

D.C. Circuit Kills Demand Response Compensation: Now What?

The day before my first appellate argument, at the Ninth Circuit in April 1989, I went to court to observe. One pair of opponents, having finished before the judges, continued arguing in the hallway. We could keep arguing too, for the months and years that will pass while the full D.C. Circuit and the Supreme Court review last week's panel opinion. Or we can bear down and find ways to make demand response work. This month's essay proposes some actions, categorized according to who can take them: generators, FERC, retail utilities, states, municipalities and Congress.

Background

In Order 719, FERC ordered regional transmission organizations, when operating hourly energy markets, to treat demand response bids from retail customers (or their aggregators) on a basis comparable to wholesale generators' bids. This RTO obligation does not apply to bidders from states that prohibit demand response participation in RTO markets.

In Order 745, FERC set the compensation for this demand response, at the locational marginal price (LMP) for the place and time the demand response is offered. Compensation was available only if the demand response (a) helped balance supply and demand; and (b) was "cost-effective"; meaning, FERC explained, that "reductions in LMP from implementing demand response results in a reduction in the total amount consumers pay for resources that is greater than the money spent acquiring those demand-response resources at LMP."

FERC based its orders on demand response's two benefits. It improves reliability; and it lowers wholesale prices—directly (by causing the wholesale demand curve to intersect the supply curve at a lower point), and indirectly (by pressuring wholesale generators to lower their price bids).

On May 23, 2014, a panel of the U.S. Court of Appeals for the D.C. Circuit voted 2-1 to invalidate Order 745 (not Order 719), on two distinct grounds. (Read the opinion [here](#).) First, by ordering compensation for demand response from retail customers, FERC was regulating retail electricity markets—a power denied to FERC and reserved to states by Section 201(b)(1) of the Federal Power Act. Second, in setting the compensation at LMP, FERC acted "arbitrarily and capriciously" by failing to explain itself, and failing to address arguments from wholesale generators and from dissenting Commissioner Moeller. (Technically, the Court did not hold that LMP compensation was necessarily unlawful, although it described Moeller's arguments as "persuasive.") Judge Edwards dissented, asserting, among other things, that FERC had jurisdiction because retail demand response directly "affected" wholesale rates (which were indisputably within FERC's jurisdiction), and that FERC had explained its choice of LMP adequately.

Given the likelihood of *en banc* and U.S. Supreme Court appeals, we might not know the law for two years—during which time we will forego millions of dollars in savings from demand response if RTOs have to kill compensation. There are disagreements over FERC’s and the Court’s legal analyses, but there is not disagreement on this: *We over-consume electricity because we lack a market structure and a compensation scheme that elicit all cost-effective demand response.* The resulting energy waste is bad for everyone (except those generators who lose profits due to competition from demand response). So all consumers, whether wholesale or retail, and all regulators, whether federal or state, have a stake in getting this right, fast, so that we can cease using existing generation inefficiently and can avoid building new generation capacity unnecessarily. While the courts sort out the law, what can the rest of us do to induce economical demand response?

Generators

They should be careful what they wish for. If demand side bidders can’t participate in organized wholesale markets, FERC has found (in statements the Court left untouched), the generation prices produced by those markets won’t be “just and reasonable,” as required by the Federal Power Act. That means every generating company now risks having its market-based pricing authority revoked, in favor of regulated prices. Regulated prices are limited to prudent costs plus FERC-set returns on equity, all established through an expensive, humorless and *public* process in which FERC auditors and consumer consultants probe the seller’s internal records and cross-examine company executives. Faced with that alternative, the rational generating company will stop celebrating its court victory and start thinking about how to get all cost-effective demand response into wholesale markets.

