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Regulation and the Monopoly Status of the Electric Distribution Utility

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This paper addresses the growing risk of anti-competitive behavior by electric distribution utilities as a result of their transformation from a simple provider of homogeneous distribution services to an integrator and gatekeeper of new service opportunities. Given this transformation, state public utility commissions (PUCs) will have a growing role in determining what economic functions are provided by franchised monopoly companies or by competitive markets.

State regulation can immunize monopoly behavior on the part of utilities and therefore authorize what might be prohibited under anti-trust laws. Such an authorization is important for two reasons. First, monopoly displaces competition, thereby limiting the downward pressure on prices to consumers and relying on government price regulation. Second, because authorized monopoly limits competitive entry, it forgoes the competitive incentive to develop and provide innovative offerings to electric service customers. Evaluating the role of the state in empowering the utility as a monopolist is particularly important at this time, given the pressure to electrify the economy (in particular, transportation) and to decarbonize the production of electricity, as well as the tremendous technical change in the electric industry that the achievement of such goals requires.

The relationship between regulated monopoly and price is a long-standing concept. In 1670, Lord Hale articulated the definition of what is now known as the "Regulatory Compact," the relationship between a regulated monopoly provider and the price that it charges:

> If the king or subject have a public wharf unto which all persons that come to that port must come as for the purpose to unlade or lade their goods, because they are the wharfs only licensed by the queen, … there cannot be undertaken arbitrary and excessive duties or cranage, wharfage, pesage (fee for weighing), and so forth, neither can they be enhanced to an immoderate rate, but the duties must be reasonable and moderate … For now the wharf and crane and other convenience are affected with a public interest.[1]

The basis for price regulation in the United States was established by the Supreme Court in *Munn v. Illinois* (1876). Munn and his partners owned a third of grain elevator capacity in Chicago in the 1860s. Grain elevator owners were known to collude on price. When the state of Illinois passed legislation regulating the maximum price of storage, Munn ignored the price regulation and challenged the ability of the state to regulate privately owned enterprises. The Supreme Court upheld the state's authority to regulate prices of industries "affected with a public interest," finding that "when private property is devoted to a public use, it is subject to public regulation."[2]

Vertically integrated investor-owned utilities have had

1 M. Hale, *Ports of the Sea,* 1 Harg. L. Tr. 17. cited from, Smith, E.G., "Price Regulation by Legislative Power," *The Virginia Law Register,* New Series, Vol. 7, No. 6 (Oct.., 1921), p. 405, https://www.jstor.org/stable/1105906.

2 Munn v. Illinois, 94 U.S. 113 (1876)

a long history as regulated monopolies.[3] In this role, the regulated monopoly is required by law to provide a good, in this case electricity, imbued with the public interest to all within a franchised service area at just, reasonable, and not unduly discriminatory rates, terms, and conditions.

The roles of the electric distribution utility and state regulation are changing. The utility regulator is faced with the new challenge of how to determine whether or not the particular services are affected with the public interest and warrant monopoly status. The distribution utility is becoming an integrator of multiple technologies and pricing mechanisms that facilitate the reliable operation of the electric distribution grid. Customers increasingly have choice about how they buy and use electricity. The electric distribution utility will play a pivotal role in determining the terms and nature of the services provided to customers in conjunction with its state PUC and in accordance with applicable law.

Technological and institutional innovation are necessary to foster the United States' efforts to decarbonize its economy. Society's challenge is to incent innovation that benefits customers while providing entrepreneurs with adequate reward for inventiveness and financial support for widespread deployment. Because of its monopoly power, and absent government mandates, the utility can support or thwart this innovation. Every state has a PUC empowered by state statute. The underlying legislation in each state determines the nature and scope of PUC decision-making and thus may yield a range of state specific outcomes. To a large extent, the electric distribution utility's ability to exercise monopoly power will depend on its regulatory treatment and whether it is authorized to inhibit or preclude threats to its monopoly.

This paper further explores the role of the regulator in defining the extent to which the electric distribution utility can exercise monopoly power. Of particular importance is the PUC's role in identifying and supervising monopoly behavior on the part of the investor-owned distribution utility.

Regulatory Support for Electric Utility Monopolies

Before Thomas Edison's successful lighting of Wall Street with power from the Pearl Street Generating Station, electric lighting was provided by individual "isolated plants" directly wired to electric arc lamps. Edison's genius was inventing and organizing the technology that allowed lighting to be provided to many customers simultaneously from "central-station" generation. Edison's assistant, Samuel Insull, understood that central station generation provided "(s)triking economies in the production, distribution, and sale of electricity that have permitted a general and widespread reduction in selling price."[4] This led to the development of the investor-owned utility business model, based on the concept of natural monopoly. A natural monopoly exists when the "entire demand within a relevant market can be satisfied at lowest cost by one firm rather than by two or more."[5]

Electric utilities were historically characterized by natural monopoly attributes, including economies of scale in generation, transmission, and distribution, "economies of coordinating and integrating the operations of dispersed generation facilities," and complementarities between generation and transmission.[6]

The ability to capture these economies of scale led Insull to promote the regulatory bargain espoused in his 1898 Presidential Address to the National Electric Light Association:

3 There are three fundamental ownership patterns in the electric utility industry: investor-owned, cooperatives under the REA, and municipal utilities. Investor-owned electric distribution utilities deliver power to more than 220 million Americans in all 50 states and the District of Columbia. The paper focuses on investor-owned utilities. The author recognizes that there may be monopoly issues with municipal utilities and co-ops, but these entities typically are not regulated by state public utility commissions.

