Oct. 6, 2017).

MISO, CORPORATE INFORMATION 1 (2017), https://www.misoenergy. org/Library/Repository/Communication%20Material/Corporate/Corporate%20Fact%20Sheet.pdf.

^{80.} *Id*.

^{81.} *Id*.

^{82.} EISEN ET AL., *supra* note 5, at 889 ("Dating back to the days of Thomas Edison and Samuel Insull, electric utility companies have traditionally promoted the use of electricity."); Jacobs, *supra* note 1, at 892 ("One consequence of [the traditional utility] rate structure was that when the utility sold more power than projected during a given rate cycle, it made more money. The system thus created an incentive for utilities to sell as much electricity as possible.").

^{83.} Cf. Huber, *supra* note 16, at 89 ("After all, it is capital investment that earns the regulated rate of return; operating costs are conventionally recovered dollar-for-dollar with no return to investors.").

EISEN ET AL., *supra* note 5, at 889 ("[T]raditional ratemaking methodologies created an incentive for companies to sell more electricity because increasing sales led to more profits.").

^{85.} Huber, *supra* note 16, at 89 ("[E]nergy law has struggled to create incentives for utilities to promote user efficiency that do not concomitantly undermine the fundamental utility model.").

NEWS & ANALYSIS

user's consumption of electricity during peak periods.⁸⁶ As FERC defines it, demand response refers to "a reduction in the consumption of electric energy by customers from their expected consumption in response to an increase in the price of electric energy or to incentive payments designed to induce lower consumption of electric energy."⁸⁷ Thus, demand response refers to consumers changing their consumption of electricity in response to two distinct stimuli: (1) price increases, or (2) incentive payments.⁸⁸

These programs are designed to reduce consumption during specific times: peak periods.⁸⁹ In that way, demand response is a function of the structure of the electrical grid: peak load plants are expensive, and they typically only operate for small portions of the year.⁹⁰ Because electricity is a constant monitoring of supply and demand, it is beneficial to reduce demand such that peak load power plants are producing less electricity or do not even have to run in the first place. RTOs believe that sometimes it is cheaper to pay consumers to refrain from using electricity than to pay power plants to produce more.⁹¹

Advocates of demand response claim that the system produces numerous benefits. First, cutting consumption during peak periods reduces the cost of electricity. Simply, energy during peak periods is expensive.⁹² In demand response programs, users reduce their consumption during such periods, so these expensive plants will not be running and passing on these costs to consumers.⁹³ Further, reduced demand may even obviate the need for constructing these plants in the first place. Thus, utilities "will not need to recoup" these costs from consumers.⁹⁴

Demand response also has the potential to enhance the grid's reliability. During peak periods, the electrical grid

is stressed; reducing demand alleviates this stress.⁹⁵ Transmission lines can better manage congestion when there is less demand. While grid reliability is important, policymakers typically focus on grid reliability concerns more during times following massive blackouts, which are relatively rare.⁹⁶

Advocates also claim that demand response has the potential to produce environmental benefits. This stems from the nature of peak plants; they tend to emit more pollution than other generation sources.⁹⁷ Thus, taking these plants off the grid is beneficial.⁹⁸

One critique of demand response is that the system conflates energy reduction during specific periods with total energy reduction. Energy users have incentives to reduce their consumption during *peak periods*, but that does not stop them from shifting that energy usage to different periods of the day.⁹⁹ Demand response, then, does not inevitably lead to energy conservation (i.e., using less energy overall).

Critics of demand response also argue that demand response programs create a perverse incentive for industrial users to pollute *more*. Certain industrial users maintain backup generators on their premises that are not hooked up to the electrical grid. These generators are often dieselfueled or otherwise emit pollution. These commercial users may refrain from using electricity from the grid—thus taking advantage of demand response—but they may still continue to emit pollution.¹⁰⁰

The final category of costs centers largely on the difficulty of implementing demand response. For example, economists hotly debate the optimal price that consumers should receive in demand response programs.¹⁰¹ In addition, the legal system will have to create some enforcement mechanism to police consumer behavior. After all, the grid more or less relies upon consumers' promises not to use electricity.¹⁰²

B. Demand Response Aggregators

Demand response aggregators—also known as "curtailment service providers" or "aggregators of retail customers" (ARCs)—have emerged as key market players in demand response systems. These aggregators organize consumers as

^{86.} Joel B. Eisen, Who Regulates the Smart Grid? FERC's Authority Over Demand Response Compensation in Wholesale Electricity Markets, 4 SAN DIEGO J. CLI-MATE & ENERGY L. 69, 74 (2012) ("Demand response includes numerous techniques by which end-use customers directly reduce consumption of electricity."); Jacobs, supra note 1, at 887 ("Demand response refers to a retail customer's reduction of energy consumption in response to a price signal or incentive payment."); Rossi, supra note 48, at 422 (describing demand response as "commitments not to consume electricity"). This reduction in electricity has been referred to as a "negawatt." See, e.g., Rossi, supra note 48, at 422.

^{87. 18} C.F.R. §35.28(b)(4) (2016).

^{88.} This Article focuses on demand response in the form of *incentive payments* to consumers. But demand response can also include programs designed to reduce electricity consumption through price signals. These programs presuppose that, on average, end-users will consume less electricity when the price is higher. *See, e.g.*, Jacobs, *supra* note 1, at 897-98.

Huber, supra note 16, at 89 ("[D]emand response addresses literally the precise moments of peak demand."); Jacobs, supra note 1, at 897 n.54 ("The goal of demand response is to reduce usage of energy at times of peak consumption").

^{90.} EISEN ET AL., *supra* note 5, at 924; *cf*. Jacobs, *supra* note 1, at 901 (describing the high electricity costs during peak periods).

Federal Energy Regulatory Comm'n v. Electric Power Supply Ass'n, 136 S. Ct. 760, 767, 46 ELR 20021 (2016).

^{92.} Jacobs, *supra* note 1, at 901 (noting that energy can be "up to twenty times more expensive" during peak periods).

^{93.} Eisen, *supra* note 86, at 78 ("[Demand response] can offset the need to run power plants that would be extremely costly to run at those peak hours."). This "mitigate[es] generator market power." *Id.; see also* Huber, *supra* note 16, at 92 ("[D]emand response can also play a critical role in limiting the market power of power generators.").

^{94.} Jacobs, *supra* note 1, at 902.

^{95.} Eisen, *supra* note 86, at 78; Jacobs, *supra* note 1, at 902; González, *supra* note 1, at 1455-56.

^{96.} See, e.g., Jacobs, supra note 1, at 902.

^{97.} Eisen, *supra* note 86, at 79; Roberta F. Mann, *Smart Incentives for the Smart Grid*, 43 N.M. L. REV. 127, 135 (2013) (describing "fossil-burning peak plants"); González, *supra* note 1, at 1428-29 (describing peak plants as "high-polluting sources").

^{98.} But see infra notes 99-100 and accompanying text (arguing that demand response may not be beneficial for the environment).

^{99.} EISEN ET AL., supra note 5, at 924 (summarizing this critique); Jacobs, supra note 1, at 897 n.54 ("[I]t is entirely consistent with a demand response program for customers to continue consuming the same net amount of energy, merely altering the times at which that energy is consumed or the sources from which it comes.").

^{100.} EISEN ET AL., *supra* note 5, at 922-23; Eisen, *supra* note 86, at 84.

^{101.} Jacobs, supra note 1, at 903.