FERC

1. Rather than *give an order to the RTOs*, FERC could *impose a condition on the wholesale generators*. That is, rather than order the RTOs to pay compensation to retail customers (an order that the Court said was outside FERC’s jurisdiction), FERC could *condition the wholesale generators’ right to charge market-based rates* in RTO markets on the existence of sufficient demand response participation in those markets. FERC first would have to find that absent demand response participation, the wholesale generators’ rates would not be just and reasonable. Then the Court’s jurisdictional problem would disappear, because FERC *would not be ordering the RTOs to pay compensation to retail customers*. FERC would not be entering the states’ exclusive domain; FERC would be acting within its own exclusive domain—establishing the market conditions for just and reasonable wholesale rates. That was FERC’s jurisdictional rationale for encouraging demand response to begin with: Demand response bidding from retail customers is a necessary condition for just and reasonable wholesale rates. FERC will still need to justify LMP to the Court’s satisfaction. But the RTOs’ current practice—treating retail customers’ demand response bids comparably to wholesale generators’ bids—can remain in place, as a voluntary action, which the wholesale generators need (and will rationally request), if they want to continue selling at market-based rates rather than endure cost-based rates.

2. FERC can order RTOs to accept demand response bids from *wholesale* purchasers (i.e., load-serving entities), and to compensate those bids at the same LMP price paid to generators, subject to Order 745's balancing and cost-effectiveness criteria. Each load-serving entity would have a "baseline" demand (such as an historic five-year average), and receive compensation based on demand reductions from that baseline. That prospect of compensation would induce them to find ways to dampen retail demand. The retail demand relationship, between LSE and retail customers, would remain within the state jurisdiction, untouched by FERC. The Court's jurisdictional concerns would disappear, because FERC would be ordering compensation to the wholesale customers (the LSEs) rather than to retail customers. We would still have to address whether LMP is over-compensation (although with the nation's best economists taking opposite positions, courts should defer to FERC's decision if explained sufficiently). Regardless of the compensation level, this step would give us an organized market. If the Court's retail jurisdiction analysis holds up, non-utility aggregators still could participate, not as independent aggregators but as agents for the load-serving entities. See also #1(c) under "States" below.

3. Investigate whether specific wholesale generating companies should lose their market-based pricing authority for certain hours. (See the discussion above under "Generators.")

Retail Utilities

A utility's retail monopoly franchise comes with an obligation: to provide reliable electric service at just and reasonable rates. Those rates will not be just and reasonable if they reflect infrastructure and fuel costs the utility could have avoided had it pursued cost-effective demand response programs. (Since cost-effectiveness precludes uneconomic bypass, there is no stranded investment concern.) A utility that fails to find demand response opportunities, therefore, risks cost disallowance for imprudence. (See also #2 under "States" below.) Prudent utilities will find ways to elicit all cost-effective demand response.

States

If FERC cannot act on demand response, states must. Consumers expect them to and need them to. Here are several alternative actions. Some overlap; not all will be necessary.

1. Adopt one or more demand response market structures. There are five choices (not counting the non-option of having no program):¹

¹ These options (a)-(e) were described in my paper, "Cost-Effective Demand Response Requires Coordinated State-Federal Actions" (National Regulatory Research Institute, June 2011).

- a. Utility acts as retail load manager: The utility buys demand response from its retail consumers, using it to manage its own load, without any resale into the RTO market.
- b. Utility acts as aggregator: Utility buys demand response from its retail consumers, then resells the aggregated amounts into the RTO market, passing the proceeds back to the consumers. (See FERC #2 above.)
- c. Non-utility aggregators, acting as the retail utility's agents, buy demand response from retail consumers. Utility then uses this demand response to manage its own load (States #1(a) above), or sells it into the RTO market (States #1(b) above).
- d. Non-utility entities act as independent aggregators, buying demand response from retail consumers, then reselling the aggregated amounts into the RTO market. (It is not clear how this will work if FERC cannot set the compensation, but the option should remain on the table.)
- e. Retail consumer sells demand response into the RTO market directly. (Same comment)

2. Initiate a rulemaking (and if necessary, a prudence investigation) on whether each retail utility in the state has taken all cost-effective actions to induce demand response; and if the utilities have not taken those actions, hold them financially accountable for their customers' exposure to excess wholesale power costs. (See "Retail Utilities" above.)