4 Samuel Insull, "Some Advantages of Monopoly" in Public Utilities in Modern Life: Selected Speeches (1914–1923), Chicago: Private Printing, 1924, 3.

5 R.A. Posner, *Natural Monopoly and Its Regulation,* 50th anniversary edition, Cato Institute, 1968, p. 1.

6 Baumol, W., Joskow, P., and Kahn, A., "The Challenge for Federal and State Regulators: Transition from Regulation to Efficient Competition in Electric Power," Edison Electric Institute – Industry Structure Monograph Series – Number 1, 1995.

> While it is not supposed to be popular to speak of exclusive franchises, it should be recognized that the best service at the lowest price can only be obtained…by exclusive control of a given territory being placed in the hands of one undertaking. …In order to protect the public, exclusive franchises should be coupled with the conditions of public control, requiring all charges for services fixed by public bodies to be based on cost plus a reasonable profit.[7]

This regulatory bargain, along with similar structures for municipal utilities and rural electric cooperatives, provided the security of investment that enabled the electrification of the United States. Utility stocks were so secure that they were historically referred to as investments for "widows and orphans."

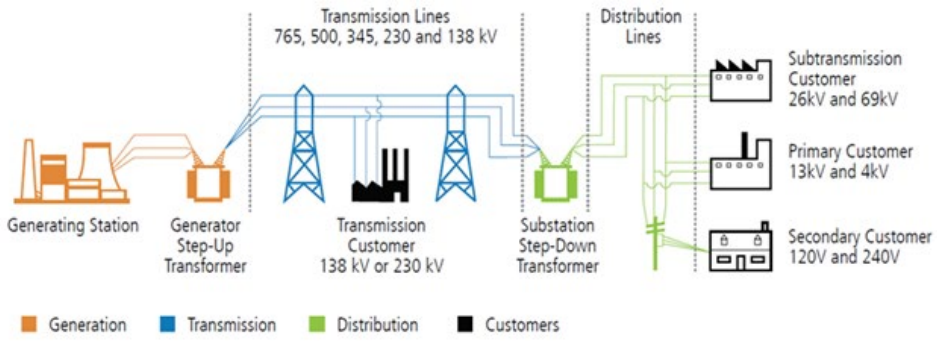
Regulation provided support for the monopoly capture of economies of scale. At the dawn of regulation in the early 20th century, utilities faced competition from large customers who self-generated using isolated plants. The electric utility industry had leverage over the isolated plant owners who relied upon the utility for back-up power in the event of the isolated plant failing. Given this reliance, competitive issues rather than the cost of service became the driver for the regulation of customer pricing. In this scenario, the regulator determined that the exercise of market power without undo price discrimination was warranted to reduce overall costs by taking advantage of economies of scale.

One tool used for such price discrimination was the implementation of the demand charge and the way that it was calculated. Isolated plant owners would interconnect and use the utility system for backup power in the event of an outage on their isolated plant generating units. The demand charge went into effect when the customer needed to use the utility's capacity as a backup. It ratcheted up the customers' bills, not only for the period in which it took power from the utility, but typically for a year. Charging each customer as though it alone were responsible for building generation to provide backup power and ignoring the diversity of the larger body of users with diverse peak loads resulted in a "sophisticate[d] mechanism which institutionalized profit-maximizing price discrimination given the competition from isolated plants."[8]

The Loss of Economies of Scale and the Restructuring of Power Markets

The structure of the investor-owned electric utility that developed under the supervision of state PUCs is demonstrated in **Figure 1.** Historically, investor-owned utilities were vertically integrated, generating power, transmitting power, and distributing power to customers. **Figure 1**[9] can be thought of as a template for what

Figure 1. Basic Structure of the Traditional Electric System



7 Samuel Insull, "Standardization, Cost System of Rates, and Public Control," in *Central-Station Electric Service,* Chicago: Privately Printed, 1915, 45.

8 Neufeld, J., "Price Discrimination and the Adoption of the Electricity Demand Charge," *Journal of Economic History,* Vol 47, No.3, September 1987, pp. 693-709.

9 U.S. Department of Energy, Quadrennial energy Review: Energy, Transmission, Storage, and Distribution Infrastructure, April 2015, p. 3-3, https://www.energy.gov/sites/prod/files/2015/04/f22/QER-ALL%20FINAL_0.pdf.

a typical utility would look like. As described in the graphic that follows, with the loss of economies of scale in electric generation, that template has changed.

