

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued April 16, 2013

Decided August 6, 2013

No. 08-1386

BLACK OAK ENERGY, LLC, ET AL.,
PETITIONERS

v.

FEDERAL ENERGY REGULATORY COMMISSION,
RESPONDENT

CITY POWER MARKETING, LLC, ET AL.,
INTERVENORS

Consolidated with 11-1275, 12-1286

On Petitions for Review of Orders of
the Federal Energy Regulatory Commission

Catherine R. Connors argued the cause for petitioners. With her on the briefs were *Carol A. Smoots* and *Timothy R. Schneider*.

Samuel Soopper, Attorney, Federal Energy Regulatory Commission, argued the cause for respondent. With him on the brief were *David L. Morenoff*, Acting General Counsel, and *Robert H. Solomon*, Solicitor. *Beth G. Pacella*, Attorney,

Federal Energy Regulatory Commission, *Robert V. Eckenrod, Gary J. Newell, and Robert A. Weishaar Jr.*

Before: GARLAND, *Chief Judge*, ROGERS and GRIFFITH, *Circuit Judges*.

Opinion for the Court filed by *Circuit Judge* GRIFFITH.

GRIFFITH, *Circuit Judge*: By statute, the Federal Energy Regulatory Commission (FERC) regulates trading in energy markets. This case concerns the markets operated by PJM Interconnection LLC, a Regional Transmission Organization (RTO)¹ covering the East Coast, Appalachia, and parts of the Midwest. Some PJM market participants are known as “virtual marketers.” Unlike participants who actually traffic in electricity, the virtual marketers never deliver or take delivery of electricity; they trade in order to profit from price fluctuations.

The petitioners and petitioner-intervenors in this case – all virtual marketers – petition for review of two sets of FERC orders. The first orders approved PJM’s method for disbursing a monetary surplus that results from the way it operates its markets. The virtual marketers do not receive any of this large pool of money, but they believe they should. To that end, they argue that FERC’s orders violate the Federal Power Act (FPA) and the Administrative Procedure Act (APA). In Part I, we set forth the facts relevant to this petition for review, and in Part II, we set forth our reasons for denying it.

¹ RTOs coordinate the transmission of electricity across a geographic region. RTOs must be independent of any individual market participant and must possess certain forms of control over transmission of electricity in the region. *See generally Regional Transmission Organizations*, 89 FERC ¶ 61,285 (1999).

The second petition – also brought by a group of virtual marketers, albeit a larger set of them – seeks review of FERC’s orders requiring PJM to recoup money refunded to the virtual marketers in connection with the administrative dispute over the surplus. The petitioners and petitioner-intervenors argue that these orders also violated the FPA and the APA. In Part III, we set forth the facts relevant to this petition and explain our reasons for remanding the orders in question to FERC for reconsideration.

I

In the mid-1990s, federal electricity policy took a competitive turn. Prior to that time, “utilities were vertically integrated monopolies; electricity generation, transmission, and distribution for a particular geographic area were generally provided by and under the control of a single regulated entity.” *Midwest ISO Transmission Owners v. FERC*, 373 F.3d 1361, 1363-64 (D.C. Cir. 2004). Since then, those vertical monopolies have broken apart and, in many regions, systems utilizing electricity trading markets have sprung up in their place. Generators sit at one end of the regional transmission process; at the other end sit local utility companies. The markets help coordinate and allocate electricity from the generators to the local utilities. The market operator involved in this case, PJM Interconnection, LLC, is an RTO that uses markets to determine pricing and to schedule the transmission of electricity across the massive territory in which it operates. *See Atl. City Elec. Co. v. PJM Interconnection, LLC*, 115 FERC ¶ 61,132, 61,473 (2006). PJM operates two markets relevant to this portion of the case: a “Day-Ahead Market” and a “Real-Time Market.”

