

## **Demand Response: Can FERC and States Do More?**

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This memorandum responds to questions posed by the FERC Project, all aimed at developing ways to press FERC and states to stimulate more demand response, especially demand response participation in wholesale markets. I address the following seven questions:

1. What are the boundaries on FERC's authority to stimulate demand response in wholesale power markets?
2. In addition to requiring RTOs to treat demand response comparably to generation, what else could FERC do to stimulate demand response?
3. Given the opportunities FERC has created, what actions might states take to stimulate demand response in wholesale power markets?
4. How might FERC and others influence state-level demand response policy?
5. Could FERC use its jurisdiction to stimulate more advanced metering?
6. Can FERC use its reliability jurisdiction to stimulate demand response?
7. What role might the Order 1000 processes play in stimulating demand response?

For readers new to this legal area and unfamiliar with the concepts in this memorandum, particularly the concepts of jurisdiction, regional transmission organizations, transmission service, market-based rates, demand response and stranded investment, I have prepared an accompanying outline of background materials.

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## I. What are the boundaries on FERC's authority to stimulate demand response in wholesale power markets?

Like any regulator, FERC acts on jurisdictional entities undertaking jurisdictional actions. FERC can act on only those entities over which it has statutory jurisdiction; and, with respect to those entities, only on those actions that trigger jurisdiction.

### A. FERC's statutory authority

The Federal Power Act gives FERC authority over the following entities and their actions:

1. "**Public utilities**," when they sell transmission service in interstate commerce or wholesale power in interstate commerce.<sup>2</sup> See Sections 201, 205, and 206. The category of "public utilities" includes "regional transmission organizations," because they are the providers of transmission service.
2. The FERC-certified "**electric reliability organization**" and the "regional entities," when they promulgate and/or enforce reliability standards; and "owners, users, and operators" of the "bulk-power system," when they act in ways that affect that system's reliability. See Section 215.
3. Applicants seeking FERC permission for **preemptive transmission siting permits**. See Section 216.
4. "**Public utilities**" or other persons who take specified structural actions such as merging, acquiring, disposing of, or consolidating assets subject to FERC's jurisdiction. See Section 203.

B. "**Demand response**" is not on this list. Also unmentioned are "retail sales," "state commissions," and "retail consumers," all of which are necessary to the provision of demand response. How, then, does FERC have authority to stimulate demand-response activities? Thus far, FERC has relied on the following reasoning:

1. RTOs are "public utilities" under the FPA because they are the legal providers of transmission service within their regions. (FERC came to this

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<sup>2</sup> Section 201 restricts FERC's authority over transactions in interstate commerce. Court, FPC, and FERC cases have found that, due to the interconnectedness of the grid, all electricity transactions are in interstate commerce, regardless of their contractual origin or destination, with the exception of transactions in Alaska, Hawaii, and Texas. See *Federal Power Commission v. Florida Power & Light Co.*, 404 U.S. 453 (1972).

conclusion in its Order 2000, which defined "RTOs" and established the requirements for their formation.)

2. RTOs also administer wholesale power-supply markets—specifically day-ahead and real-time energy markets and longer-term capacity markets.
  3. Section 205 requires that the rates for wholesale power be "just and reasonable" and not unduly preferential.
  4. Unless demand response providers have an opportunity to sell demand response into wholesale markets administered by the RTOs, the wholesale power prices will not be just and reasonable, for at least two reasons:
    - a. Demand response competes with generation; to exclude a low-cost competitor is to have the market clear at prices exceeding competitive levels.
    - b. Most states set retail prices at the same average cost level for all 8,760 hours of the year, thus failing to communicate to consumers the true, hour-varying cost of their consumption decisions. This means that demand levels brought by retail load-serving entities (LSEs) to the RTOs' wholesale markets are distorted (and usually excessive) relative to what true competitive pricing would produce. Distorted wholesale demand produces a distorted wholesale price.
  5. To mitigate these two sources of price distortion, FERC has ordered RTOs to (a) invite and accommodate bids from demand-response providers, and (b) treat those bids on a basis comparable to how RTOs treat generation bids, including paying the locational marginal price to the selected bidders.
- C. ***To clarify: FERC is not ordering anyone to provide demand response, because providers of demand response are not subject to FERC's jurisdiction.*** FERC is ordering the RTOs, which are subject to its jurisdiction, to take, invite and accept demand response bids on a nondiscriminatory basis, because FERC deems such action necessary to ensure that wholesale power sales – which are subject to FERC's jurisdiction – receive prices that meet the statutory "just and reasonable" standard.
- D. ***The state exception:*** FERC has directed the RTOs *not* to accept demand-response bids from aggregators in states that do not allow aggregators of demand response to aggregate retail loads within the state and sell them at wholesale.