It is important to take note of the success of the PUC/Investor-owned utility structure. This structure enabled the electrification of the United States, providing power to its people and industries. Regulatory attorneys from the 1960s have remarked to the author that adversarial rate proceedings did not exist during this period, and that that began to change in the early 1970s. Economies of scale in generation peaked in the early 1970s, leading to scale diseconomies. The real cost[10] of generation declined until this period. "The cost of building a new plant on a per-unit basis decreased until the late 1960s, despite increases in the cost of almost all materials and labor. Exploitation of larger (more thermodynamically efficient) units that demonstrated scale economies was responsible for the drop."[11] The exhaustion of these economies was largely the result of the tremendous complexity of building ever-larger, technically sophisticated plants, whereas the interest accrued from the debt required to finance the plants became an increasingly larger portion of the plant's in-service (rate base) cost. In 1974, Con Edison skipped its quarterly dividend for the first time since 1885, because of the financing costs of building generation.[12] As a result, Con Edison only recovered financially by selling two generator units under development, the Astoria 6 oil-fired generator and the Indian Point 3 reactor, to the New York Power Authority pursuant to enabling state legislation.

The search for alternatives to costly, large-scale, monopoly-owned generation led to the passage of the *Public Utilities Regulatory Act of 1978* (PURPA), a still surviving part of the first National Energy Act passed in response to OPEC's exercise of market power over world oil prices. PURPA enabled the financing of non-utility generation by requiring utilities to purchase power from unregulated merchant generators, at the utility's avoided cost (the cost the PUC determined the utility would have incurred "but for" the purchase of that power). The method for determining avoided costs varied from state to state, with Maine setting avoided costs at the cost of completing the Seabrook II Nuclear Power Plant, whereas other states, like New York, based avoided costs on short-run marginal cost principles.[13] The power system's ability to accommodate merchant generation receiving avoided-cost based rates demonstrated that it was possible to coordinate and supply utility load requirements through non-utility generation and enabled the formation of the organized power markets.

In the 1980s combined-cycle gas-fired generation provided the technology breakthrough that effectively neutralized economies of scale for generation and enabled the development of non-utility generation. Combined-cycle plants increased power plant efficiency from approximately 40 percent to more than 60 percent.[14] These new power plants tended to be small and standardized, and used natural gas, allowing for rapid siting and construction, which greatly reduced financing and development costs.

The concept of independent generation was furthered by the introduction of a new paradigm for market-based generation. The Energy Policy Act of 1992 (EPACT) created exempt wholesale generators (EWGs) that freed generator owners from certain legal and financial ownership restrictions that had been in place under the Public Utility Holding Company Act of 1935 (PUHCA). In addition, the Federal Energy Regulatory Commission (FERC) implemented a regime of competitive generation by establishing market-based rate authority, which

10 Nominal dollars adjusted for inflation

11 Richard Hirsh, *Technology and Transformation in the American Electric Utility Industry,* Cambridge, UK: Cambridge University Press, 1989, 70.

12 R. Stuart, "Improved Outlook Eases Con Ed's Financial Woes," *New York Times.,* May 17, 1975, https://www.nytimes.com/1975/05/17/archives/improved-outlook-eases-con-eds-financial-woes-con-edisons-financial.html.

13 Carl Pechman, *Whither the FERC: Overcoming the Existential Threat to Its Magic Pricing Formula through Prudent Regulation,* NRRI Research Report, 2021, https://www.naruc.org/nrri/nrri-library/research-papers/whither/.

14 David L. Chase, *Combined-Cycle Development Evolution and Future,* Schenectady, NY: GE Power Systems, 2000, GER-4206, http://physics.oregonstate.edu/~hetheriw/energy/topics/doc/elec/natgas/cc/combined%20cycle%20development%20evolution%20and%20future%20GER4206.pdf.

allows competitive generators to sell at market-based rather than cost-of-service-based rates. These new market mechanisms have enabled smaller scale generation, such as combined cycle units with their high efficiency, relative ease of siting, and short construction times to successfully compete with large central station steam generators.

One of the lessons from PURPA was that it was possible to coordinate independent generation into the reliable operation of electric systems. This led to a transformation in the way that the industry was structured. The process of generation dispatch, the coordination of generating units to meet the real-time load requirements of customers, moved from utilities to the newly formed Independent System Operators (ISOs). To provide open access to the transmission system on a comparable basis, FERC created Regional Transmission Organizations (RTOs) that typically operate in conjunction with ISOs. Seeing the loss of the rationale for maintaining generation as a regulated monopoly function, combined with the potential for market efficiencies, many, although not all, states required utilities to divest their generation. For example, the member utilities in the Mid-Continent System Operator (MISO) remain largely vertically integrated with generation subject to traditional rate regulation. Under this scenario with vertically integrated utilities, the ISO/RTO increases the efficiency of operating those generating units and provides a focal point for the real-time information sharing required to operate a reliable system.

The transformation of wholesale power markets was guided by concern over the exercise of market power. This provided the rationale for the formation of ISO's typically formed as 501c)(3) nonprofits with boards of directors representing diverse economic interests. It also led to the regime of open access to transmission facilities and the development of Open Access Same-time Information Systems (OASIS), and a system of market power screens and market surveillance overseen by FERC.

The Challenge of the Distribution Utility as a Monopolist

The distribution utility, as demonstrated in **Figure 1,** links the electric power producers, the transmission system, and the customers who use that electricity. It operates the system that provides end-use service to customers by building and coordinating reliable energy flows over the distribution system. The on-going energy transition is transforming the distribution utility into an integrator/operator that will determine the service options available on the customer's side of the meter and on the distribution grid, as well as establishing the business model by which customers may acquire those services (from the interconnection to pricing).