3. File complaints with FERC against specific generators' market-based prices, where those prices are being set without the discipline of demand response. (See FERC #3 above.)

4. Work with other states to create multistate markets for demand response, in which a given demand is determined for the region, with tradable certificates issued for reductions below that level. The broader the market, the greater the opportunity to meet the desired level cost-effectively.

Municipalities

In states where retail utilities and state commissions fail to induce cost-effective demand response, a municipality can self-help. It can consider displacing the existing utility as supplier of retail electricity, to the extent the utility is relying on wholesale purchases through RTO energy markets. The municipality then can sell its residents' demand response into organized RTO markets, acting like the LSEs described in FERC #2 above. The incumbent utilities would forego no profit, because they earn no profit from reselling purchased power anyway. Nor need they suffer from stranded investment, because this option would not apply to that portion of the utility's power supply coming from its own generation. Nor would this be "municipalization," because the municipality need not buy out the utility's physical distribution

system. The incumbent can still own and operate that physical system, charging typical state-set rates to retail customers. In short, there would be no stranding of either physical assets or wholesale contract obligations. State statutory change might be necessary, but state legislators should welcome the chance to lower retail rates, even if it means breaking some eggs.

Congress

The electric industry's federal–state jurisdictional relationship is a product of constitutional bargaining in the 1780s and New Deal legislating in the 1930s. Today's commercial and electrical interconnectedness means that actions and inactions in one state affect power costs, reliability and environmental values in other states. The Federal Power Act's allocation of federal and state roles—rigid, outdated, and subject to near-continuous litigation before generalist judges—no longer fits the needs of consumers or producers.² No other nation assigns regulatory authority so disconnectedly from electrical and commercial reality. Some group of thinkers, people with authority, creativity and independence from political pressure, needs to rethink, and persuade Congress to rewrite the Federal Power Act.

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There are disagreements over FERC's demand response jurisdiction and the appropriate compensation. There are no disagreements over the need to make economic use of our scarce resources, to apply the national ingenuity that won World War II to solve the much simpler problem of organizing demand response markets and compensating contributors appropriately. There is no time to waste.

² For more discussion of the dysfunctional federal–state jurisdictional relationship, see Chapter 12 of my legal book, [*Regulating Public Utility Performance: The Law of Market Structure, Pricing and Jurisdiction*](#); and these essays from my book [*Preside or Lead? The Attributes and Actions of Effective Regulators*](#): “[Federal–State Jurisdiction I: Pick Your Metaphor](#),” “[Federal-State Jurisdiction II: Jurisdictional Wrestling vs. Coordinated Regulation](#),” “[Federal-State Jurisdiction III: Jurisdictional Peace Requires Joint Purpose](#),” “[Federal–State Jurisdiction IV: A Plea for Constitutional Literacy](#),” “[Intra-Regional Relations: Can States’ Commonalities Outweigh Their Differences?](#)”

Demand Response: Four Options for Action, Four Mistakes to Avoid

My June essay, "[D.C. Circuit Kills Demand Response Compensation: Now What?](#)" offered ways to keep demand response traffic moving around the [court's decision](#) invalidating FERC Order 745. To recap: The court held that FERC has no power to order (or approve regional transmission organization tariffs requiring) buyers of energy in RTO-organized markets to compensate retail consumers for demand response. The Court's reasoning seemed to have two prongs: (1) FERC cannot order compensation to retail consumers for any product, because it has no jurisdiction over "retail markets"; and (2) FERC cannot order compensation for demand response, because demand response is not a FERC-jurisdictional product.

Thanks to many conversations since June, here are four more options for action. Credit for insights goes to my colleagues; blame for flaws lies with me. Following the four options are four mistakes to avoid.