- E. Note: Throughout this memo, the same reasoning that applies to demand response applies also to energy efficiency.

## **II. In addition to requiring RTOs to treat demand response comparably to generation, what else could FERC do to stimulate demand response?**

I list below theoretical options. If you decide some are attractive, we would need to deepen the research and vet for feasibility. These are not necessarily recommendations for immediate action.

### **A. FERC could condition each LSE's participation in RTO markets, as a buyer or a seller, in a way that advances demand response.**

1. *Possible condition:* The LSE must provide its customers with a rate that reflects wholesale prices.
  - a. It is not consistent with just and reasonable prices to allow LSEs to participate in these markets while that same LSE is distorting the market by bringing an inefficient (i.e., excessive) demand level undisciplined by prudent actions. This logic is especially strong if the LSE also has affiliated generation in the market: Then it would have an interest in keeping the market price high by not dampening its load through EE programs and rate design. (There is a separate question whether this rate should be at the customer's option versus the customer's having no choice but to pay the rate.)
  - b. FERC could reach the same result indirectly by imposing penalties on LSEs that bring to wholesale markets demand that exceeds what the utility would have if it undertook prudent demand-response measures. (Again, this concept would lead either to state-level solutions, like allowing ARCs and/or retail rate redesign, or to state-induced and state-approved utility departures from RTOs.)
2. *Possible condition:* The LSE must allow ARCs access to its retail customers. This is, of course, the opposite approach to what FERC decided in Order 745, in which FERC ordered the RTO not to accept bids from ARCs with load gathered from states that did authorize such aggregation. But note that FERC would not be telling states what to do; FERC would be acting on the LSEs as participants in FERC-jurisdictional markets.
3. Note: These two conditions would apply not only to LSEs that are not yet members but also to existing utilities. This latter point will require more

research because it would likely require FERC to find that existing RTO-LSE arrangements were not just and reasonable and then order a change in those arrangements. It is not a proposal that anyone should make casually, because it could have unintended consequences, like utilities' (pressed by their states) choosing to leave RTOs – a possibility discussed in Part II.B below. But it does flow directly from FERC's own findings that wholesale prices are not just and reasonable if demand response is not properly compensated. Demand response cannot be properly compensated if it does not even reach the market.

**B. How realistic is the risk of utilities departing RTOs?**

1. In the RTO regions, FERC has established markets that give state-regulated retail utilities opportunities to make money and save money for the benefit of their retail customers. A wise state commission, acting properly under its state-law mandate to ensure its utilities' efficient performance, will want its utilities to participate in these markets as long as that participation produces benefits in excess of costs. FERC can condition utilities' access to those markets on the utilities' taking actions that FERC deems necessary or helpful to the efficient workings of those markets. Such conditioning flows from FERC's statutory obligation to enforce every public utility's duty to take all feasible actions that produce benefits in excess of costs. As long as FERC then ensures that each state receives some share of that net benefit, so that no one is worse off, there is no rational reason for a state to order its utility to withdraw from an RTO.
2. That latter point perhaps requires a clarification for the new reader. Since the creation of RTOs under Order 2000, FERC has treated them as voluntary organizations. It has established no Federal Power Act obligation to join an RTO. It may seem inconsistent for FERC simultaneously to (a) assert that RTOs help make the industry more efficient and lower rates; and (b) declare that utilities can choose not to form or join them—without requiring non-joiners to prove that their rates are not unjust and unreasonable. That is, a strong pro-RTO statement, short of mandating participation, would be for FERC to create a presumption that joining an RTO is necessary for just and reasonable rates, thereby requiring all non-joiners to prove that their rates are not unjust and unreasonable due to their non-participation. FERC has chosen not to take this path. It has treated RTOs as voluntary. Further, under most (if not all) state laws, a utility must get its state's permission to join an RTO, since joining means transferring control of valuable transmission assets, long funded from retail rates, to a FERC-regulated entity. FERC cannot—or will not—order any utility to join an RTO. Given that FERC has not, and likely will not, order any utility to join an RTO, and given

that a state could block a utility from joining or order a utility to depart (departure being subject to FERC approval), FERC's remaining option is to ensure that RTOs provide net benefits, then condition access to those benefits on utility actions that produce all possible efficiencies. That is the common theme in this memo.