In contrast to the exhaustion of economies of scale in generation, economies of scale in distribution continue to support the notion of a single service provider in a particular area, because

> [A]s the number of customers on the network or the total power demand on the network increases, given a particular geographic area served by the distribution system, unit distribution costs can be expected to decline. These apparently pervasive economies of density imply that it would be inefficient to serve the same geographic area with more than one distribution system.[15]

As part of the clean energy transformation, the distribution utility is evolving from a pipe delivering electricity from generators to the customers that consume it to a complex operation with both one-way and two-way power flows. It is becoming the platform that supports the transformation of customers from simply consumers of energy to prosumers,[16] who actively participate in the operation of the grid by producing power and having flexible demand. The modern distribution system will be a key entity in providing the infrastructure that will support decarbonization efforts through electrification.

New technologies lead to the creation of new entities

15 Paul L. Joskow and Richard L. Schmalensee, *Markets for Power: An Analysis of Electric Utility Deregulation,* Cambridge, MA: MIT Press, 1983, 59.

16 The word "prosumer" was introduced by Alvin Toffler in his book, *The Third Wave* (1981) to describe the merging of the roles of consumers and producers in the information age—the third wave (agriculture was the first wave and industrialization was the second wave).

whose business models are directly affected by the way that the utility operates the distribution system. Each of these new models for providing service has important implications for the ability to decarbonize the electric system while electrifying the economy.

New technologies and institutional arrangements are increasingly part of an overall portfolio to reduce GHG emissions and increase resilience. These include:

- Community solar
- Aggregators
- Demand response
- Customer-sited storage
- Microgrids
- Distributed energy resources
- Energy efficiency
- Distribution level storage (both short- and long-duration)
- Electric vehicles, the need for charging infrastructure and their potential as system storage
- Electrification with appliances that improve efficiency and displace fossil fuels.

In addition, new technologies are being developed that will further expand the integration role that the distribution utility performs.

- Virtual power plants
- Carbon capture and sequestration
- Modular nuclear
- Long duration storage

These are a mix of supply-side and demand side activities. They are all disruptive technologies and organizations that will "transform the way we live and work, enable new business models, and provide an opening for new players to upset the established order."[17] Importantly for the role of the regulator, these technologies do not fit neatly into the existing relationship between regulators and the electric distribution utilities.

Figure 2. The Evolving Role of the Distribution Utility as Integrator/Operator

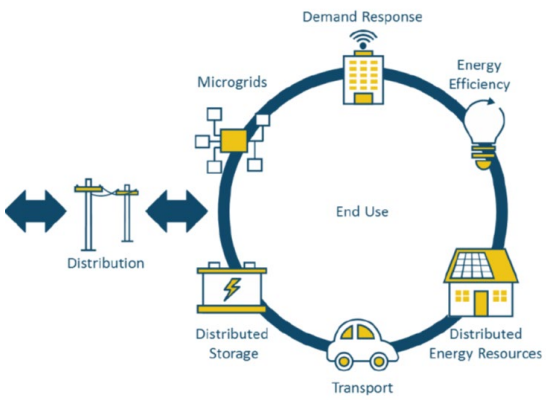


Figure 2[18] demonstrates the increasing complexity of the distribution system, which has changed from a one directional flow from generators to customers to a two-way flow – from the bulk power system to the customer and from the customer back to the bulk power system. Accommodating the entry of new technologies increasingly involves creating new retail pricing mechanisms that reflect the value of power both locally and in the wholesale market, coordinating the flow of power from the wholesale power market, balancing the frequency of the distribution system, and maintaining and operating physical infrastructure. Managing this physical infrastructure will not only involve constructing the necessary distribution system but ensuring interconnection and access to distribution facilities.

Accommodating these options for providing service to customers while decarbonizing will need to be coordinated at the distribution level. Just as the development

17 James Manyika et al., "Disruptive technologies: Advances that will transform life, business, and the global economy," McKinsey and Company, May 2013, accessed November 7, 2014, http://www.mckinsey.com/insights/business_technology/disruptive_technologies.

18 U. S. Department of Energy, "Quadrennial Energy Review: Transforming the Nation's Electricity System (The Second Installment of the QER)," January 2017, p. S-5. https://www.energy.gov/sites/prod/files/2017/01/f34/Transforming%20the%20Nation%27s%20Electricity%20System-The%20Second%20Installment%20of%20the%20Quadrennial%20Energy%20Review--%20Full%20Report.pdf.

of smaller, economically efficient units helped transform the industry and led to the development of organized power markets (ISO/RTOS), this coordination will require new distribution service business models. Distribution markets demonstrate economies of scope in areas where it is less costly to have a single system operator coordinating the market and ensuring the reliability of the electric grid over a fixed area, rather than two or more operators. Therefore, there is a legitimate argument that the coordination of distribution resources should be performed by a regulated monopoly. Given that, there is an issue over whether that monopoly function should be carried out by the local electric distribution company or some third party, such as found in the wholesale power markets with ISOs.