Four Options for Action

Can FERC order compensation for demand response, if the demand response is sold by, and the compensation is received by, entities other than retail consumers? The court condemned the compensation because it went to retail consumers. But the universe of possible sellers includes load-serving entities, and non-utility aggregators (provided the latter are not merely agents for retail consumers, but instead take economic risk by buying demand response from retail consumers and reselling into the RTO market). The option escapes the court's Scylla because the recipients of FERC-ordered compensation are not retail consumers. But this option also needs to avoid the court's Charybdis—the rejection of compensation for a non-FERC-jurisdictional product. See the next option.

Can FERC more clearly characterize demand response as a component of FERC-jurisdictional transmission service? The court viewed Order 745 as entering "retail markets" because it compensated retail consumers for foregoing consumption—a non-act that was non-FERC-jurisdictional. But if we treat the demand response product as FERC-jurisdictional, the problem goes away. Demand response can be a FERC-jurisdictional product if it provides an "ancillary service"—Order 888's subcategory of FERC-jurisdictional transmission service, created to recognize the system-stabilizing roles played by scheduling, system control and dispatch; reactive supply and voltage control; regulation and frequency response; energy imbalance; spinning reserve; and supplemental reserve. That was FERC's purpose in Order 719, requiring RTOs to allow demand response to participate in ancillary services markets (and to be compensated comparably to other ancillary services).

Can an RTO (or other entity) set up a market for demand response outside of FERC jurisdiction? What killed FERC Order 745 was that it was issued by FERC. What if the legal source for compensation was not a FERC order, but a master contract drawn up by the RTO, signed by buyers and sellers and administered by the RTO—all outside of FERC jurisdiction? RTOs can run hot dog stands outside FERC jurisdiction, because FERC has no jurisdiction over

hot dogs. Some RTOs run markets for renewable energy credits—again, outside FERC jurisdiction—because FERC has no jurisdiction over RECs. Placing the demand response transactions outside FERC jurisdiction clears away the court's problem, completely. Everyone can participate—retail consumers, load-serving entities, independent aggregators, brokers, everyone.

That's the theory. Turning to the practical: Just because an RTO builds a hot dog stand doesn't mean anyone will come. Under Order 745, compensation flowed from buyers to sellers because demand response sellers were participating in the same markets from which load-serving entities were buying wholesale energy, i.e., FERC-jurisdictional markets. These load-serving entities will continue to buy energy from those FERC-jurisdictional markets, because they have to—that's how they buy energy on economic terms (unless they are self-generating or buying bilaterally). But if demand response is being sold in a different, non-FERC-jurisdictional market, we need a way to make LSEs visit those markets. For a possible way, see the next question.

Does the jurisdictional problem go away if demand response moves from the supply side to the demand side? Under Order 745, demand response providers received the FERC-ordered compensation because they were sellers. What if demand response moved to the buy side? In the FERC-jurisdictional wholesale energy markets, the buyers are mostly load-serving entities. An LSE that certified to the RTO its control of a verifiable quantity of demand response for a particular hour would see its demand for that hour reduced. The LSE's costs would go down—because it needed to buy less power, and because its lowered demand would lower the market-clearing price.

But how do we ensure that LSEs actually bring demand response to the party, in the maximum quantity consistent with cost-effectiveness? I see four possible solutions.

First, we could hope that each LSE participates voluntarily. But most LSEs have service territory monopolies, so they face no competitive pressure to lower their power costs by gathering demand response. And there is the separate problem of positive externalities: the lower clearing price resulting from one LSE's demand response benefits all LSEs, not just the contributing LSE. Fundamental microeconomics dictates that when an action causes positive externalities, the action experiences under-investment.