**C. Advocates could challenge the lawfulness of FERC-jurisdictional “market prices” in RTO territories where the state has excluded demand response.**

1. FERC has already said, explicitly, that unless demand response receives an LMP price (with no reduction for the retail rate), the wholesale prices are not just and reasonable. What FERC has not said, but which follows necessarily, is that if LMP-compensated demand response is necessary for just and reasonable prices, then the failure of demand response to reach the market means the prices are not just and reasonable. It would be inconsistent to say that specific compensation for LMP is necessary for just and reasonable wholesale prices, but then be entirely indifferent to how much demand response actually reaches the market. But that is the essence of the current FERC position: FERC allows the RTO to exclude aggregated demand response from states that ban aggregators.
2. Put another way: FERC itself has said that demand-response participation is necessary for wholesale rates to be just and reasonable. But FERC's order does not ensure demand response's entry; states can block entry. FERC cannot say both things: (a) Demand response participation is necessary for wholesale rates to be just and reasonable; and (b) demand response is not necessary for wholesale rates to be just and reasonable where a state blocks demand-response aggregation. The two statements contradict themselves.
3. Given the legal vulnerability of its market-based rate program, FERC has several options for RTO markets where states have blocked demand response. None of these options is on sure legal ground—but neither is the status quo of allowing market-set prices in the absence of full demand-response participation.
  - a. FERC could, and should, find that organized wholesale markets do not produce just and reasonable prices unless there are no restrictions on demand-response participation—no restrictions from RTO policy (FERC has taken care of this), from utility unilateral behavior, or from state policies. To make those prices just and reasonable, FERC would have to construct a series of price caps that reflect what prices would be in the presence of sufficient demand response. (This action would of course spark

opposition from generators, who benefit from the higher prices. It's unlikely that FERC would take this action because it wants to encourage generation entry. But the discomfort anticipated could stimulate FERC to come up with other ideas.)

b. FERC might (emphasis on might) find that demand response is an "ancillary service." As Order 888 explained, "ancillary" means ancillary to—essential to—the provision of transmission service. Order 888 directed transmission providers to provide or procure certain ancillary services. The RTOs, in their role as transmission providers, procure these services through bids from generators. If FERC were to issue such an order (assuming it has the authority to do so—a possibility but not a certainty), it still is not clear whether states could block their citizens from selling to aggregators. It is possible that courts might see such state blockage as preempted by the FPA or even as impermissibly burdening interstate commerce (on the grounds that there are alternative ways, like stranded-cost recovery, to protect legitimate state interests). This avenue, if there is interest in pursuing it, is not doubt-free and needs more research.

4. Possible antitrust law point: The effect of FERC's policy is to allow states to allow utilities to monopolize or weaken the DR aggregation market. That monopolization itself is not a violation of the Federal Power Act because the demand-response market is not subject to FPA jurisdiction. But it does raise questions under antitrust law that are worth looking at. (This would be a major research task because it requires study of the "state action doctrine." For now, view these thoughts on antitrust law as solely informal.)

**D. Could FERC remove Order 719's state-policy exception so that RTOs must accept demand response from retail aggregators, regardless of whether there is state law precluding retail aggregation?**

There is no certain answer. This option means that the RTO's obligation would conflict with state law: State-based aggregators would assert a right to participate in the RTO markets even as state law prohibited them from doing so. The question is whether the Federal Power Act in this context would preempt state law. I could write a brief supporting either side and therefore cannot guess the right answer. It is worth exploring further, especially given the earlier point that wholesale prices are not just and reasonable where demand response cannot reach the market (whether due to state blockage or utility resistance or inefficient retail rates).