The vast majority of electricity traded in the PJM markets is traded in the Day-Ahead Market, in which traders bid on

electricity to be transmitted the next day. *See Black Oak Energy, LLC v. PJM Interconnection, LLC*, 125 FERC ¶¶ 61,042, 61,146 (2008). (Since electricity cannot be effectively stored, delivery must be timely.) The Day-Ahead market “derives a market-clearing price from the sellers’ and buyers’ price and quantity indications for the next day; sales are then made at the market-clearing price.” *Edison Mission Energy, Inc. v. FERC*, 394 F.3d 964, 965 (D.C. Cir. 2005). PJM then produces a transaction schedule in advance of actual production and distribution. *See* FERC OFFICE OF ENFORCEMENT, ENERGY PRIMER: A HANDBOOK OF ENERGY BASICS 101 (2012) [hereinafter ENERGY PRIMER]. “The day-ahead market allows market participants to . . . hedge against price fluctuations that can occur in real-time” due to problems such as generator outages, weather events, and unforeseen congestion. *Id.*

Not all electricity is purchased in advance, however. Various risk factors upset sellers’ and buyers’ projections of supply and demand as manifested in the Day-Ahead schedule. In PJM’s Real-Time Market, participants correct for these changes by trading electricity at prices quoted for sale and delivery within five-minute intervals. *See id.* at 102. PJM calculates these prices based on grid operating conditions and submitted bids. *See id.* PJM then coordinates the supply and distribution chain “to meet the instantaneous demand for electricity.” *Id.*

In the Day-Ahead and Real-Time markets, PJM calculates prices according to the method of Locational Marginal Pricing (LMP), which is used by electricity market operators across the country. *See Sacramento Mun. Util. Dist. v. Cal. Indep. Sys. Operator Corp.*, 616 F.3d 520, 524-26 (D.C. Cir. 2010) (per curiam); *Wis. Pub. Power, Inc. v. FERC*, 493 F.3d 239, 250-51 (D.C. Cir. 2007) (per curiam). Under LMP, the price any given

buyer pays for electricity reflects a collection of costs attendant to moving a megawatt of electricity through the system to a buyer's specific location on the grid.

As we have explained in the past,

[w]ith an LMP-based rate structure, prices are designed to reflect the least-cost of meeting an incremental megawatt-hour of demand at each location on the grid, and thus prices vary based on location and time. [In an LMP system, each price] consists of three components: (i) the cost of generation; (ii) the cost of congestion; and (iii) the cost of transmission losses.

Sacramento Mun. Util. Dist., 616 F.3d at 524 (citation omitted). The cost of generation can be thought of as the “baseline cost” of serving electricity (known in the industry as “load”) to another location on the system in a hypothetical, congestion-free environment. *Id.* Congestion, in turn, drives up costs because it requires PJM to dispatch more expensive generators to meet demand. *See* ENERGY PRIMER at 65. The cost of congestion results in different prices at different nodes of the system, depending on how congested the wires leading to those nodes are. *Wis. Pub. Power, Inc.*, 493 F.3d at 250-51. At issue in this case is the cost of “transmission losses,” which refers to “the amount of electric energy lost when electricity flows across a transmission system” *Sithe/Independence Power Partners, L.P. v. FERC*, 285 F.3d 1, 2 (D.C. Cir. 2002). The losses are a function of “the amount of the current flowing on the wire[,] . . . the resistance it encounters,” and the distance it travels. *Id.* Thus, all else equal, at peak demand times, there are higher losses, and at low demand times, there are lower losses. PJM charges every buyer of electricity to cover these transmission losses; we will call that charge the “transmission loss component” of an LMP price.