As the distribution energy ecosystem becomes more complex, it becomes increasingly necessary to have a Distribution System Platform (DSP, also frequently referred to as a Distribution System Operator- DSO). The DSP

> … be the integrator of distributed generation and other DERs, including energy efficiency, demand response, energy storage, and electric vehicles. The DSP will also provide the interface between the wholesale bulk power system and increasingly diverse retail markets that are a mix of customer load as well as new sources of supply and energy services.[19]

States interested in energizing the role of the customer have begun evaluating the role and ownership of DSO's. The New York Public Service Commission (NYPSC) examined the role and monopoly concerns associated with the DSO in the Reforming the Energy Vision (REV) process, a multi-year study with a wide array of stakeholders. It issued its "Order Adopting a Ratemaking and Utility Revenue Model Policy Framework,[20] in 2016. In that order, the NYPSC

> set in motion the establishment of a distributed system platform (DSP) structure by which utilities will facilitate distributed resources; limited utility ownership of distributed resources to mitigate market-power concerns; required utilities to create required utilities to create distributed system implementation plans (DSIPs) outlining relevant system information and investment plans; and established interim energy efficiency targets. distributed system implementation plans (DSIPs) outlining relevant system information and investment plans; and established interim energy efficiency targets.[21]

The New York REV is a landmark proceeding in which the NYPSC directly evaluated which functions are monopoly functions at the distribution level and which could be provided by the competitive market.

The Monopoly Concern

Given the evolving role of the electric distribution utility, an important concern for the regulator is whether a service could be better provided to customers by competitive entities rather than the utility and the potential for the impacts of market power to forestall this competition. Because the electric distribution utility can exercise monopoly control over the operation of the distribution system, there are many structural ways in which it could exercise market power, including discriminatory pricing, exploitation of asymmetric information, and deprioritizing the needs of providers of competitive technologies and services.

The exercise of monopoly power has been a concern for the innovators of solar power since the 1970s. This concern was reflected in a paper published by the Solar Energy Research Institute (the predecessor to the National Renewable Energy Laboratory) in 1979:

> As a matter of public policy, facilitation of solar energy commercialization by utility and energy companies-with their capital resources, managerial expertise, and technological knowledge-must be

19 RMI, "Bringing a Distribution System Operator to Life. Blog September 8, 2014, https://rmi.org/blog_2014_09_08_bringing_a_distribution_system_operator_to_life/.

20 New York Public Service Commission, "Order Adopting a Ratemaking and Utility Revenue Model Policy Framework," Case 14-M-0101, May 19, 2016.

21 Hansen, L and Lacey, V., "New York's Next Steps in the REV-olution," RMI, May 20, 2016 https://rmi.org/new-yorks-next-steps-rev-olution/.

> weighed against the possibility that such involvement by those firms will retard the commercialization process because interchangeability between end uses of renewable and nonrenewable energy resources creates opportunities and motives for market manipulation.[22]

The investor-owned electric distribution utilities have a financial incentive to exercise monopoly power. The new technologies present a financial threat. The Edison Electric Institute (EEI) alarmed both the financial community and the utility industry in 2014 when it drove this point home when it published "Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business." The paper warned that "the threat to the utility model from disruptive forces is now increasingly viable."[23] This EEI paper explained the threat that disruptive technologies would create a "vicious cycle from disruptive forces" that pointed to lost revenues for the investor-owned utilities. The paper focused on distributed energy resources (customer production) and energy efficiency/demand response (customers changing load patterns), opining that with the adoption of either distributed energy resources or energy efficiency/demand response/DER. lost revenues would necessitate a rate increases, thereby encouraging more distributed energy resources and energy efficiency/demand response.[24] Ultimately, this pattern could lead to what some call the "Utility Death Spiral." To resolve this problem, it will be important to identify those services for which a monopoly provider would be beneficial and provide revenue streams from customers that would enable the utility to continue providing essential services.

The financial community understood the implications of the EEI study and responded. In 2014, Barclays Bank downgraded the entire electric utility industry, stating that competitive challenges from solar power represented a clear and present danger:

> In the 100+ year history of the electric utility industry, there has never before been a truly cost-competitive substitute available for grid power. We believe that solar + storage could reconfigure the organization and regulation of the electric power business over the coming decade. We see near-term risks to credit from regulators and utilities falling behind the solar and storage adoption curve and long-term risks from a comprehensive re-imagining of the role utilities play in providing electric power.[25]

Utilities recognized the threat of financial loss from solar and other disruptive technologies and started taking action to shore up their monopoly status. In 2015, the Salt River Project (SRP) instituted a rate for customers with rooftop solar that increased their utility bills by an average of $600 a year. A group of customers filed antitrust litigation against SRP that was rejected by the federal trial court.[26] In January 2022, a three-judge panel of the U.S. Court of Appeals for the 9th Circuit reversed that lower court's ruling, allowing the plaintiffs to proceed with their antitrust claim against the utility for discriminatory pricing policies. The plaintiffs alleged that the new price plan SRP had put in place could increase the rate at which solar customers were charged by up to 65 percent and for that reason "unlawfully discriminates against customers with solar-energy systems and was designed to stifle competition in the electricity market."[27] The panel found that "[n]ot surprisingly, applications for solar-energy systems in SRP territory decreased by between 50 and 96 percent."[28]

22 Gross, J., "Impact of the Antitrust Laws on the Commercialization of Solar Heating and Cooling," Solar Energy Research Institute, SERI/TR-62-272, June 1979, pg. 47

23 P. Kind, "Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business" Edison Electric Institute, January 2013, p. 4, https://www.ceaa.gc.ca/050/documents/p63919/96988E.pdf.