**E. What if a demand-response bid does not pass FERC's "net benefits" test?**

1. Order 745 states that the demand response participant in RTO markets is entitled to receive the locational marginal price, but only when the demand response passes FERC's the "net benefits" test. That test is satisfied when "... 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...." Order 745 at para. 50.<sup>3</sup>
2. What happens when demand response is not cost-effective under this test?<sup>4</sup> FERC does not answer this question directly. My inference is that the RTO must allow the demand-response provider to offer a lower price that satisfies the cost-effective test, because there remains an RTO obligation, from Order 719, to treat demand response comparably to generation. The problem with this answer is that it suggests that demand response could contract with the RTO outside the bidding process if it loses—a second-bite-at-the-apple approach. It is not clear that FERC or the RTO is obligated to make that second chance available. Clarification from FERC on this point would be useful.
3. Further, FERC should make clear that if an RTO had programs, prior to Order 745, that paid demand-response compensation lower than the LMP, they should not eliminate those programs but rather modify them to make participation available when the bid satisfies the net-benefits test.
4. Note that FERC's compensation rule under Order 745 applies only to energy market. See fn4:

"The requirements of this final rule apply only to a demand response resource participating in a day-ahead or real-time energy

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<sup>3</sup> To apply the "net benefits" test, the RTO must determine the "price level at which the dispatch of demand response resources will be cost-effective[;]" that is, "the monthly threshold price corresponding to the point along the supply stack beyond which the overall benefit from the reduced LMP resulting from dispatching demand response resources exceeds the cost of dispatching and paying LMP to those resources." Order 745 paras. 4, 79. All demand resources selected (selected because their bids were below the highest-priced chosen resource) would receive the LMP price.

<sup>4</sup> Other DR resources would not have been selected because their bid prices were too high relative to the competing sources (both generation and DR). Their regulatory status is, simply, "unchosen." The RTO would be imprudent to buy from them at their bid price. They could still make a bilateral sale to their local utility if the state permitted such a sale.

market administered by an RTO or ISO. Thus, this Final Rule does not apply to compensation for demand response under programs that RTOs and ISOs administer for reliability or emergency conditions..."

5. Nor does the rule apply to capacity markets. Order 745 at para. 85.

### **III. Given the opportunities FERC has created, what actions might states take to stimulate demand response in wholesale power markets?**

#### **A. State solution: Establish a utility prudence obligation to pursue all efficient DR opportunities**

1. A utility whose retail load exceeds its owned generation must buy the remainder at wholesale. In an organized market run by a regional transmission organization, the utility bears a load-share responsibility for the region's capacity needs. The utility must fill that responsibility by buying bilaterally, or buying from the organized capacity market. Or it can reduce its load-share responsibility by selling demand response. Capacity markets produce high prices, and selling demand response can be lucrative. Retail customers bear the high prices and benefit from the demand-response revenues.
2. A prudent utility, therefore, will minimize its capacity purchases and maximize its demand-response sales. The utility will have a clear financial incentive to do so, if the state commission protects its sunk costs while also making it financially responsible for any failure to take advantage of demand-response opportunities. The dollars work in the ratepayers' favor whenever the LMP revenue the utility receives exceeds the stranded-cost payment the customers would have to pay. That is why states that generically cite stranded investment as a reason for banning ARCs are missing the point.
3. In this context, the state regulatory commission should act to induce prudent utility performance. The state commission options then would include:
  - a. Require the utility to establish its own demand-response program, where it is the sole purchaser of demand response from its customers, and then the sole reseller of demand response to the RTO.

- b. Require the utility to contract with demand aggregators who specialize in this activity, where the demand aggregator acts as the utility's agent.
- c. Authorize demand aggregators to enter the utility's service territory, to contract directly with retail customers and then resell the demand response to the RTO market.
- d. Not require a demand-response program of the utility, but set the revenue requirement (meaning, lower it) as if the utility had performed prudently, thereby inducing the utility to act on its own to reduce its capacity obligations.
- e. Investigate what the best market structures are for demand response, so as to reduce the utility's capacity obligations.
- f. Establish a state-level market structure for DR that causes the most cost-effective DR and DR providers to emerge. See the detailed paper I authored while at NRRI: *Cost-Effective Demand Response Requires Coordinated State-Federal Actions*, available at [http://nrri.org/pubs/electricity/Demand\\_Response\\_Paper-Hempling\\_June-2011.pdf](http://nrri.org/pubs/electricity/Demand_Response_Paper-Hempling_June-2011.pdf).

