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THE LAW OF HOLES AND ELECTRICITY MARKET REFORM



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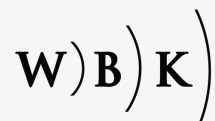


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INTRODUCTION

Regulatory policy has always been debated based on ends, reasoning back to the means: are we solving a monopoly problem? A universal service goal? Solving for a negative externality? Preserving the jobs and revenue from a particular facility?

It is inevitable therefore that a debate over regulatory policy will start by setting a goal. Toward that goal, regulatory policy is directed. Historically, cost and reliability have been the twin ends of energy regulatory policy. However, in recent decades, those ends have expanded to include environmental and social policy concerns. At its most general, the current consensus embodies the ends that regulatory policy should benefit consumers through a reliable, environmentally-sustainable, and affordable grid that accommodates technological innovation. (1)

Effective regulation also requires a consistent acknowledgement of potential error costs and opportunism. Even the best regulator cannot know everything there is to know about the electric industry and where it might be going. The need to make decisions in the here-and-now about capital investments and assets that will live on for decades -- and take just as long to pay off -- makes the stakes exceptionally high. Policymakers must be wary and seek to minimize the possibility of error costs and ensure that mistakes do not become a durable and irreversible fixture of the policy landscape. (2) Opportunism, meanwhile, reflects the reality that firms, organizations, or people often act to elevate their own parochial interests above that of some broader interest. In the end, opportunism has to be acknowledged and channeled to work in the best interests of consumers, not against them.

It is peculiar then that Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs), which were created to address a marginal cost pricing problem more than two decades ago, are now being promoted as the superior (or to some observers, only) regulatory vehicle to address the environmental concerns and transmission grid expansion needs of today. Indeed, RTO/ISO regulatory institutions created to serve the end of marginal cost pricing and competitive generation are decidedly not suited as institutions to hasten an energy transition and environmental policy imperatives.

The recognized crises in ERCOT, PJM, NE-ISO and CAISO belie the success, adaptability and durability of the RTO/ISO model. California blackouts in the summer of 2020 and the February 2021 Texas electricity crisis do not serve as great promotions for the regulatory model of the RTO/ISO. Institutions matter and critical thinking about RTO/ISO institutional failures can inform new institutional models to provide the means of low cost, reliable and environmentally responsible regulatory policy. To be sure, there are also lessons from the RTO/ISO regulatory model to be adapted to new institutional models: larger power pools save customers money and enhance reliability, price integrity must be jealously guarded, and the empire building, inside-game and administrative costs of so-called 'market' institutions must be closely policed.

1. That, at least, is what I characterize as the current consensus. Of course, parochial interests lie beneath this broader consensus, such as sustaining a specific generating plant and its jobs and revenue, benefiting a specific business model or institutional arrangement, and so on.

2. When policymakers commit errors (especially large-scale errors), a set of reliance interests coalesces around those errors. And once those reliance interests form, they are exceedingly difficult to correct because a constituency exists to keep those errors in place.

THE MARGINAL COST PRICING PROBLEM AND REGULATORY CHALLENGES OF THE 1990S

RTOs and ISOs were created to solve the marginal cost pricing imperative of the 1990s. (3) Twin regulatory errors of the 1970s and the 1980s drove the push to rediscover marginal cost pricing principles: a rate bubble following the enactment of the Public Utilities Regulatory Policies Act of 1978 (PURPA) and elephantine cost overruns on nuclear plants. PURPA, which was a policy response to the 1970s energy crisis, jumpstarted the development of gas-fired generation projects and renewable energy facilities by independent power producers (IPPs).

For electric utilities and their customers, however, the wave of investments spurred by PURPA also resulted in high-cost obligations. PURPA required regulated utilities to purchase power generated by IPPs at a price that was supposed to reflect the utilities' avoided costs (i.e., the costs the utility would incur if it self-generated the same amount of electricity). In reality, regulators in certain states aggressively stimulated the entry of IPPs by requiring utilities to sign long-term contracts with these entities at rates that greatly exceeded the marginal cost of generation. (4) The costs of these contracts were then passed through to consumers in regulated retail prices. PURPA also created a windfall for entities like Enron, which aligned itself with environmental interests in a classic example of the "Bootleggers and Baptists" strategy. (5) Ironically, PURPA didn't bring the benefits of competition to consumers, but rather regulatory-mandated contracts for high-cost power.