^{102.} Id. at 903-04.

a group and bid into RTO wholesale markets.¹⁰³ Each bid signals to the RTO that the aggregator's clients will refrain from using electricity from the grid during a specified time. In exchange for a commitment to refrain from using energy during these periods, aggregators receive a payment from the RTO, take a portion of that payment, and distribute the rest among its customers.¹⁰⁴

These aggregators bring value to the marketplace by enabling smaller consumers to utilize these demand response programs.¹⁰⁵ These smaller customers would have been previously unable to bid into wholesale markets for a host of reasons. Most residential customers cannot directly bid into wholesale markets due to RTO rules. These consumers also could lack monetary incentive or "even the necessary level of awareness" to do so.¹⁰⁶ This ability to bring more consumers into the market is significant: with more market participants using demand response, the "results ... can be considerable."¹⁰⁷

C. Laws Promoting Demand Response

Congress officially advocated demand response in the Energy Policy Act of 2005,¹⁰⁸ in which it "encouraged" demand response.¹⁰⁹ FERC took over from there. In 2008, it passed Order 719, which "requires wholesale market operators to receive demand response bids from aggregators," except when doing so would contravene the relevant state law.¹¹⁰ According to FERC, this order "would reduce a barrier to demand response" because otherwise, "small retail loads" could not individually participate in whole-sale markets.¹¹¹

FERC continued its demand response efforts by issuing Order 745 in 2011.¹¹² This order kept intact the provision requiring wholesale markets to accept aggregator demand response bids, but it changed the way market operators compensated aggregators. Under two conditions, operators must pay aggregators the same price as they pay generators.¹¹³ The Supreme Court, in *Federal Energy Regulatory*

- 107. EISEN ET AL., supra note 5, at 921.
- 108. Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (codified as amended in scattered titles of U.S.C.).
- 109. 16 U.S.C. §2642 note.
- 110. Federal Energy Regulatory Comm'n v. Electric Power Supply Ass'n, 136 S. Ct. 760, 771, 46 ELR 20021 (2016); *see also* Wholesale Competition in Regions With Organized Electric Markets, 73 Fed. Reg. 64100, 64119 (Oct. 28, 2008) (codified at 18 C.F.R. pt. 35).
- Wholesale Competition in Regions With Organized Electric Markets, 73 Fed. Reg. at 64119.
- 112. Demand Response Competition in Organized Wholesale Energy Markets, 76 Fed. Reg. 16658 (Mar. 24, 2011) (codified at 18 C.F.R. pt. 35).

Commission v. Electric Power Supply Ass'n,¹¹⁴ upheld the order against challenges that it exceeded FERC's jurisdiction to regulate wholesale rates.¹¹⁵

III. MISO and State-Law Burdens for Aggregators

After Orders 719 and 745, wholesale market operators are required to accept demand response bids from ARCs. These market operators are required to, under certain conditions, pay these aggregators the same amount they pay generators of electricity. These rules, however, are subject to an important limitation: market operators cannot accept bids from aggregators if doing so would violate state law. This exception raises an important question: which states prohibit these transactions? This part surveys state laws that prevent demand response aggregators from bidding into wholesale markets in MISO.

A. Arkansas

Arkansas has taken a proactive approach to regulating demand response aggregators. Essentially, a statute prohibits an aggregator from bidding into wholesale markets, but the Arkansas Public Service Commission may promulgate regulations allowing it under certain conditions.

The Arkansas Legislature passed a statute addressing the uncertainty surrounding demand response aggregators and their ability to bid into the wholesale market. This innovative approach generally prohibits the practice.¹¹⁶ However, it allows the commission to promulgate rules allowing aggregators to do so if it finds that the practice "is in the public interest."¹¹⁷ To date, the commission has not issued a regulation under the statute. Thus, with the exception of actors specifically exempted from the statute, aggregators cannot operate within Arkansas.

B. Indiana

Indiana also prohibits demand response aggregators from directly participating in wholesale markets on behalf of their clients. The Indiana Utility Regulatory Commission issued its first order on the subject in 2008.¹¹⁸ In its

118. Petition of Duke Energy Ind., Inc. et al., for Approval, If & to the Extent Required, of Certain Changes in Operations That Are Likely to Result From the Midwest Indep. Transmission Sys. Operator, Inc.'s Implementation of Revisions to Its Open Access Transmission & Energy Mkts. Tariff to Establish a Co-Optimized, Competitive Mkt. for Energy & Ancillary

^{103.} EISEN ET AL., *supra* note 5, at 921; Eisen, *supra* note 86, at 81; Huber, *supra* note 16, at 92.

^{104.} Spence, *supra* note 62, at 1016 ("[T]]he aggregator and the customer share the resulting savings.").

^{105.} EISEN ET AL., *supra* note 5, at 922; Eisen, *supra* note 86, at 81; Huber, *supra* note 16, at 92 (noting that aggregators bring consumers "into the system more readily").

^{106.} Huber, *supra* note 16, at 92.

^{113.} *Id.* at 16666-69; *see also Electric Power*, 136 S. Ct. at 771 ("[T]he Rule requires that demand response providers in those circumstances receive as much for conserving electricity as generators do for producing it.").

^{114.} Electric Power, 136 S. Ct. 760.

^{115.} *Id.* at 773. Justices Antonin Scalia and Clarence Thomas dissented, arguing that sales to aggregators are *retail* sales outside of FERC's jurisdiction under the Federal Power Act. *Id.* at 784-85 (Scalia, J., dissenting).

^{116.} Ark. CODE ANN. \$23-18-1004 (2017). Notably, certain actors are excluded from the definition of demand response aggregators. These include public utilities, "municipally owned" utilities, and "consolidated municipal utility improvement district[s]." *Id.* \$23-18-1002.

^{117.} *Id.* §23-18-1004. The technicalities of the statute are a bit more nuanced than the above-the-line text suggests. The statute gives other actors the ability to regulate demand response aggregators, including "the governing authority of a municipally owned electric utility" and "a consolidated municipal utility improvement district." *Id.*

NEWS & ANALYSIS

decision, the commission noted that aggregators do not fit neatly into the traditional retail market.¹¹⁹ According to the commission, if anybody wishes to change the existing regulatory structure, it should be the legislature.¹²⁰ Finally, the commission noted that it retains the authority to regulate end-use customer participation in wholesale markets because it viewed them as retail transactions.¹²¹ In 2009, the commission upheld that decision on the same grounds, extensively citing the 2008 decision.¹²² The commission noted that important "factual, legal and policy issues" remained regarding the integration of aggregators into wholesale markets.¹²³

In 2010, the commission issued another order that further discussed the role that aggregators should play in offering demand response programs to end-use customers.¹²⁴ The order discussed Indiana's model of utility regulation, noting that utilities have the "sole right to furnish retail electric service within their respective assigned service areas."¹²⁵ Defining "service" broadly, the commission found that end-user participation in demand response "has the ability to directly and significantly affect a utility's provision of electric service" (e.g., by saddling other customers with additional costs), and the utilities should therefore conduct demand response programs—including aggregating retail customers.¹²⁶ However, the commission actually encouraged utilities to "explore opportunities" with aggregators to bring smaller customers into the marketplace.¹²⁷ But if an aggregator does want to participate in demand response programs in Indiana, it must do so through a utility and receive permission from the commission.¹²⁸

The commission also noted how demand response programs could adversely affect other customers who do not participate in those programs. For example, customers could consume electricity when they promised that they would refrain from doing so.¹²⁹ Additionally, demand response could result in the utility overstating its forecast, resulting in the utility committing more resources than are actually required.¹³⁰

In 2011, the commission issued another decision on the subject, which largely echoed its 2010 decision. In this decision, the commission noted that end-use customers must go through their utilities rather than directly through aggregators to participate in demand response programs.¹³¹

Indiana offers important insight into the question whether aggregators may directly bid into MISO markets. First, the commission noted that the aggregator model comes into conflict with traditional utility regulation. Aggregators are technically providing an electrical service, and this must be done through utilities rather than other market actors. Second, Indiana noted possible adverse effects of demand response programs more generally. This may result in, for example, additional costs for customers not directly participating in demand response programs.