For our purposes, there are two relevant ways to calculate the transmission loss component of an LMP price: “average loss pricing” and “marginal loss pricing.” Whereas average loss pricing charges buyers the average cost of transmission losses, marginal loss pricing charges buyers the higher, marginal cost of transmission losses. (Confusingly, marginal loss pricing and LMP are not the same thing. Marginal loss pricing is a method for calculating the transmission loss component of LMP.) PJM, for a time, used average loss pricing, but FERC eventually determined that the method inequitably charged long-distance buyers too little, and short-distance buyers too much. *See Wis. Pub. Power, Inc.*, 493 F.3d at 252 (noting the problem with average loss pricing); *Atl. City Elec. Co.*, 115 FERC ¶ 61,132, 61,473-74 (noting that PJM was using the average loss method). FERC therefore ordered PJM to implement the marginal loss pricing method. *See id.* at 61,478. Marginal loss pricing “recovers transmission losses on a transaction-by-transaction basis by . . . treat[ing] every transmission as if it were the last (marginal) transmission on the system.” *Wis. Pub. Power, Inc.*, 493 F.3d at 252. This method charges each buyer for the last, most problematic load transmission during any given time period.

Under the marginal loss method, the effect of losses on the marginal cost of delivering energy is factored into the energy price (*i.e.*, the . . . LMP) at each location. Other things being equal, customers near generation centers pay prices that reflect smaller marginal loss costs while customers far from generation centers pay prices that reflect higher marginal loss costs. In addition, under the marginal loss method (and unlike under the current average loss system), PJM . . . consider[s] the effects of losses in determining which generators to dispatch in order to serve load at least cost.

Atl. City Elec. Co., 115 FERC ¶ 61,132, 61,474. At the time of its adoption, a commenter submitted that the systemic cost savings of this method would amount to \$100 million a year. *See id.* at 61,478.²

² FERC has explained the effect of marginal loss pricing on incentives in the following way:

When prices at each location reflect the full marginal cost of delivery, (i.e., energy, congestion and losses), customers can make efficient choices among suppliers at different locations. The full marginal cost of delivering electricity to a customer at one location includes the marginal cost of the losses in moving the energy from the generator to the customer's location. . . . For example, if the marginal losses to deliver energy from a remote generator to a customer at another location are 10 percent, then in order to deliver 1 MWh to the customer, the remote generator must produce 10 percent more, or 1.1 MWh of energy. If the remote generator's marginal cost to produce 1 MWh is \$50, then the marginal cost of delivering 1 MWh of energy to the customer is \$55 (i.e., the marginal cost of producing 1.1 MWh). Suppose that the customer could be served with energy either from the remote generator or from a local generator whose losses would be de minimus and whose marginal production cost is \$53/MWh. If the buyer fails to consider, and is not required to pay for, losses, the remote generator would appear to be cheaper, since its marginal production cost (of \$50/MWh) would be lower than the \$53/MWh marginal production cost of the nearby generator. However, when marginal losses are considered, the nearby generator would be the more efficient source. That is because the marginal cost of delivering energy to the customer from the nearby generator would be about the same as the marginal production cost of \$53/MWh (since losses would be de minimus), while the full marginal cost to deliver energy from the remote generator would be higher, i.e., \$55/MWh. Thus, in determining what supply sources can most efficiently serve

But the marginal loss pricing scheme creates an administrative challenge. Because “transmission losses increase with the amount of current in the system, treating every transmission as the marginal transmission produces revenue in excess of actual losses” *Wis. Pub. Power, Inc.*, 493 F.3d at 252. That is, marginal losses always exceed average losses. By charging everyone as if they were responsible for the last, most problematic transmission on the system, PJM ends up collecting more money – much more money – than the amount it actually takes to cover the cost of the transmission losses. The resulting surplus, a large pot of money held by PJM, has no clear owner.

This case is a dispute over the obvious question: Who should get the money? By statute, PJM takes the first crack at an answer because it must file a tariff describing its rates and terms of service, one component of which is its plan for distributing the transmission loss surplus money. *See* 16 U.S.C. § 824d(c); *Sithe/Independence Power Partners, L.P.*, 285 F.3d at 4-5 (describing a surplus distribution system as an integral part of a tariff). In turn, PJM’s tariffs are subject to approval by FERC. *See* 16 U.S.C. § 824d(a). Though the parties do not dispute FERC’s approval of the marginal loss pricing approach itself, they dispute its approval of PJM’s system for distributing the transmission loss surplus.

customers, the cost of marginal losses should be considered. Failure to consider marginal losses – or to understate marginal loss costs – can inefficiently inflate the total cost of serving load.