24 Ibid., p. 12.

25 Michael Aneiro, "Barclays Downgrades Electric Utility Bonds, Sees Viable Solar Competition," Income Investing (blog), Barron's, May 23, 2014, http://blogs.barrons.com/incomeinvesting/2014/05/23/barclays-downgrades-electric-utility-bondssees-viable-solar-competition/.

26 Drisoll, W., "Appeals court ruling could bring {Phoenix solar market back to life," *Pv* magazine, February 2, 2022, Appeals court ruling could bring Phoenix solar market back to life – pv magazine USA (pv-magazine-usa.com).

27 *Ellis v. Salt River Project Agric. Improvement & Power Dist.,* 24 F.4th 1262, 1266 (9th Cir. 2022).

28 *Ibid., 1267*.

The Salt River Project provides a telling example of the way in which the utilities' market power can impact the growth of new decarbonization programs and methods.

Recently, 235 consumer and anti-monopoly advocates, public interest and environmental organizations, and rooftop solar companies petitioned the U.S. Federal Trade Commission (FTC) to commence an investigation into the electric utility industry's practices that are negatively impacting renewable energy competition and consumer electricity pricing. Among the alleged harmful activity is "unfair competitive actions that harm clean energy competitors, including consumers generating their own renewable electricity."[29] It is unclear how the FTC will respond to these allegations.

That is not to say that monopoly has no beneficial role, or that it is never in the public interest to grant monopoly status. The historic rationale for utility monopoly is that it is an entity affected with a public interest. To further the goal of electrifying the United States, the initial focus of the industry and regulators was on the capture of economies of scale for the benefit of the customer. Because it is still less expensive to provide distribution in a given area through a single utility, that function remains a monopoly. The issue going forward is whether the public interest will be best served by new services provided by a regulated utility or by competitive entities. If these services are to be provided by a regulated utility, should it be the incumbent or a new monopoly entity?

There may be economies of scope with utility ownership and control of some new technologies that will enhance the reliability and resilience of distribution system operation. One example of economies of scope might be the ability to plan and operate the system in a cybersecure manner. Another example, long-term storage, can be provided competitively, but when owned by the distribution operator may offer economies of scope in the operation of the distribution system that would facilitate its resilient operation. For that reason, regulators may find it in the public interest for some functions to be provided by the distribution utility as a monopolist.[30] When making such a determination, the regulator must be careful to avoid providing the utility with additional market power from its role as integrator. New York's approach of providing a utility integration role, while limiting activities that could benefit from information asymmetry, demonstrates the critical role of regulators in managing the terms of monopoly service by utilities.

Excluding Competition at the Grid Edge

Regulation has a history of adaptation, and it is time to recognize that there are hard choices ahead. The post WW II regulation of electric utilities was a fairly simple task. The country was electrifying. There were economies of scale in generation. Costs of providing service were declining because of those economies of scale. That ended with the exhaustion of economies of scale in developing generation in the early 1970s. Regulation became more difficult. There were oil embargoes and nuclear power plant cost over-runs. PUCs sought new mechanisms to improve utility performance. These incentives were either targeted (e.g., the sharing of energy efficiency savings) or utility wide.

Now, every PUC will need to take on the added task of determining and explicitly supervising which utility activities are competitive and which can (or should) be provided by the regulated monopoly. There are three actions that PUCs can take that define the utility's role as monopolist. The first is the interpretation of legislation establishing utilities; the second is oversight of tariffs; and the third is through the supervision of behavior subject to state action immunity.

State legislatures and state courts can authorize anti-competitive behavior.

> The PUC's authority to regulate generation, transmission, distribution and sale of electricity by electric utilities is generally authorized by state statute or is in some cases in state constitutions. Thus, public utility commissions have commonly been held by courts to be authorized by the state to enforce a policy that allows anti-competitive

29 Petition to the Federal Trade Commission to Commence Article 6(B) Investigation Re: The Electric Utility Industry's Abusive Practices that Stifle Renewable Energy Competition and Harm Consumer Protection," May 18, 2022.

30 Carl Pechman, "Determining the Scope of the Electric Distribution Utility of the Future" Smart Electric Power Alliance, 51st State Initiative, 2017, https://sepapower.org/resource/51st-state-ideas-determining-scope-electric-distribution-utility-future/.

> conduct by electric utilities that are monopolies in their service territories.[31]

A critical question, therefore, is "what is a utility?" PUCs have interpreted this question in different ways. For example, in the discussion that follows, a number of states have reviewed the issue of whether Purchase Power Agreements (PPAs) are a utility service that would prohibit third-party provision of that service. A PPA is a commonly used contractual mechanism that enables property owners to install photovoltaic (PV) installations on their property without owning it. The customer enters a PPA with an independent entity, that installs the PV. The customer pays for the PV output at a fixed contract price. The customer then uses that power to earn a bill credit in the utility's net metering program.