C. Iowa

Iowa is another state in MISO that prohibits aggregators from bidding into wholesale markets. The Iowa Utilities Board has issued two orders—one in 2010 and another in 2012—both prohibiting aggregators from participating in MISO. These decisions rest largely on statutory grounds.

In 2010, the Iowa Utilities Board first examined the question whether it would allow aggregators to participate in MISO.¹³² The board noted the potential benefits of demand response programs,¹³³ but it voiced concerns that allowing aggregators to participate would violate Iowa statutes concerning service territory and rates.¹³⁴ After the board issued its 2010 order, it solicited com-

129. *Ia*. a 130. *Id*.

Servs. Mkt.; & for Timely Recovery of Costs Associated With Joint Petitioners' Participation in Such Ancillary Servs. Mkt., No. 43426 (Ind. Util. Regulatory Comm'n Aug. 13, 2008), https://iurc.portal.in.gov/_entity/ sharepointdocumentlocation/a48797b0-3983-e611-810e-1458d04f0178/ bb9c6bba-fd52-45ad-8e64-a444aef13c39?file=43426order_081308.pdf.

^{119.} Id. at 19 ("[S]tate ratemaking is complex and . . . a new layer of Midwest ISO demand response tariffs cannot simply be added without also considering existing retail tariff structures.").

^{120.} *Id.* at 18 ("[T]he legislature has not found that it is in the public interest to alter its traditional regulation of the relationship between retail power use and utilities.").

^{121.} *Id.* ("Ultimately, a customer's decision to use electricity or conserve electricity is a retail decision that is subject to tariffs approved by this Commission").

^{122.} The Comm'n's Investigation Into Any & All Matters Related to Comm'n Approval of Participation by Ind. End-Use Customers in Demand Response Programs Offered by the Midwest ISO & PJM Interconnection, No. 43566 (Ind. Util. Regulatory Comm'n Feb. 25, 2009), https://iurc. portal.in.gov/_entity/sharepointdocumentlocation/21fb0336-3883-e611-810e-1458d04f0178/bb9c6bba-fd52-45ad-8e64-a444aef13c39?file=43566 order_022509.pdf.

^{123.} Id. at 7.

^{124.} The Comm'n's Investigation Into Any & All Matters Related to Comm'n Approval of Participation by Ind. End-Use Customers in Demand Response Programs Offered by the Midwest ISO & PJM Interconnection, No. 43566 (Ind. Util. Regulatory Comm'n July 28, 2010), https://iurc. portal.in.gov/_entity/sharepointdocumentlocation/c1928e71-4384-e611-8107-1458d04eabe0/bb9c6bba-fd52-45ad-8e64-a444aef13c39?file=43566 miso_petition.pdf.

^{125.} Id. at 43; see also IND. CODE §8-1-2.3-1 (2017) ("[T]he currently unincorporated areas of Indiana shall be divided into designated geographic areas within which an assigned electricity supplier has the sole right to furnish retail service to customers.").

^{126.} The Comm'n's Investigation Into Any & All Matters Related to Comm'n Approval of Participation by Ind. End-Use Customers in Demand Response Programs Offered by the Midwest ISO & PJM Interconnection, No. 43566, at 51 (Ind. Util. Regulatory Comm'n July 28, 2010) ("Indiana enduse customers shall not be enrolled or otherwise participate in RTO demand response programs directly or through curtailment service providers or other aggregators."). Indiana also requires utilities to (1) provide reasonably adequate service and (2) charge reasonable rates. IND. CODE §8-1-2-4 (2017).

^{127.} The Comm'n's Investigation Into Any & All Matters Related to Comm'n Approval of Participation by Ind. End-Use Customers in Demand Response Programs Offered by the Midwest ISO & PJM Interconnection, No. 43566, at 47 (Ind. Util. Regulatory Comm'n July 28, 2010).

^{128.} *Id.* 129. *Id.* at 46.

^{131.} The Comm'n's Investigation Into Any & All Matters Related to Comm'n Approval of Participation by Ind. End-Use Customers in Demand Response Programs Offered by the Midwest ISO & PJM Interconnection, No. 43566 MISO 3, at 2 (Ind. Util. Regulatory Comm'n Mar. 2, 2011), http://www. in.gov/iurc/files/43566miso3order_030211.pdf.

PURPA Standards in the Energy Indep. & Sec. Act of 2007, No. NOI-08-2 (Iowa Utils. Bd. Mar. 29, 2010), https://efs.iowa.gov/cs/groups/external/ documents/docket/mdaw/mdyw/~edisp/036214.pdf.

^{133.} *Id.* at 3. 134. *Id.* at 3-4.

ments from interested parties.¹³⁵ The 2012 order affirmed the 2010 order on the same grounds, continuing its temporary prohibition.¹³⁶

The first statutory provisions in question involve "exclusive electric service territory."¹³⁷ In Iowa, as part of its regulatory compact, utilities receive the right to exclusively serve a specific territory.¹³⁸ If a customer is already receiving electricity from a provider, another utility can only provide "electric service" if it obtains a "certificate of authority" from the utilities board.¹³⁹ The Iowa Leg-islature has formally advocated the concept of exclusive service as a legislative policy.¹⁴⁰ Essentially, parties providing electrical service may not infringe on a utility's service area.

Second, aggregators may make costs "discriminatory, unjust, and unreasonable" for other retail consumers.¹⁴¹ Iowa law also imposes several requirements for the rates that utilities may charge customers. Rates issued by utilities in Iowa must be "reasonable."¹⁴² Further, these rates cannot "subject any person to any unreasonable prejudice or disadvantage."¹⁴³ Finally—and somewhat redundantly—these rates "shall be reasonable and just."¹⁴⁴ According to the board, aggregators run the risk of causing utilities to discriminate among customers: regulated utilities will be stuck with the costs of providing generation for customers who are selling their capacity onto wholesale markets, and it would still have to recoup these costs by passing them along to customers not participating with an aggregator.¹⁴⁵

D. Kentucky

Kentucky also generally prohibits aggregators from directly bidding into wholesale markets, but retail customers may participate in these markets if their tariff rate specifically provides for demand response participation. Kentucky first issued an order on the subject in 2010.¹⁴⁶ In that order, it allowed Duke Kentucky to transfer functional control of its transmission lines from MISO to PJM (another RTO) on the condition that "no retail customer will be allowed

144. Id. §476.8.

to participate directly or *through a third party* in a PJM demand-response program" until the commission approves such a transaction.¹⁴⁷