The PURPA rate bubble was compounded by nuclear generation cost overruns and the downward trend in the minimum efficient scale of generation facilities. In some states, this led to a significant disparity between the embedded costs reflected in utilities' retail electric rates and the marginal cost of electricity production represented by wholesale rates. In turn, industrial customers threatened to self-generate (and sell surplus capacity under PURPA) to win concessions from vertically-integrated utilities, or to flee to lower-cost states altogether. (6)

3. The incomparable Alfred Kahn introduced marginal cost pricing principles to utility ratemaking when he was the Chairman of the New York Public Service Commission in the 1970s (which, arguably, was the most tumultuous time in regulatory history). Kahn also (properly) credits the Wisconsin PUC and its chairman Richard Cudahy (later Judge Cudahy of the 7th Circuit) with beating him to the punch on marginal cost pricing. Whoever gets the credit, with marginal cost pricing, Kahn and Cudahy gave both a legal guidestar to "public interest" ratemaking and made pricing more efficient. See Samuel Huntington, "The Rapid Emergence of Marginal Cost Pricing in Regulation of Electric Utility Rate Structure, 55 B.U. L. REV. 689 (1975).

4. By subsidizing the creation of new "competitors" in the generation market, PURPA did the same thing for electricity that the historically out-of-whack rate structure did for telecommunications – that is, inducing inefficient entry by competitors into the business segment. However, competition came to telecommunications more readily, in part because Moore's Law eroded the natural monopoly characteristics of telecom more quickly.

5. See Robert L. Bradley Jr., *ENRON ASCENDING, THE FORGOTTEN YEARS 1984-1996*, at 40-41 (2018):

"PURPA was intended to aid renewable energies when natural gas was considered to be a fading resource to generate electricity. Still, efficient new gas technologies qualified for the law's preferences. Lo and behold, natural gas became plentiful, and natural gas combined-cycle technology rapidly improved in the 1980s, generating increasing amounts of electricity per unit of gas. Enron Cogeneration Company – a much-needed new profit center and, in fact, Enron's highest rate-of-return business – built or acquired six plants between 1985 and 1988 that contributed tens of millions of dollars to the bottom line. Captive electric ratepayers lost what Enron gained in the 1984-89 heyday of PURPA. An energy-crisis law had quite different results in an energy-surplus era, an unintended consequence of government intervention from changed markets."

6. See Peter M. VanDoren, *The Deregulation of the Electricity Industry*, at 7, Cato Institute (1998).

Policymakers in California, Illinois, and a handful of states in the Northeast sought to assuage the concerns of disgruntled industrial customers by bringing lower-cost electricity to them through electric restructuring at the wholesale and retail levels. These state-led efforts were complemented by a series of policies issued by the Federal Energy Regulatory Commission (FERC) on a parallel track.

Although industrial users tended to subsidize residential and small commercial customers under the traditional ratemaking process, restructuring legislation was promoted as a good deal for all consumers. In California, for example, the unanimous vote of the California legislature in favor of that state's restructuring legislation in 1996 signaled the belief that restructuring would significantly improve consumer welfare.

And in Texas, the primary sponsor of the restructuring bill in the state legislature said that "if all consumers don't benefit from this, we will have wasted our time and failed our constituency." (7) Of course, a recent Wall Street Journal analysis found that "deregulated Texas residential customers paid \$28 million more for their power since 2004 than they would have paid at the rates charged to the customers of the state's traditional utilities." (8)

At the time it was implemented, the goal of restructuring was generally aligned with the market design of RTOs and ISOs. This market design had its genesis in the economic literature on the optimal dispatch of (and optimal investment in) electric generation facilities. (9) Under this model, single-clearing price auctions superintended by RTOs and ISOs were intended to replace the traditional planning processes of vertically integrated utilities and drive wholesale generator prices to the short-run marginal cost of production, thereby mitigating the potential exercise of market power. Restructuring therefore offered a direct response to the PURPA problems states were facing at the time: least cost generation wins. Another implicit goal of restructuring was to minimize the potential for opportunism in utility planning decisions. (10)

A MARGINAL COST INSTITUTION FOR AN ENVIRONMENTAL IMPERATIVE?