**B. State solution: Establish retail rate designs that induce demand response by exposing retail ratepayers to wholesale prices**

- 1. The state should establish rate designs that reflect wholesale prices. Doing so means that the compensation for a retail customer providing DR will always be the marginal price: exactly what FERC is requiring. The FERC policy and the state policy will be aligned. Note that in this efficient retail-rate-design approach, the state still has to address the retail utility's sunk costs. The state can do so by having a two-part rate: The customer pays for the sunk cost because she needs the fixed assets (or needed them when the utility invested in them), but she still accesses the wholesale DR market when economically beneficial.
- 2. On this point there is an economics issue still to work out: If the FERC LMP prices reflect capacity and energy costs while the state-set price is a two-part rate with capacity separate from energy, does it still work? I think so, because the revenue the retail customer receives through the LMP payment defrays the fixed retail charge that the retail customer cannot avoid.

**C. Advocates could question whether the state bans are lawful under state statutes**

Where a state commission has banned demand-response aggregators, there is a question as to whether the ban is permitted by state statute. It is not obvious that entities who pay consumers not to consume are acting inconsistently with state law granting exclusive franchises—any more than are purveyors of energy-efficient windows, energy-saving lightbulbs, or sweaters. Just because FERC has told RTOs, "Don't accept DR bids representing load in states whose commissions have banned the bids" does not mean the state commission had a state statutory basis from which to impose the ban. FERC has no power to create state commission authority.

This avenue does not work, of course, where the ban is authorized by state statute.

**D. What about stranded investment?**

1. Some states and utilities have opposed participation in wholesale demand-response markets due to the risk of stranded investment. Stranded investment is a possibility because retail customers selling demand response to the wholesale market will buy less power at retail. If, as is the case in most states, the retail variable charge recovers fixed costs, the reduction in purchases means less recovery of fixed costs. These states further believe that compensating demand response at LMP levels (without subtracting the retail rate) will exacerbate the stranded-investment problem.
2. The stranded-investment concern is a valid concern. Its roots are in economic efficiency, inter-customer fairness, and customer-shareholder fairness. If a retail customer faces typical rates that recover fixed costs in the variable charge, she strands those fixed costs when she forgoes consumption. Those fixed costs, incurred prudently by a utility under its obligation to serve, then fall on the shareholders (through reduced return on equity arising from the reduced payment) or on other retail customers. That effect is a problem of equity, not economic efficiency. It becomes a problem of economic efficiency if the customer, and/or her aggregator, incurs their own new costs to enable the DR transaction. Those new costs could be equipment on the customer's premises or equipment used by the ARC to aggregate. The result is redundant equipment—the utility's stranded capacity and the customer's or ARC's new equipment.

3. *Retail decoupling*, in any one of several forms, eliminates this problem because by definition it ensures recovery of fixed costs regardless of variable usage.
4. State commissions also can eliminate the stranded-cost concern directly: *by requiring those who access the RTO's demand-response market to pay a stranded-cost charge.*
  - a. There will be hours in which the LMP compensation will exceed the stranded-cost charge. While requiring stranded-cost payment would reduce the amount of demand response sold, it would not reduce it below economically efficient levels if actual consumption bears its proper environmental cost through carbon taxation or other means. Without carbon taxation, the stranded-investment charge will reduce demand response, but it is a necessary step given that the stranded costs were incurred on the customer's behalf. It is no different from the homeowner needing to pay off her existing home before buying a new one.
  - b. Stranded-cost charges are not a new challenge. States that authorized retail competition have dealt with it. Demand response is sufficiently similar to retail competition (it provides customers with a cost-saving alternative to buying from the incumbent utility) that the stranded-investment processes used by retail-competition states should provide useful models. Given the experience with these calculations and charges, stranded investment is not a persuasive reason for states to block the full participation of demand response in wholesale markets. (States have offered a second reason—wholesale DR's interference with utility-run demand-response programs. That concern is worth addressing in a separate paper.)
5. To summarize: The solution to stranded investment is not to change FERC's compensation policy, which properly allows the full LMP price without subtracting the retail rate. (FERC explains that subtracting the retail rate—i.e., worrying about the retail customer's full compensation—is equivalent to inquiring into a market-based generation seller's cost structure—something the FERC does not and will not do.) Rather than urge FERC to distort the DR compensation at wholesale, the state should solve the problem at retail: by making the retail DR participant responsible for her pro rata share of sunk capacity costs. The state-level solution would involve addressing the stranded cost problem surgically as noted above, imposing on the utility a prudence obligation to maximize DR savings, and fixing retail rate design. The additional federal-level

solution would be for FERC to regulate utilities by making their efficient behavior a condition of participating in RTO markets.