The commission then issued a similar order in December 2012.¹⁴⁸ In this order, East Kentucky Power Cooperative, Inc. (EKCP), a Kentucky utility, also filed an application to transfer functional control of some of its transmission facilities to PJM.¹⁴⁹ EKCP sought to participate in the PJM demand response programs as a generation supplier.¹⁵⁰ In approving the application, the commission noted that it would have to approve any application that would provide for customer participation—either directly or through third parties—in PJM's demand response programs.¹⁵¹

The commission revisited the issue in a 2017 order, in which it applied the rationale underlying its demand response decisions to a case involving energy-efficiency resource (EER) programs offered by PJM.¹⁵² The commission reaffirmed the principle enunciated in earlier decisions by noting that "Kentucky retail customers are prohibited from participating in PJM markets."¹⁵³

Importantly, the 2017 order expounded upon the legal rules underlying its decision. The commission stated that "Kentucky has not restructured its electric markets and does not allow retail customers to choose their generation supplier."¹⁵⁴ Further, demand response programs could adversely affect a utility's forecasting requirements.¹⁵⁵ This is detrimental because utilities have a statutory obligation to "adequately plan to meet load requirements."¹⁵⁶ If utilities do not know how much energy consumers will refrain from using, they will likely overestimate their load requirements, which would

In basic terms, energy efficiency produces a similar result as demand response: both reduce a customer's load, which, in turn, reduces demand on the utility supplier's system. They differ only in the respect that energy efficiency is typically a permanent reduction in load, while demand response is typically a temporary reduction or shifting of load during certain hours of the day.

156. Id. The commission seemed to categorize this as furnishing adequate service. See Ky. Rev. Stat. ANN. §278.030(2) (West 2017) ("Every utility shall furnish adequate, efficient and reasonable service, and may establish reasonable rules governing the conduct of its business and the conditions under which it shall be required to render service.").

PURPA Standards in the Energy Indep. & Sec. Act of 2007, No. NOI-08-3 (Iowa Utils. Bd. June 25, 2012), https://efs.iowa.gov/cs/groups/external/ documents/docket/mdaw/mtqz/-edisp/111780.pdf.

^{136.} Id. at 4.

^{137.} *Id.* at 3.

^{138.} Iowa Code §476.23 (2017).

^{139.} Id.

^{140.} *Id.* §476.25 (noting that exclusive service areas are necessary to "eliminate or avoid unnecessary duplication of electric utility facilities").

^{141.} PURPA Standards in the Energy Indep. & Sec. Act of 2007, No. NOI-08-3, at 3.

^{142.} Iowa Code §476.4 (2017).

^{143.} Id. §476.5.

^{145.} PURPA Standards in the Energy Indep. & Sec. Act of 2007, No. NOI-08-3, at 3.

^{146.} Application of Duke Energy Ky., Inc. for Approval to Transfer Functional Control of Its Transmission Assets From the Midwest Indep. Transmission Sys. Operator to the PJM Interconnection Reg'l Transmission Org. & Request for Expedited Treatment, No. 2010-00203 (Ky. Pub. Serv. Comm'n Dec. 22, 2010), http://psc.ky.gov/PSCSCF/2010%20cases/2010-00203/20101222_PSC_ORDER.pdf.

^{147.} Id. at 16 (emphasis added); see also id. at 18 (outlining the order).

^{148.} Application of E. Ky. Power Coop., Inc. to Transfer Functional Control of Certain Transmission Facilities to PJM Interconnection, LLC, No. 2012-00169 (Ky. Pub. Serv. Comm'n Dec. 20, 2012), http://psc.ky.gov/PSC-SCF/2012%20cases/2012-00169/20121220_PSC_ORDER.pdf.

^{149.} *Id.* at 1. 150. *Id.* at 17.

^{151.} *Id.* at 18.

^{152.} Application of E. Ky. Power Coop., Inc. for a Declaratory Order Confirming the Effect of Ky. Law & Comm'n Precedent on Retail Elec. Customers' Participation in Wholesale Elec. Mkts., No. 2017-00129 (Ky. Pub. Serv. Comm'n June 6, 2017), http://psc.ky.gov/PSCSCF/2017%20 Cases/2017-00129/20170606_PSC_ORDER.pdf. The commission elaborated on the difference between these EER programs and demand response programs:

Id. at 19.

^{153.} Id. at 18.

^{154.} *Id*.

^{155.} Id.

|2-20|7

NEWS & ANALYSIS

result in "unneeded generating capacity whose costs will be passed on to retail customers."¹⁵⁷

Notably, the 2017 order discussed jurisdictional problems that the commission might encounter. The commission noted that it was "not asserting any jurisdiction over third parties involved in aggregating or bidding EER in PJM's markets,"158 because its jurisdiction extends only to utilities covered by Kentucky statute. This at least hints that aggregators could operate in Kentucky. After all, they may be outside the jurisdiction of the commission. However, the commission proceeded to note that retail customers who participate in wholesale electric markets-either "directly or indirectly"-are "subject to termination of service."159 With the aggregator business model built on customer participation, and assuming that customers will not participate in programs that may result in termination of service, this likely means that aggregators cannot operate without a tariff approved by the commission.

E. Michigan

Michigan recently reaffirmed its prohibition on aggregators bidding directly into MISO. In 2010, the Michigan Public Service Commission issued an order temporarily prohibiting aggregators from directly bidding into MISO.¹⁶⁰ According to the commission, when aggregators participate in wholesale markets, "[s]everal rate and reliability issues may arise."¹⁶¹ The commission encouraged utilities to develop proposals that would ensure fair rates for participants and nonparticipants.¹⁶²

Recently, the commission affirmed this approach, claiming that it still had concerns about successfully integrating aggregators into wholesale markets.¹⁶³ Specifically, the commission articulated four key concerns posed by aggregators:

(1) operational issues for Michigan jurisdictional utilities, on both the real-time and long-term bases, especially with respect to capacity planning and procurement as well as emergency operations; (2) lack of Commission oversight of third-party aggregators; (3) the possibility that customers may enroll a demand response resource in more than one demand response program; and (4) cross-subsidization.¹⁶⁴ After listing these factors, the commission went out of its way to stress the temporary nature of its prohibition.¹⁶⁵

One curious aspect of the commission's decision is the fact that it did not cite a Michigan statute or regulation prohibiting aggregator wholesale bids. As a result, aggregators have little insight into the legal source for what actually prohibits them from entering the marketplace. However, Michigan's utility regulatory regime mirrors certain aspects of other states. For example, the Michigan Public Service Commission has jurisdiction to regulate "all public utilities," with very few enumerated exceptions.¹⁶⁶ It regulates utilities to ensure that their rates are "just and reasonable."¹⁶⁷ Michigan also requires a "certificate of public convenience and necessity" for its utilities: if a utility wants to offer a service in an area where another utility is operating, that utility must obtain a certificate of public convenience and necessity from the commission.¹⁶⁸

F. Minnesota

Minnesota also prohibits demand response aggregators from bidding into MISO. After issuing several orders, the Minnesota Public Utilities Commission found that such a process does not further the interests of the Minnesota ratepayers.

Minnesota first prohibited aggregators from bidding into MISO in 2010.¹⁶⁹ In that order, the commission noted the "comprehensive regulatory structure" of the electricity grid and questioned how aggregators fit into that system.¹⁷⁰ Particularly, Minnesota's regulatory structure strives to ensure "that all state providers of electrical service have just and reasonable rates and just and reasonable terms and conditions of service."¹⁷¹ The commission went on and acknowledged empirical uncertainty: aggregators did not necessarily violate the statute; the commission just did not know how it would integrate them into the system.¹⁷² Of importance to the commission was a state policy already accentuating demand response programs.¹⁷³

Because of the empirical uncertainty, the commission required utilities to submit comments regarding their expe-

^{157.} Application of E. Ky. Power Coop., Inc. for a Declaratory Order Confirming the Effect of Ky. Law & Comm'n Precedent on Retail Elec. Customers' Participation in Wholesale Elec. Mkts., No. 2017-00129, at 18.