Second, the RTO could block an LSE from buying in RTO energy markets unless its demand level reflects cost-effective demand response. The rationale is rooted in the Federal Power Act: Wholesale generation prices will not be just and reasonable unless buyers' demand curves are disciplined by demand response. Some will mischaracterize this mandate as regulatory overreach. But remember that demand response causes positive externalities, which means market imperfection. Conversely, an LSE's failure to use demand response causes a negative externality—its demand raises the market price for everyone. The classic response to market imperfection is regulatory intervention, calibrated to correct the imperfection. (Caution: FERC would not be ordering LSEs to engage in demand response; FERC has no jurisdiction to do so. LSEs are free not to participate in FERC-jurisdictional markets. But if they want to participate, their participation should not push prices above "just and reasonable" levels.)

Third, states could induce their LSEs to bring cost-effective demand response to the FERC-jurisdictional energy markets. Inducement can take several forms. A state (through commission or state statute) can order the LSEs to acquire demand response. Or the state commission can make explicit what is implicit: that a utility that fails to accommodate cost-effective demand response is failing its franchise obligation to serve at lowest feasible cost. The consequences for that failure are cost disallowance for imprudence, or replacement by a better performer. This third approach works for those states that have not introduced retail competition, because the local utility remains the sole supplier for its service territory. For the retail competition states, the state still could impose the demand response obligation on each competitive retail seller. That retail seller would either aggregate demand response itself, or contract with non-utility aggregators to do so.

The *fourth* solution is to combine the second and third solutions. FERC can require RTOs to amend their tariffs to condition LSEs' right to buy wholesale energy on their certifying that their demand is dampened by cost-effective demand response. The states can require each LSE to collect all cost-effective demand response in its service territory. Caution: "Collect" does not mean "control." Finding all cost-effective demand response requires competition among demand response aggregators. Demand response is not a natural monopoly product—one whose production costs are minimized only when the market has a single supplier. Allowing only LSEs to gather demand response converts a potentially competitive market into a monopsony market, depriving customers of the dynamic efficiencies and differentiated choices that minimize cost and maximize convenience. Just because the utility is the service territory's sole buyer of energy in the RTO market does not mean it should be the service territory's sole aggregator of demand response. To reiterate: The state should allow non-utility aggregators to compete to purchase retail customers' demand response; then require the local utility to reflect that demand response in the demand it signals to the RTO. In this way, non-utility aggregators, while not selling directly into the RTO market (because they are working on the buy side), are still able to earn the full profit that competition allows.

Four Mistakes to Avoid

Capacity vs. energy: Some argue the decision applies only to energy markets. Sorry. If FERC has no jurisdiction to order compensation to retail consumers for any product, and no jurisdiction to order compensation for demand response to any customer, it doesn't matter whether the market hosting the transaction is one for capacity or energy—the jurisdictional problem is the same. (But as noted above, the jurisdictional problem goes away if demand response can function as an "ancillary service," i.e., a transmission service.)

Imputing ideology: Some have imputed to the D.C. Circuit panel majority an ideological, pro-pollution, pro-"deregulation" agenda. Nope. One might have preferred an opinion reflecting a more expert understanding of regional electricity markets; one that relied less on imprecise adverbs like "directly" and "indirectly" (concerning effects on retail markets), one more willing to defer to FERC's statutory interpretation. But the opinion used the normal tools courts use to judge the lawfulness of agency actions. There was no ideology.

Ignoring generators' pricing: Generators who are celebrating their court victory should be careful what they wish for. Many of them have "market pricing" authority—the FERC-granted right to sell capacity or energy at whatever price the market will bear. But that right is rooted in a premise: that market forces are pushing prices down to "just and reasonable" levels. If these market forces are insufficient because demand response is absent, generators can lose their market pricing authority. FERC, RTO market monitors, and states should be investigating.

More appellate litigation: Appellate challenges to FERC decisions are a constant. But until recently, most have involved narrow questions, like whether FERC acted arbitrarily, ignored evidence, or failed to explain itself. We now are seeing frequent challenges to FERC's *subject matter jurisdiction*. The reason is obvious: Our 1935 statute is a poor fit for 2014 markets. If instead of brief-writing, appellate-arguing and conference-attending we could go into statute-revising, we could get to cost-effectiveness without judicial help.