#### **IV. How might FERC and others influence state-level demand-response policy?**

- A. Could FERC require or induce states to choose among one or more of these options: (a) requiring their utilities to establish in-state demand-response programs (that is, programs that do not necessarily involve the utilities selling demand response into the RTO market), (b) authorizing independent aggregators to aggregate retail demands and sell them into RTO markets, or (c) permitting (or requiring) their utilities to participate in the RTO's FERC-approved DR programs (i.e., having the utilities act as the demand-response aggregators for their customers)?
  
- B. As discussed in Part II above, the Federal Power Act gives FERC no authority to require states to act. FERC's chief way for acting within RTO markets is its jurisdiction over RTO activities. FERC cannot mandate that a utility, even a utility member of an RTO, take a particular action. But as discussed in Part II above, FERC can condition a utility's right to participate in an RTO—as a transmission owner, a power seller or a power buyer—on the utility's taking actions or forgoing actions as necessary to ensure that rates are just and reasonable and not unduly discriminatory.<sup>5</sup>
  
- C. Other possible options
  - 1. FERC could press Congress to preempt state laws blocking demand response's entry into wholesale markets. This action, while nettlesome to some states, would benefit all states by lowering wholesale prices. Lowering wholesale prices can help prevent political backlash to FERC's wholesale-market efforts—which Congress has supported with its past actions. (FERC does not have independent authority to preempt a state ban; nor does the Federal Power Act itself preempt the state ban directly, because demand response is not a service subject to the FPA.) The best path for states concerned about the efficacy of FERC's wholesale market efforts is to open paths for demand response, so that those wholesale

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<sup>4</sup> The confusion about FERC's lack of authority over states is understandable, given that states sometimes complain about FERC "impinging" on their authority and "preempting" them. These are legal impossibilities. FERC can act only on regulated entities—"public utilities" as defined by the FPA—by ordering them to do things, or by establishing conditions they must meet before receiving permissions that FERC has authority to grant or deny. The Federal Power Act does not allow FERC to reduce or preempt state authority. Only Congress can do that.

market efforts can work. Otherwise prices will be higher than they need to be.

2. Individual consumers could self-organize into cooperatives that then sell the combined demand. But state law might block these efforts.
3. Advocates could challenge FERC's directive that excludes state-banned ARCs from selling to RTOs. This approach is not politically feasible, and also has a legal dead end. All that FERC is saying is "Don't accommodate bids from entities whose bidding action would be illegal under state law." FERC's very statement has no legal consequence because if the bid is illegal under state law, FERC can't make it legal.

## **V. Could FERC use its jurisdiction to stimulate more advanced metering?**

- A. For present purposes I will define "AMI" informally as "gadgetry installed by a utility or other retail seller on a retail customer's premises to provide that customer information about usage and cost, and to provide the utility or other retail seller information about the retail customer's consumption." AMI can facilitate the use of demand response in markets for energy, ancillary services, and capacity.
- B. As indicated in Part I above, FERC can issue orders only to the entities named in the FPA. That category does not include "providers of AMI" or "recipients of information generated by AMI." The question, therefore, given the desirability of AMI, is "How can FERC exercise its jurisdiction over the various entities and their services to produce more AMI?"
- C. One possibility (placed here solely for purposes of discussion) is for FERC to declare that AMI and its associated services is an "ancillary" service subject to FERC's jurisdiction over providers of transmission service. This is uncharted legal territory. The FPA denies FERC jurisdiction over "local distribution service."<sup>6</sup> Looked at between the eyes, a home-installed gadget is not "transmission." It is more likely "local distribution," a service that Section 201(b) expressly excludes from FERC jurisdiction. But the analysis does not end there. Each of these "ancillary services," the provision of which FERC regulates under its "transmission" jurisdiction, is actually a "generation" service; yet the same Section 201(b) denies FERC jurisdiction over "generating facilities." But in

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<sup>6</sup> Section 201(b): FERC "shall not have jurisdiction, except as specifically provided in this Part and the Part next following over facilities used for the generation of electric energy or over facilities used in local distribution...."