^{158.} Id. at 20.

^{159.} *Id*.

^{160.} Investigation of the Licensing Rules & Regulations Needed to Address the Effect of the Participation of Mich. Retail Consumers, Including Those Associated With Aggregators of Retail Customers, in a Regional Transmission Org. Wholesale Mkt., No. U-16020 (Mich. Pub. Serv. Comm'n Dec. 2, 2010), http://efile.mpsc.state.mi.us/efile/docs/16020/0040.pdf.

^{161.} Id. at 6.

^{162.} Id.

^{163.} Investigation of the Licensing Rules & Regulations Needed to Address the Effect of the Participation of Mich. Retail Customers, Including Those Associated With Aggregators of Retail Customers, in Regional Transmission Org. Wholesale Mkts., No. U-16020 (Mich. Pub. Serv. Comm'n Mar. 29, 2016), http://efile.mpsc.state.mi.us/efile/docs/16020/0054.pdf.

^{165.} Id. at 7-8 ("The Commission does not intend by this order to foreclose the possibility of third party aggregation forever, but finds that, for the present, the prohibition should remain in place.").

^{166.} Місн. Сомр. Laws §460.6(1) (2017).

^{167.} Id. §460.54.

^{168.} Id. §460.502.

^{169.} Investigation of Whether the Comm'n Should Take Action on Demand Response Bid Directly Into the MISO Mkts. by Aggregators of Retail Customers Under FERC Orders 719 & 719-A, No. E-999/CI-09-1449 (Minn. Pub. Utils. Comm'n May 18, 2010), https://www.edockets.state. mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&docum entId={2070D0A6-DBEC-462D-AE3A-A2C014029CDA}&documentTi tle=20105-50570-01.

^{170.} Id. at 5.

^{171.} Id.

^{172.} Id.

^{173.} Id. at 6 ("Minnesota has a long history of effective demand side management..."). This seemed to obviate—at least to some extent—the need for demand response participation in MISO. If Minnesota is on the vanguard of demand response, new market actors may adversely alter the balance the state struck.

ENVIRONMENTAL LAW REPORTER

rience with demand response programs.¹⁷⁴ In 2013, the commission affirmed its original decision, continuing its prohibition on ARCs bidding into MISO.¹⁷⁵ The commission evinced skepticism that selling demand response into MISO would achieve any appreciable benefits.¹⁷⁶ Aggregators are permitted to operate in Minnesota; they are simply prohibited from selling demand response directly into the MISO wholesale market.¹⁷⁷ Instead, they must pursue opportunities with utilities.

These decisions, too, seemed to rest on statutory grounds, but the commission did not articulate the legal basis with much clarity. In the 2010 order, the commission manifested concerns that it would encounter logistical problems in ensuring that aggregators "met the 'just and reasonable' legal standard and serviced the public interest."¹⁷⁸ Minnesota law, like other states, requires "[e]very rate" charged by a public utility to be "just and reasonable."¹⁷⁹ This statutory provision also provides that rates "shall not be unreasonably preferential, unreasonably prejudicial, or discriminatory."¹⁸⁰ In addition to that negative requirement, the rate structure also includes a positive requirement: rates shall "be sufficient, equitable, and consistent in application to a class of consumers."¹⁸¹

Because of the commission's decision, however, exactly how aggregators bidding into MISO violates Minnesota law is unclear. All signs seem to point in the direction that bidding into MISO would be discriminatory against *Minnesota ratepayers*. In its most recent decision on the issue, the commission described Minnesota efforts to implement demand response and elaborated on its rationale for denying aggregators the right to bid into MISO: "Minnesota ratepayers have financed utilities' conservation and demand-side management programs; Minnesota ratepayers should continue to reap the benefits."¹⁸²

G. Missouri

Missouri also prohibits aggregators from bidding into wholesale MISO markets. It first entered the picture in 2010, when the Missouri Public Service Commission issued two orders asking affected parties a series of questions. These questions are essentially subsumed within the following question: "Does any Missouri statute, case law or regulation prohibit or restrict electric utility customers from participating through an ARC in demand response bidding programs?"¹⁸³ The commission also asked whether aggregators would affect other customers or utilities' forecasts.¹⁸⁴ After posing these questions, the commission temporarily prohibited aggregators from bidding into wholesale markets.¹⁸⁵

In these orders, the commission noted the "significant questions" it had to address before proceeding.¹⁸⁶ The question that seemed to vex the commission most was whether it had to certify—and thus regulate—aggregators as utilities.¹⁸⁷ After the order temporarily prohibiting aggregators from bidding into wholesale markets, the docket remained inactive for quite some time—with the exception of demand response workshops. In 2015, the commission closed the docket without any further comment.¹⁸⁸ Presumably, then, the prohibition on aggregators bidding into wholesale markets still stands.

These opinions do not shed much light on the exact legal source for the prohibitions, but they do illustrate that the commission questions how aggregators fit into the regulatory structure. Missouri, for example, requires that the commission issue a certificate to a utility before it even begins construction of an electric power plant.¹⁸⁹ The commission grappled with the question whether it had to regulate aggregators in the same way, and it illuminates how aggregators do not fit neatly into the traditional utility categories. Aggregators, for example, do not have plants to construct. But the certification question is not the only regulatory issue involved here: Missouri utilities also must provide services that are "safe and adequate,"¹⁹⁰ charge prices that are "just and reasonable,"¹⁹¹ and refrain from granting an "unreasonable preference" to any consumer.¹⁹²

^{174.} See, e.g., id. ("[T]he Commission remains open to pilot projects designed to explore the potential for ARCs and other third-party providers to increase total levels of demand response in Minnesota.").

^{175.} Investigation of Whether the Commission Should Take Action on Demand Response Bid Directly Into the MISO Mkts. by Aggregators of Retail Customers Under FERC Orders 719 and 719-A, No. E-999/CI-09-1449 (Minn. Pub. Utils. Comm'n Apr. 16, 2013) ("The Commission will decline . . . to relax its prohibition on ARCs operating autonomously in Minnesota."), https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7B9DE70FBC-8E5C-42C4-8D43-E871305B2023%7D&cdocumentTit le=20134-85762-01.

^{176.} Id. at 9 ("Even after several rounds of comments, it remains unclear that selling demand response into the MISO market best serves the interests of Minnesota ratepayers.").

^{177.} *Id.* at 8 ("If [aggregators] propose to operate in Minnesota, they are free to pursue opportunities in conjunction with Minnesota utilities.").

^{178.} Investigation of Whether the Comm'n Should Take Action on Demand Response Bid Directly Into the MISO Mkts. by Aggregators of Retail Customers Under FERC Orders 719 & 719-A, No. E-999/CI-09-1449, at 5 (Minn. Pub. Utils. Comm'n May 18, 2010).

^{179.} MINN. STAT. ANN. §216B.03 (West 2017).

^{180.} *Id*.

^{181.} Id.