Fast forward to today. The Bootleggers and Baptists are promoting the national expansion of the RTO/ISO regulatory model as a vehicle to achieve the policy imperatives of decarbonization and generation fleet transformation. Only now, it's not high-flying Enron executives making the pitch, it's a coalition of Big Tech and large multinational corporations that are pushing electricity deregulation

7. David B. Spence, *The Politics of Electricity Restructuring: Theory vs. Practice*, 40 WAKE FOREST L. REV. 417, 446-47 (2005).

8. Tom McGinty and Scott Patterson, *Texas Electric Bills Were \$28 Billion Higher Under Deregulation*, THE WALL STREET JOURNAL (Feb. 24, 2021), <https://www.wsj.com/articles/texas-electric-bills-were-28-billion-higher-under-deregulation-11614162780>. See also Tom McGinty and Scott Patterson, *Deregulation Aimed to Lower Home-Power Bills. For Many, It Didn't*. THE WALL STREET JOURNAL (Mar. 8, 2021), <https://www.wsj.com/articles/electricity-deregulation-utility-retail-energy-bills-11615213623>.

9. Paul L. Joskow, *Challenges for Wholesale Electricity Markets with Intermittent Renewable Generation at Scale: The U.S. Experience*, at 13 (2019). The restructuring of wholesale electric markets was also informed by the AT&T breakup ideology and the deregulation of the long-distance telephone market. To promote competition in the long-distance market, AT&T was required to divest its local exchange carriers, which were to remain regulated monopolies. This facilitated the interconnection of competing long-distance carriers (such as MCI) on a nondiscriminatory basis.

10. See *id.* at 17-18 (2019).

under the guise of “going green.” (11) Once again, this coalition is promising the moon in terms of consumer benefits. But it is hard to see how a marginal cost pricing regulatory model gets proponents to an energy supply transformation to less carbon-intensive generation. Indeed, zero marginal cost resources – particularly when tax advantages are superadded – break the marginal cost pricing regulatory market model.

Meanwhile, the blackboard economics assumption that electricity can be treated as a commodity no longer holds in a world with significant amounts of intermittent generation with zero marginal operating costs, as Tony Clark and Vincent Duane recently explained. (12) The administration of RTOs has devolved into a jury-rigged, micro-managed system of price caps, minimum offer pricing rules, reliability must-run agreements, and other (as FERC staff recently put it) “out-of-market operator actions to address the limitations of conventional RTO/ISO market design.” (13) Far from promoting “competitive outcomes,” these mechanisms place a thumb on the competitive scale and distort the market, ultimately to the detriment of consumers. (14) Stakeholders in restructured markets seem to be fine with this approach until their own favored generation assets begin to fail in the market, which some states have not abided.

RTOs and ISOs are not magic transmission building machines, either. Certainly, the impediments to transmission development go beyond the highly bureaucratic stakeholder processes that occur within RTOs. For example, the holdout problems inherent in siting at a local level are enormous, and the political dynamics give enormous leverage to coalitions of NIMBY and other stakeholders to slow roll or kill needed transmission projects. (15) Despite these challenges, while congestion revenue rights and locational marginal pricing mechanisms may be workable solutions when it comes to the short-term allocation of transmission investments, they do not provide appropriate long-term price signals for investment. To its credit, FERC has initiated the process of reassessing its existing transmission policies. Now that this effort is underway, however, there is a real risk that transmission investment decisions could be thrown into a hyper-political planning process that treats transmission as a platform for carbon-free business models. If this occurs, economic rationality will be subordinated to interest group factionalism.

Still worse, the theoretical superiority of RTO/ISO regulatory design is being swamped by the practical concerns of how people and organizations actually behave. In the face of increasingly complex stakeholder processes, FERC continues to delegate much of the market design choices and oversight to the RTOs. By flying largely below the federal radar but above state PUC accountability to ratepayers.

11. By imposing a one-size fits all “market” design across the country, in lieu of state-led regulation, Big Tech hopes to complete a reorientation of the electricity delivery model around its own virtual platforms, and away from the regulated utility. This is very much in the mold of the Enron of yore, which had similar grandiose plans of a regulatory model built to favor its business interests.

12. See Tony Clark and Vincent Duane, *Stretched to the Breaking Point, RTOs and the Clean Energy Transition* (Jul. 2021), <https://www.wbklaw.com/wp-content/uploads/2021/07/Wholesale-Electricity-Markets-White-Paper-07.08.21.pdf>.