Order 888, FERC has found that those ancillary services are essential to transmission service:

"[They] are "needed to accomplish transmission service while maintaining reliability within and among control areas affected by the transmission service."

...

"They range from actions taken to effect the transaction (such as scheduling and dispatching services) to services that are necessary to maintain the integrity of the transmission system during a transaction (such as load following and reactive power support). Other ancillary services are needed to correct for the effects associated with undertaking a transaction (such as energy-imbalance service)."

- D. The question, then, is whether AMI can somehow be viewed by FERC (and upheld by the courts) as "essential" to transmission service. If so, FERC could deem AMI to be an "ancillary service." This memo does not shut the door on the idea, but technical work would be necessary, including calling expert witnesses, gathering facts, and marshaling arguments that support "essential" status.
- E. Here is a start on the reasoning: AMI, when it transmits wholesale price signals, is essential to the efficient working of wholesale markets. Without proper retail price signals, just as without cost-effective DSM, retail customers' demand will exceed economically efficient levels, thereby driving up the marginal price of both capacity and demand. As with DR and EE, there is a legal theory under which FERC could (a) deny LSEs the right to participate in RTO markets unless their customers had AMI and (b) require the RTO to accept and accommodate the electronic information coming from AMI installed at retail. On this point, consider how FERC in Order 745 connected, unambiguously, the absence of proper price signals with unjust and unreasonable conditions:

"47. ... [W]hen a demand response resource has the capability to balance supply and demand as an alternative to a generation resource, and when dispatching and paying LMP to that demand response resource is shown to be cost-effective as determined by the net benefits test described herein, payment by an RTO or ISO of compensation other than the LMP is unjust and unreasonable. When these conditions are met, we find that payment of LMP to these resources will result in just and reasonable rates for ratepayers. As stated in the NOPR, we believe paying demand response resources the LMP will compensate those resources in a manner that reflects the marginal value of the resource to each RTO and ISO."

- F. Based on this language, it is worth continuing to argue that FERC has authority—and an obligation—to impose conditions on RTOs and other sellers of transmission service and wholesale power as necessary to ensure that demand and supply curves in wholesale markets meet at marginal cost. Those conditions, when imposed in LSE members of RTOs, could include the condition of installing AMI equipment. (Then a large question arises as to what type of equipment and who pays for it.)

## **VI. Can FERC use its reliability jurisdiction to stimulate demand response?**

- A. I doubt it. FERC's reliability jurisdiction is set forth in Section 215. This jurisdiction is limited to approving standards and penalties imposed by the FERC-certified "electric reliability organization" (ERO) and/or the "regional entities" to which the ERO has delegated authority. Further, the standards and penalties subject to FERC's jurisdiction relate only to the statutorily defined "bulk power system."
- B. To have demand response, energy efficiency, or advanced metering infrastructure trigger FERC's Section 215 jurisdiction, we would have to show a link to reliability and to the standards and penalties. This is doubtful, less because of the bulk-power-system screen (since demand response certainly affects the demand placed on the system, even if demand's origins are at the distribution level), but more because the ERO—which is the initiator of all standards (under the statute, FERC cannot initiate the standards; it can only approve or disapprove them) is focused on achieving the twin reliability objectives of adequacy and security: there must be enough infrastructure to meet demand, and the infrastructure must be available every minute. The ERO does not concern itself with how the users, owners, and operators of the bulk power system achieve adequate infrastructure, i.e., what resources they develop to meet their demand or dampen demand; the ERO focuses on defining the goals rather than decreeing how to achieve them. For these reasons, I doubt that FERC's reliability authority gives it any handle for pressing actors toward more demand response.

## **VII. What role might the Order 1000 processes play in stimulating demand response?**

A future paper could address whether FERC can and should use the Order 1000-mandated regional transmission planning process, and FERC's jurisdiction to approve transmission cost recovery, to require proponents of transmission cost recovery to demonstrate that the transmission cost represents the best solution, taking into account all other feasible options, including demand response, energy efficiency, and AMI.