^{182.} Investigation of Whether the Commission Should Take Action on Demand Response Bid Directly Into the MISO Mkts. by Aggregators of Retail Customers Under FERC Orders 719 & 719-A, No. E-999/CI-09-1449, at 8 (Minn. Pub. Utils. Comm'n Apr. 16, 2013). Notably, however, the source of law is somewhat speculative. Without clear reasoning from the commission, it is impossible to clearly discern the principle of law upon which it relied.

^{183.} Investigation Into the Coordination of State & Fed. Regulatory Policies for Facilitating the Deployment of All Cost-Effective Demand-Side Savings to Elec. Consumers of All Classes Consistent With the Pub. Interest, No. EW-2010-0187 (Mo. Pub. Serv. Comm'n Mar. 31, 2010), https://www.efis.psc.mo.gov/mpsc/commoncomponents/viewdocument. asp?DocId=935484458.

^{184.} *Id*. at 3.

^{185.} Id. at 6.

^{186.} *Id.* at 4.

^{180.} *Id.* at 4. 187. *Id.* at 5.

^{188.} Investigation Into the Coordination of State & Fed. Regulatory Policies for Facilitating the Deployment of All Cost-Effective Demand-Side Savings to Elec. Customers of All Classes Consistent With the Pub. Interest, No. EW-2010-0187 (Mo. Pub. Serv. Comm'n Sept. 23, 2015), https:// www.efis.psc.mo.gov/mpsc/CommonComponents/view_itemno_details. asp?caseno=EW-2010-018722&attach_id=2016005770.

^{189.} Mo. Rev. Stat. §393.170 (2017).

^{190.} Id. §393.130(1).

^{191.} Id.

^{192.} Id. The commission did not cite these statutory requirements in its decision, but they may be relevant. For example, the commission was concerned

NEWS & ANALYSIS

47 ELR 11077

H. North Dakota

North Dakota also prohibits demand response aggregators from bidding into wholesale markets. The North Dakota Public Service Commission issued a ruling in 2010 prohibiting an aggregator from bidding into MISO.¹⁹³ The commission has not revisited the issue since. According to the commission, aggregator "operations involve electric service furnished by a public utility under established rate schedules being resold by a customer."¹⁹⁴ The commission invalidated the aggregator operations under a North Dakota regulation. That regulation prohibits parties from reselling "[e]lectric service" unless the rate schedule allows it.¹⁹⁵ Importantly, aggregators may participate in North Dakota if rate schedules allow them to do so.

I. South Dakota

South Dakota also prohibits ARCs from bidding into MISO wholesale markets. In 2010, the commission issued an order in which it prohibited aggregators from bidding into "any wholesale market . . . until further action of the Commission."¹⁹⁶ The commission has not taken any further action, so presumably the aggregator prohibition still stands.

In the 2010 order, however, the commission did not provide a rationale for its decision. Without a rationale, one can only speculate as to why aggregators cannot bid into wholesale markets in South Dakota. However, South Dakota's regulatory scheme provides several possible bases for prohibiting such conduct. For example, utilities have exclusive service areas in South Dakota.¹⁹⁷ Demand response aggregators could be construed as "extend[ing] electric service at retail" under the statute.¹⁹⁸ Additionally, all utilities must provide "adequate, efficient, and reasonable service,"¹⁹⁹ and charge rates that are "just and reasonable."²⁰⁰ Aggregators may end up causing inadequate or unreasonable service or making rates unreasonable.

J. Wisconsin

Wisconsin is another state that does not allow aggregators to bid directly into MISO markets on behalf of their clients. In 2009, the Wisconsin Public Service Commission issued a temporary order to that effect.²⁰¹ In the order, the commission posited that it was concerned about the effects that such a system would produce for customers. According to the commission, aggregators' clients could "secur[e] electricity at net lower rates than the rates authorized by the Commission."²⁰² Further, the utilities would still have to generate capacity for the retail customers that work with aggregators.²⁰³ The commission noted that such a system "could impose additional costs on other ratepayers."²⁰⁴

Wisconsin, then, offers a clearer picture of the legal basis for its decision. Wisconsin law prohibits public utilities from engaging in rate discrimination.²⁰⁵ Because aggregators present the possibility that nonparticipating customers will be saddled with additional costs, such a system could contravene state law.

IV. Moving Forward: Recommendations and Predictions

Thus, 10 states in MISO prohibit demand response aggregators from participating in wholesale markets on behalf of their clients. Several decisions by various utility commissions shed light on the problems that they see in terms of implementing aggregators into the current utility system. This part offers a few modest suggestions to states on how to proceed and insights as to what will happen next.

These decisions by the utility commissions vary significantly in their rationale; thus, it is difficult to generalize why utility commissions decided against allowing aggregators to enter the market. Still, there is some room to generalize. Several of the utility commissions discussed similar statutory provisions as the source of law for their aggregator prohibitions.

First, many states voiced concerns about how aggregators infringe on the exclusive service territories of utilities. As part of the regulatory compact, states typically give utilities exclusive service areas.²⁰⁶ These exclusive service territories are precisely what they sound like: utilities are the only entities permitted to provide electrical service in these areas. Many states define "service" broadly to include

203. *Id.* at 4.

about the question whether demand response aggregators would affect other consumers. If aggregators did adversely affect the rates of consumers, the commission might find that they cause discriminatory or unreasonable prices. This, of course, presupposes that the commission has jurisdiction over aggregators.

^{193.} N. States Power Co. Aggregators of Retail Customers Investigation, No. PU-10-59 (N.D. Pub. Serv. Comm'n Aug. 24, 2010), http://www.psc. nd.gov/database/documents/10-0059/015-010.pdf.

^{194.} Id. at 1.

^{195.} N.D. ADMIN. CODE §69-09-02-15 (2017). This approach is unique among MISO states. Most jurisdictions questioned how aggregators fit into the traditional model of utility regulation. Here, North Dakota found that a regulation prohibited the resale of electricity, and demand response aggregators essentially do just that.

^{196.} Request of Xcel Energy to Take Action Prohibiting the Operation of Aggregators of Retail Customers in S.D., No. EL10-003, at 1 (S.D. Pub. Utils. Comm'n May 25, 2010), https://puc.sd.gov/commission/orders/electric/2010/el10-003b.pdf.

^{197.} S.D. Codified Laws §49-34A-42 (2017).

^{198.} Id.

^{199.} Id. §49-34A-2.

^{200.} Id. §49-34A-6.

^{201.} Investigation to Develop & Analyze Alternative Elec. & Natural Gas Rate Design & Load Mgmt. Options Which Have the Potential to Reduce Emissions of Greenhouse Gases, No. 5-UI-116 (Wis. Pub. Serv. Comm'n Oct. 14, 2009), http://aps.psc.wi.gov/vs2015/ERF_view/viewdoc. aspx?docid=121634. The Commission has not issued a subsequent order changing its stance.

^{202.} Id. at 3.

^{204.} *Id.*

^{205.} WIS. STAT. ANN. §196.22 (West 2017) ("No public utility may charge . . . more or less compensation for any service performed by it within the state . . . than is specified in the schedules for the service filed"); *see also id.* §196.60 (prescribing penalties for rate discrimination).

^{206.} See supra note 36 and accompanying text (describing the concept); see also IND. CODE §8-1-2.3-1 (2017); IOWA CODE §476.25 (2017).

ENVIRONMENTAL LAW REPORTER

12-2017

services provided by demand response aggregators—or at least broadly enough to give themselves the power to regulate services that may affect a utility's electric service.²⁰⁷ Thus, aggregators are not permitted to operate in several jurisdictions because they infringe on another utility's exclusive service area.