Cal. Indep. Sys. Operator Corp. Pub. Util. Providing Serv. in Cal. Under Sellers’ Choice Contracts, 107 FERC ¶ 61,274, 62,269 (2004) (emphasis omitted).

In its communications with PJM about its tariff, FERC was adamant about what PJM should *not* do when distributing the surplus. FERC explained in multiple orders that PJM was forbidden from using the money to “reimburse” market participants for the initial transmission loss payments. *See, e.g., Black Oak Energy, LLC v. PJM Interconnection, LLC*, 122 FERC ¶ 61,208, 62,184-85 (2008). Traders are smart: when they know that their marginal loss payments are going to be partially refunded, they will treat the LMP as a mere sticker price that masks the true, post-rebate price of each trade, distorting the incentives marginal loss pricing is supposed to create. To some extent, any system that PJM adopts will alter the incentives that traders face, but the more direct the relation between the LMP price calculation and the surplus disbursement calculation, the more completely the system will erode LMP’s incentive structure. To prevent this, FERC required PJM to divorce the surplus allocations from the amount that market participants pay into the surplus in the first place.

Along the road to marginal loss pricing, PJM identified several methods for distributing the surplus while complying with FERC’s “no reimbursements” constraint. *See Atl. City Elec. Co. v. PJM Interconnection, LLC*, 117 FERC ¶ 61,169, 61,860-61 (2006). Eventually, FERC approved a system in which the surplus would be allocated to market participants based on the amount they pay for the fixed costs of the transmission grid. *See Black Oak Energy, LLC*, 122 FERC ¶ 61,208, 62,185; *Black Oak Energy, LLC*, 125 FERC ¶ 61,042, 61,145-48. This system garnered the support of the majority of PJM market participants, *see Atl. City Elec. Co.*, 117 FERC ¶ 61,169, 61,860, but also had its detractors, some of whom filed the initial administrative complaint giving rise to the orders at issue in this case. *See generally* FERC Docket No. EL08-14 (Dec. 7, 2007).

In Part II, we address the petition for review of the orders that approve this system and deny requests for reconsideration of the approval. (Collectively, we call them the “Surplus Orders.”) The parties bringing the petition are a set of electricity traders active on the PJM market. They are variously referred to in the record and the briefs as “virtual marketers,” “financial marketers,” and “arbitrageurs.” We use the term “virtual marketers.” Whatever the name, the salient factor that distinguishes them from all others who participate in the PJM market is that they never *actually* transmit or take delivery of electricity. Rather, their trades are offsetting: when they are done trading, they neither owe, nor are they owed, any electricity. Instead, they have either profited or lost based on price fluctuations in the time between their purchases and their sales. The virtual marketers pay none of the fixed costs of the grid.³ As a result, under the system FERC approved, the virtual marketers receive no surplus allocation. They petition for review of FERC’s orders approving that outcome. We deny their petition for review.⁴

II

The virtual marketers argue that FERC’s orders selecting a transmission loss surplus allocation system violate 16 U.S.C. § 824d, which requires that “all rules and regulations affecting or pertaining to . . . rates or charges shall be just and

³ This was not always the case. *See* discussion *infra* note 6 and accompanying text.

⁴ Because we so hold, we need not address the petition for review of FERC’s denial of the virtual marketers’ Second Complaint, which concerned the scope of potential refunds. *See EPIC Merchant Energy NJ/PA, L.P. v. PJM Interconnection, LLC*, 131 FERC ¶ 61,130 (2010).

reasonable,” § 824d(a), and prohibits FERC from approving a tariff that grants “undue preference or advantage to any person or subject[s] any person to any undue prejudice or disadvantage, or . . . maintain[s] any unreasonable difference in rates . . . as between classes of service,” § 824d(b). In reviewing each challenge, we apply the familiar arbitrary and capricious standard to FERC’s actions. *See Sacramento Mun. Util. Dist.*, 616 F.3d at 528, 533-35 (applying the arbitrary-and-capricious framework to § 824 review); *W. Area Power Admin. v. FERC*, 525 F.3d 40, 57-58 (D.C. Cir. 2008) (describing § 824 review as arbitrary-and-capricious review). Under this “highly deferential” standard, *see Sacramento Mun. Util. Dist.*, 616 F.3d at 528 (citation omitted), we hold that the Surplus Orders meet the requirements of § 824d.