North Carolina determined that PPAs are a utility service based on its review of its enabling statute, which defines a public utility as:

> any entity which owns and operates "equipment and facilities" that provides electricity "to or for the public for compensation."

It further found:

> North Carolina law precludes retail electric competition and establishes regional monopolies on the sale of electricity based on the premise that the provision of electricity to the public is imperative and that competition within the marketplace results in duplication of investment, economic waste, inefficient service, and high rates.[32]

In contrast to North Carolina, New Hampshire found that "in offering solar power purchase agreements or solar leases to customers in New Hampshire, neither Vivant nor any of its affiliates should be regulated by the Commission as a "public utility." In doing so, the NH PUC accepted the solar providers' argument that it should be deemed a "public utility," as defined in RSA 362:2, subject to the Commission's broad regulatory jurisdiction, because it does not provide "service to the public without discrimination."[33]

The filed rate doctrine also provides a defense by utilities against anti-trust claims. In *Keogh v. Chi.*[34] the U.S. Supreme held that when a tariff or rate schedule is filed with the state's PUC, private plaintiffs cannot recover anti-trust damages. This protection is not dependent upon PUC review or any finding that the tariff is just and reasonable. "This protection extends only to suits brought by customers or purchases of rate regulated goods from the regulated firm and not generally to suits brought by customers."[35]

The limitation of immunity associated with the filed rate doctrine is important. The Supreme Court's decision in *FERC v. EPSA*[36] established the precedent that demand-side options, such as demand response, are functionally equivalent to generation. In doing so, it recognized the role of the customer as a resource for maintaining system reliability and issued and established the consumer's right to participate in wholesale markets with behind-the-meter resources. Building on *FERC v. EPSA,* FERC Order 2222[37] further expands the service options that can be delivered through the distribution utility.

Limiting the reach of FERC orders to develop cost effective options for customer service, utilities such as Evergy in Kansas have tariff language that limits the customers freedom to participate in the growing market options.

31 M. Wara, "Competition at the Grid Edge: Innovation and Antitrust Law in the Electricity Sector," *NYU Environmental Law Journal, Vol. 25, No. 2, 2016,* p. 215.

32 State ex rel. Utilities Commission v. North Carolina Waste..., 805 S.E.2d 712, 2017.

33 Vivint Solar, Inc., 2016 WL 224170, NH Pub. Util. Comm'n, January 15, 2016.

34 *Keogh v. Chi.* & Nw. Ry. Co., 260 U.S. 156, 161, 1922.

35 Op.cit., Wara, p.. 215.

36 136 S. Ct. 760, 2016.

37 U.S. Federal Energy Regulatory Commission, Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators, Docket No. RM1809-000; Order No. 2222, September 17, 2020, Accessed April 14, 2021, 3 FERC clarified in Order 2222.

> Customer participation in Integrated Market or Demand Response: Company's express written consent is necessary for a customer to participate in the SPP's Integrated Market or Demand response program regardless of the customer's service taken from Company (i.e., firm or interruptible).[38]

This language appears in a filed tariff approved by the Kansas Corporation Commission. It prohibits an Evergy customer from participating in the SPP market without the explicit written permission of Evergy. Language such as this clearly discourages customer participation in new markets established by the FERC. Because of the filed rate doctrine, Evergy's customers are powerless to pursue antitrust action against it, although aggregators seeking to provide service to an Evergy customer could potentially pursue such claims. In the latter case, the issue will be whether the anti-competitive behavior is immunized by the state action doctrine.

The U.S. Supreme Court decision in Parker v. Brown[39] established the doctrine of state action immunity, the ruling that the state can immunize business conduct from antitrust prosecution. This doctrine provides immunity from federal antitrust lawsuits for anti-competitive behavior if the action meets a two-pronged test. The behavior must be "(1) undertaken pursuant to a clearly articulated state policy to displace competition with regulation and (2) actively supervised by state regulators."[40]

In the first prong of the test, "state government may be able to immunize from federal antitrust prosecution by clearly declaring a policy of monopoly for its franchised companies."[41] The importance of the first prong is demonstrated by the 9th Circuit's decision in the SRP antitrust case. In its decision, the court held "that SRP was not entitled to state-action immunity because the State of Arizona had not articulated a policy to displace competition, but rather had clearly expressed a policy preference for competition in electricity generation and supply."[42]

Even if a state authorizes anticompetitive conduct "there is the also the risk that the court could conclude that state supervision of the conduct was insufficiently "active" to merit protection from antitrust liability."[43] State PUCs therefore have an affirmative role to determine the scope of monopoly services and to assess the types of allegations included in the FTC petition. There is no single standard for active supervision. Therefore, it may be reasonable for PUCs to adopt the "prudence standard," to guide their regulatory review of which utility activities should be provided as a monopoly service. This standard provides the analytical framework that PUCs use to determine whether utility behavior is just and reasonable and whether the costs incurred may be recovered from ratepayers.