Second, several states focused on oversight concerns. Many states grappled with the question whether the utility commissions would have jurisdiction over aggregators themselves. Michigan is one such jurisdiction.²⁰⁸ The Kentucky Public Service Commission also went out of its way to stress that it was not exercising jurisdiction over aggregators, implying that aggregators are outside the jurisdictional reach of the commission.²⁰⁹ Additionally, aside from the jurisdictional question, many states also questioned how they would oversee customers participating in these programs.²¹⁰

Perhaps the biggest concern voiced by utility commissions was the prospect that demand response aggregators could saddle other customers with higher costs. The Kentucky Public Service Commission articulated this well: utilities have a statutory obligation to provide adequate service to customers.²¹¹ Utilities may not be able to include a retail customer's demand response reduction in their forecasts. If that is the case, they will still have to generate capacity for that electricity customer, and those unneeded capacity costs will be passed on to other customers.²¹² Other states also articulated that aggregators could result in discriminatory prices in the same way.²¹³

Demand response aggregators and their fit within the traditional utility model of regulation are another iteration of a common problem: new technologies pose unique interpretive problems to courts trying to construe old statutes.²¹⁴ A court will often try to fit new technologies into an outdated legislative scheme. This is often done without guidance from the legislature. Here, when state legislatures were enacting utility statutes, they could not possibly contemplate the emergence of new technologies such as demand response. Utility commissions are in turn left wondering how to fit aggregators into a legislative scheme that did not envision their existence.

Keeping these concerns in mind, the legislatures of the various states in MISO should adopt statutes that clarify the role for aggregators in their states. In other words, it is time for them to update utility statutes. A clarifying statute is preferable for a variety of reasons. First, it provides certainty to aggregators and public utility commissions. Because parties order their affairs according to the law,²¹⁵ certainty is one of the most fundamental values of any developed legal system.²¹⁶ A statute can provide that certainty here.²¹⁷ Public utility commissions will no longer have to grapple with the question whether demand response aggregators fit into the utility regulatory regime. Instead, the legislature can affirmatively answer that question.

A pronouncement on an aggregator's place in the state's legislative scheme would also provide certainty to aggregators. As mentioned earlier, some states have issued only temporary bans on aggregators.²¹⁸ This leaves aggregators wondering how they fit into a state's regulatory regime. A statute would eliminate that uncertainty, and aggregators could allocate their resources more efficiently with a clear understanding of where they can and cannot operate. Additionally, several states have issued no guidance for aggregators at all. In those states, aggregators are left to

^{207.} See supra notes 126 (Indiana), 137-40 (Iowa), and accompanying text.

^{208.} See supra note 164 and accompanying text.

^{209.} See supra note 158 and accompanying text.

^{210.} For example, customers might not reduce their energy consumption when they claimed that they would. *See supra* note 129 and accompanying text (Indiana). Additionally, customers may enroll in additional demand response programs. *See supra* note 164 and accompanying text (Michigan).

^{211.} See, e.g., IND. CODE §8-1-2-4 (2017) ("Every public utility is required to furnish reasonably adequate service and facilities."); KY. REV. STAT. ANN. §278.030(2) (West 2017) ("Every utility shall furnish adequate, efficient and reasonable service"); MO. REV. STAT. §393.130 (2017) ("[E]very electrical corporation . . . shall furnish and provide such service instrumentalities and facilities as shall be safe and adequate and in all respects just and reasonable."); S.D. CODIFIED LAWS §49-34A-2 (2017) ("Every public utility shall furnish adequate, efficient, and reasonable service.").

^{212.} Application of E. Ky. Power Coop., Inc. for a Declaratory Order Confirming the Effect of Ky. Law & Comm'n Precedent on Retail Elec. Customers' Participation in Wholesale Elec. Mkts., No. 2017-00129, at 18 (Ky. Pub. Serv. Comm'n June 6, 2017) (summarizing the argument), http://psc. ky.gov/PSCSCF/2017%20Cases/2017-00129/20170606_PSC_ORDER. pdf.

See supra notes 126 (Indiana), 141-45 (Iowa), 155-57 (Kentucky), 178-81 (Minnesota), 191-92 (Missouri), 202-05 (Wisconsin), and accompanying text.

^{214.} Scholars Jody Freeman and David Spence observed this trend on the federal level. *See* Freeman & Spence, *supra* note 62, at 1 ("One of the consequences of [] congressional dysfunction is a reduced probability that Congress will update regulatory legislation in response to significant new economic, scientific, or technological developments."); *see also* GUIDO CALABRESI, A COMMON LAW FOR THE AGE OF STATUTES 6 (1982) ("When [statutes] were

new and functional, so that they represented in a sense the majority and its needs, the change presented few fundamental problems. Soon, however, these laws, like all laws, became middle-aged. They no longer served current needs or represented current majorities."); Henry J. Friendly, *The Gap in Lawmaking—Judges Who Can't and Legislators Who Won't*, 63 COLUM. L. REV. 787, 792 (1963) ("I thus do not at all lament the diminished role of the judge vis-à-vis the legislator as a maker of law. What I do lament is that the legislator has diminished the role of the judge by occupying vast fields and then has failed to keep them ploughed.").

^{215.} BENJAMIN N. CARDOZO, THE GROWTH OF THE LAW 3 (1924) (noting that law is a "guide to conduct"); 1 G. EDWARD WHITE, LAW IN AMERICAN HIS-TORY 4 (2012) (defining the "rule of law" as "an attitude that ascribes a role for law as a binding social force, an embodiment of authoritative guidelines for human activity to which residents of a nation adhere"); Paul Heinrich Neuhaus, *Legal Certainty Versus Equity in the Conflict of Laws*, 28 L. & CON-TEMP. PROBS. 795, 795 (1963) (explaining that the law allows people to "order their behavior in such a manner as to avoid legal conflict"); *cf*. Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 459 (1897) (noting that clients "wish[] to avoid an encounter with the public force").

^{216.} CARDOZO, *supra* note 215, at 3 ("One does not need to expatiate upon the value of certainty in a developed legal system."); Antonin Scalia, *The Rule of Law as a Law of Rules*, 56 U. CHI. L. REV. 1175, 1179 (1989) ("Rudimentary justice requires that those subject to the law must have the means of knowing what it prescribes."); Cass R. Sunstein, *Problems With Rules*, 83 CAL. L. REV. 953, 1022 (1995) (noting the "virtues . . . of promoting predictability and planning").

^{217.} Of course, not all statutes provide clarity. *See, e.g.*, Felix Frankfurter, *Some Reflections on the Reading of Statutes*, 47 COLUM. L. REV. 527, 528 (1947) ("Statutes as well as constitutional provisions at times embody purposeful ambiguity or are expressed with a generality for future unfolding."). Ideally, a statute on this subject must clearly address the issues voiced by utility commissions across MISO.

^{218.} Iowa, Michigan, and Wisconsin are all states that have temporary prohibitions. *See supra* notes 136 (Iowa), 165 (Michigan), 201 (Wisconsin), and accompanying text.

NEWS & ANALYSIS

47 ELR 11079

speculate how the utility commissions will rule. A statute would eliminate that uncertainty by settling the issue once and for all.