13. FERC Staff Paper, *Energy and Ancillary Services Market Reforms to Address Changing System Needs*, at 11 (Sept. 2021), <https://www.ferc.gov/news-events/news/ferc-staff-issues-report-energy-and-ancillary-services-market-reforms-address>.

14. See *id.* (stating that “out-of-market actions can undermine price formation in energy and ancillary service markets, which in turn can reduce incentives in the flexible resource capabilities needed to manage operational uncertainty”).

15. Of course, the nature of the Western Interconnection, in contrast to areas of the country served by the Eastern Interconnection, is such that diversity and expanse reign. The expanse and terrain of the West, when considered against the substitutability of generation near the diffuse load centers, presents real and difficult cost-benefit challenges. The region is not fully interconnected, in part due to geographic constraints, and making robust interconnection ubiquitous throughout the West may indeed be uneconomic.

RTOs have become a prime target for opportunism. Indeed, this might be the point for some proponents of RTO expansion: when all terms are up for grabs in the regulatory forum, then that forum is worth investing in. In a worst-case scenario, the RTO/ISO will have all of the discipline and incentives of a congressional appropriations committee, spending consumers' money to satisfy the demands of diffuse stakeholders without regard to economic efficiency. In any event, the idea that the RTO/ISO construct would be impervious to the price-distorting effects of public policy and other rent-seeking pressures was overly-idealistic.

CONCLUSION

As the old adage says: "If you find yourself in a hole, stop digging." And so it goes with calls to extend the RTO and ISO model to areas in the Southeastern and Western United States.

Call it the "missing money" problem, or call it what you will, but long-lived, capital-intensive investments do not get made in government-run 'markets' that focus on short-run marginal cost prices.

To be sure, the traditional regulatory model has its own set of failures, misaligned incentives and problems. Capital intensive network industry regulation has been a challenge since the railroads emerged in the 19th Century, and theories of regulation have a hard time keeping up with innovation and knowledge asymmetries. Nonetheless, the lived experience these last 20 years of "regulated" versus "restructured" markets is both a misnomer and a decisive advantage for the regulated model for minimizing error costs and opportunism.

Sustainable and economically rational alternatives that allow utilities to bring the benefits of regional coordination to consumers are needed. Experimentation, emergence and adaptability should further be encouraged.

The Southeastern Energy Exchange Market (SEEM) just "approved" by a deadlocked FERC is one such model. It may be enough; it may need to evolve further. But it starts with stakeholder buy-in from the region and low administrative costs, while seizing the benefits and scale of a larger power pool. The road-not-taken in the 1990s and early 2000s also deserves another look: "Transcos," (16) a for-profit transmission corporation regulated through a performance-based regulatory plan at FERC. This model is used in the United Kingdom (17) and in limited circumstances in the U.S. Done right, (18) a Transco should have strong incentives to invest efficiently in transmission infrastructure. (19) Nonetheless, if transmission coordination and investment is the end, then the Transco should be a means worth looking at.

Finally, other emergent models may emerge from discussions in the Interior West. While CAISO has made itself a pariah to other western states because of its California-centric governance structure, the

16. "Transcos," "GridCo," or "Independent Transmission Company" (ITC) are used interchangeably.

17. See National Grid, "How we're regulated," <https://www.nationalgrid.com/uk/electricity-transmission/about-us/how-we-are-regulated>.

18. The "done right" qualifier admittedly has some work to do here. Performance-based regulation and the investment incentives faced by a Transco should serve the regulatory ends of better, more efficient transmission planning and investment. However, the terms of the performance-based regulatory plan are crucial.

19. Indeed, the FTC used to criticize the Transco model as having too strong incentives to invest in transmission at the expense of generation and demand-side resources.

Pacific Northwest has been examining resource adequacy issues through a multi-state, multi-utility collaborative. Other Western states – notably Colorado, Nevada and New Mexico – face statutory or regulatory commitments to study market regulatory systems that may result in an RTO/ISO, or something different.

The ends of regulatory policy in 2021 are different than they were in 2000. Marginal cost pricing regulatory models may now be durable where established, but they have not necessarily been successful. Indeed, they have been nearly catastrophic. New regulatory market models that learn from the RTO/ISO regulatory model are worth discussing and exploring. And, to close on a favorite theme, an “emergent” model that reflects regional circumstances, regulatory possibilities and consensus ends will beat a top-down prescribed RTO/ISO model, or I at least think so.