> The concept of prudence is used throughout the law as a description of a standard of conduct owed to others. In the law of torts, the "ordinary reasonably prudent man" is well known for the careful conduct … both with respect to his actions and with respect to the foreseeability of their consequences.[44]

The prudence standard is an information-intensive standard that requires active investigation and decision making.

> [A utility's] actions should be judged by asking whether they were prudent at the time, under all the circumstances, considering that the Company had to operate at each step of the way prospectively rather than in reliance on hindsight. Accordingly, the department will base its findings on how

38 Evergy Kansas Central, Inc & Evergy Kansas South d.b.a. Envergy Kansas Central, "Tariff, section 7, sheet 12," September 27, 2018.

39 317 U.S. 341 (1943).

40 D. Turetsky, "Antitrust Enforcement in the Electric Industry," Address by the Deputy Assistant Attorney General, Antitrust Division U.S. Department of Justice - Before the Edison Electric Institute Chief Executive Conference. Remarks made January 11, 1996, Text Published February 2, 1996, https://www.justice.gov/atr/speech/antitrust-enforcement-electric-industry.

41 C. Zielinski, "The Big Bang," *Public Utilities Fortnightly,* March 15, 1994, p. 23.

42 *Ellis v. Salt River Project Agric. Improvement & Power Dist.,* 1277.

43 Op. cit. Wara, p. 219.

44 Burns, R.E. et al., "The Prudent Investment Test in the 1980's," The National Regulatory Research Institute, April 1985, p., 21, NRRI-04-16.

> reasonable individuals would have responded to the particular circumstances and whether the Company's actions were prudent in light of all conditions and circumstances which were known or which reasonably should have been known at the time the decisions were made.[45]

The prudence standard not only provides a framework for evaluating utility behavior, but also sets a standard for active supervision on the part of the regulator. Prudent regulation would continually involve re-evaluating the role of the utility in light of changing technology given new information. The prudent regulator must be proactive. The role of the regulator, as both an arbiter and an information facilitator, is to provide a forum in which it can remain informed on these issues. As society moves forward with decarbonization, decisions made by state regulators will determine the utility's exposure to antitrust claims. If there are allegations that antitrust laws have been violated, the electric distribution utility will need to defend its claims of state action immunity. The filing and resulting acceptance of a tariff by a PUC does not necessarily confer State Action Immunity; additional information and proof may be required.

Providing and articulating the basis for state action immunity is the responsibility of the prudent regulator. Elements of regulatory review that would fulfill the the two prong test include the following:

1. Articulation of legislative mandates that define the role of the utility.

2. Overview of the policy context in which the technology is being incorporated into the distribution utility's service territory, with citations to legislation, policy pronouncements, and regulatory decisions that support that policy.

3. Regulatory determination of the way in which to incorporate new technology into the distribution system, i.e., whether such services would be better provided by a monopoly or competition. If competition is best, what rules should be provided?

4. Have customers or competitive providers approached the utility to deploy a new technology or market mechanism? What was the outcome?

5. Analysis of the customer impact of incorporating a new technology will be best performed as a monopoly fuction or by the competitive market.

6. Whether the PUC has explicitly granted state-action immunity, including documenting that the state had articulated that each monopoly provision is consistent with state policy, and citing proceedings in which active supervision is demonstrated.

7. Explanation of the reason monopoly provision is affected with the public interest.

8. Report of the analytical basis of the PUC's decisions, including why the determination to provide state action immunity minimizes the cost of providing service to consumers, as well as any other rationale provided to support immunizing monopoly behavior.

Prudent regulation would have the PUC provide information on these elements to the market and request feedback about its determinations on a regular basis. The PUC is in a unique position to provide this information to help guide the entry of new entities and services. Doing so will help clarify roles. As an example, a number of states participating in the Midcontinent Independent System Operator (MISO) have banned aggregators from delivering all available demand response.[46] For this case, the prudent regulator would at a minimum report the reasons demand response was not competitively provided and require either citations to legislation or to regulatory decisions that provide support for the institution of the ban. Doing so would enable market participants to evaluate whether they believe that both the policy rationale and supervision were adequate to support a claim of state action immunity and determine whether the distribution utility would be at risk for antitrust claims.

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45 *Re Boston Edison Co, 46 PUR4th 438 (Mass. DPU, 1982).*

46 J. Moore, "Major Barrier to Demand Response Needs to End," NRDC Expert Blog, August 25, 2021, https://www.nrdc.org/experts/john-moore/major-barrier-demand-response-needs-end.

Conclusion

The nature of the electric distribution utility is changing rapidly. It is increasingly taking on the role of integrator of different services provided by a wide array of market participants. Designing that new role will require determining whether services are provided by the electric distribution company as a monopoly or by competitive market entities and whether the incumbent utility can participate (and on what terms). The PUC will have an increasingly important role in guiding that determination through the grant of State Action Immunity. To do so effectively, the PUC must adopt the practice of prudent regulation, continually re-evaluating the role of the utility with information that is known and knowable and learning lessons from within its jurisdiction and other PUCs around the country. Actively providing the results of its ongoing inquiry will facilitate the market transformation, enabling efficient electrification and decarbonization.

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