In addition, the legislature is the best branch of government to make the basic policy choices that govern our lives—to weigh the costs and benefits of different social policies.²¹⁹ This is true for two reasons. First, legislatures have various fact-finding tools, such as formal hearings, that are designed to ensure that legislators make their decisions based on all of the relevant information with respect to a specific policy.²²⁰ These tools are especially useful for devising solutions to complex social policies.²²¹

Second, the legislature is the branch of government most directly related to the people. Giving the legislature the opportunity to decide this issue ensures that the people have a say in how they are governed. The people may want to take advantage of demand response aggregators. As noted earlier, aggregators allow market actors with relatively low market power to enter the marketplace for this service.²²² Consumers may recognize this advantage and call on their legislators to adopt a policy allowing aggregators to bid into wholesale markets.

State legislatures may not act, however. If they do not act, some utility commissions may still allow aggregators to bid into wholesale markets. For example, many of the state utility commissions stressed that their aggregator bans were only temporary. Iowa, Michigan, and Wisconsin follow this approach.²²³ As circumstances change and different states implement demand response programs, states may reconsider their policy positions on demand response. Aggregators would serve themselves well by closely scrutinizing utility commission decisions and responding to the concerns voiced by the various commissions.

One last possible solution is for FERC to issue a rule removing the states' veto power. FERC claims that it has authority to do so,²²⁴ but there are two reasons why it likely will not. First, FERC, in deciding to allow state laws to prohibit aggregators from participating in wholesale markets, noted that "jurisdiction over demand response is a complex matter that lies at the confluence of State and Federal Jurisdiction."225 This signals that FERC understands the complexity of the matter. The decision to give states the authority to prohibit aggregators from making demand response bids into the wholesale market also manifests a deferential attitude toward the states. Of course, the mere fact that FERC chose not to override the states in this area does not mean that it will always defer to the states. However, past behavior can be an accurate predictor of future behavior.

Additionally, removing the state veto on aggregation bids would raise serious federalism issues and expose FERC to legal battles. Federalism, of course, refers to "the allocation of power between the federal government and the states."226 The jurisdictional divide enunciated in the Federal Power Act-that the federal government controls wholesale sales and the states control retail sales of electricity-remains largely intact until this day.²²⁷ Importantly, in upholding Order 745, the Supreme Court partially relied upon the fact that FERC gave states a say in Orders 719 and 745.228 In the Court's view, this was an instance of "cooperative federalism" rather than an attempt by FERC to usurp state authority.²²⁹ In fact, the Court positively referred to FERC's stance as "notable solicitude toward the States."230 Removing the veto provision would make FERC particularly susceptible to legal battles by striking a provision that helped save it in litigation.

^{219.} See, e.g., George Bunn et al., No Regulation Without Representation: Would Judicial Enforcement of a Stricter Nondelegation Doctrine Limit Administrative Lawmaking?, 1983 Wis. L. REV. 341, 343 (1983) ("Major social policy choices should be made by elected representatives in the legislature"); cf. Frank H. Easterbrook, The Court and the Economic System, 98 HARV. L. REV. 4, 60 (1984) ("Judges must be honest agents of the political branches. They carry out decisions they do not make.").

^{220.} See, e.g., Norman L. Greene, How Great Is America's Tolerance for Judicial Bias? An Inquiry Into the Supreme Court's Decisions in Caperton and Citizens United, Their Implications for Judicial Elections, and Their Effect on the Rule of Law in the United States, 112 W. VA. L. REV. 873, 934 n.207 (2010) (noting that legislatures can "assess adverse effects" because of their "fact-finding hearings"). But see, e.g., Julius Cohen, Towards Realism in Legisprudence, 59 YALE L.J. 886, 892 (1950) ("This assumes that the basic purpose of a legislative hearing is to get at the facts, to make the policy decisions as rational as possible. It is doubtful, however, whether such an assumption is justified."); Harry H. Wellington, Common Law Rules and Constitutional Double Standards: Some Notes on Adjudication, 83 YALE L.J. 221, 240 (1973) (noting that the advantage of legislative hearings "is less than meets the eye"); Patrick S. Davies, Saturday Night Specials: A "Special" Exception in Strict Liability Law, 61 NOTRE DAME L. REV. 478, 488 (1986) (dismissing the argument that the legislature is "better equipped to make informed decisions because of its ability to conduct hearings and gather information").

^{221.} Note, Hospital Liability in the New York Court of Appeals: A Study of Judicial Methodology, 61 COLUM. L. REV. 871, 899 (1961) ("[L]egislative fact-finding machinery is more suited to the investigation of complex social problems and facilitates the formulation of workable solutions").

^{222.} See supra notes 105-07 and accompanying text.

^{223.} See supra notes 136 (Iowa), 165 (Michigan), 201 (Wisconsin), and accompanying text.

^{224.} Federal Energy Regulatory Comm'n v. Electric Power Supply Ass'n, 136 S. Ct. 760, 779, 46 ELR 20021 (2016).

Demand Response Compensation in Organized Wholesale Energy Markets, 76 Fed. Reg. 16658, 16676 (Mar. 24, 2011) (codified at 18 C.F.R. pt. 35).

^{226.} Alexa R. Baltes, One Federalism and the Judicial Role: Enforcing the Limits of Article I, 92 NOTRE DAME L. REV. 451, 457-58 (2016); see also Erwin Chemerinsky, Rehabilitating Federalism, 92 MICH. L. REV. 1333, 1337 (1994) (book review) ("By federalism, I simply mean the allocation of power between the federal and state governments. More specifically, federalism, as used throughout this review, refers to the extent to which consideration of state government autonomy has been and should be used as a limit on federal power.").

^{227.} But see generally Huber, supra note 16, at 95 ("[S]ince day one, the Federal Power Act has included the facile declaration that federal authority would 'extend only to those matters which are not subject to regulation by the States." (quoting 16 U.S.C. §824(a))); Rossi, supra note 48 (describing recent changes in the way the Supreme Court conceptualizes federalism in energy law).

^{228.} Electric Power, 136 S. Ct. at 780 (noting that the state veto provision "removes any conceivable doubt as to its compliance with [the Federal Power Act's] allocation of federal and state authority").

^{229.} *Id.* According to the Court, the veto provision "remove[d] any conceivable doubt as to [the rule's] compliance with [the FPA's] allocation of federal and state authority." *Id.*230. *Id.* at 779.

V. Conclusion

Demand response has played a large role in contemporary energy markets. It seems as though this role will only continue to grow in coming years. This growing market has created a new market actor: demand response aggregators. These aggregators, while in a growing field, have not enjoyed success in many of the states in MISO. Currently, at least 10 of the 15 states prohibit aggregators from directly bidding into MISO wholesale markets.

These prohibitions vary significantly in their rationale. However, many of them express doubts about how aggregators fit into the traditional utility regulatory model. Still others have expressed concerns about how states would oversee these aggregators. This Article argues that legislatures are in the best position to clarify the role for demand response aggregators in the current regulatory structure. This legislation would clear up many of the problems encountered by utility commissions. Legislatures could conduct formal hearings to devise a solution to this complex regulatory issue.

While arguing for legislatures to take action, I also concede that any sound analysis rests on probability, not certainty. Thus, legislatures may in fact do nothing as time goes on. If that is the case, other institutional actors may take action to fill the void left by the legislature. Utility commissions could overrule their temporary prohibitions and allow aggregators to bid into wholesale markets. While unlikely, FERC may even issue an order overruling the state's veto. Only time will tell how the legal system keeps up with rapid technological developments.