A

The virtual marketers argue that FERC violated § 824d(a)’s requirement of “just and reasonable” rates because the surplus allocation system the Commission selected runs afoul of the “cost-causation principle.” That principle requires that “all approved rates reflect to some degree the costs actually caused by the customer who must pay them.” *E. Ky. Power Coop., Inc. v. FERC*, 489 F.3d 1299, 1303 (D.C. Cir. 2007) (internal quotation marks omitted). The cost-causation principle has its roots in monopoly rate regulation, where rates are required to “be based on the costs of providing service . . . plus a just and fair return on equity.” *Ala. Elec. Coop. v. FERC*, 684 F.2d 20, 27 (D.C. Cir. 1982). In the context of monopoly regulation, this principle helps ensure that utilities “produce revenues from each class of customers which match, as closely as practicable, the costs to serve each class or individual customer.” *KN Energy, Inc. v. FERC*, 968 F.2d 1295, 1300-01 (D.C. Cir. 1992) (internal quotation marks omitted) (emphasis omitted). That is, we scrutinize a utility’s rates to ensure a

match between cost-causation and cost-responsibility. In the context of a market, we do the same, and our object of scrutiny is the operator's method of fixing a market price, coupled with its system for disbursing any surpluses accumulated because of the LMP method. *See Sithe/Independence Power Partners, L.P.*, 285 F.3d at 4-5 (holding that both aspects of the tariff are subject to review).

Indeed, we have analyzed other market operators' surplus allocation schemes for compliance with the cost-causation principle. *See id.*; *Sacramento Mun. Util. Dist.*, 616 F.3d at 534-35. In *Sithe*, we held that FERC had failed to justify the imposition of marginal loss pricing under that principle, but we left the door open to clarification and explanation. *See* 285 F.3d at 4-5. That explanation was forthcoming in *Sacramento Municipal Utility District (Sacramento)*. And though the *Sacramento* court upheld a *pro rata* surplus allocation system, 616 F.3d at 535, whereas we are asked to review a system in which the petitioners receive no share, the *Sacramento* court's reasoning still guides us here. Indeed, the reasoning offered in that case demonstrates why the virtual marketers' cost-causation challenge fails.

In *Sacramento*, the California Independent System Operator proposed to distribute its transmission loss surplus "to transmission customers on a *pro rata* basis by using those revenues to uniformly reduce the cost of each megawatt-hour purchased on the system." *Id.* at 534 (citation omitted). In concluding that this system complied with cost-causation principles, the *Sacramento* court observed that it is impossible to tease out causal responsibility for transmission losses in an LMP-based market system at any given point in time. Who is "causing" the first increment of current to flow through the system? Who is "causing" the marginal increment to flow? Since it is impossible to identify a "first" or a "marginal"

increment, it is impossible to say who is causing which to flow. As the *Sacramento* court held, “it is not possible to determine a cost below marginal cost that any individual [customer] caused as a result of that customer’s [demand for] electricity.” *Id.* at 534 (internal quotation marks omitted). Or, as we explained in a similar context, “for purposes of marginal cost pricing, all customers cause the incurrence of the costs associated with coincident peak load, whether by adding or merely continuing their usage.” *Nat’l Ass’n of Regulatory Util. Comm’rs v. FERC*, 475 F.3d 1277, 1285 (D.C. Cir. 2007) (citing *Town of Norwood, Mass. v. FERC*, 962 F.2d 20, 24 n.1 (D.C. Cir. 1992)). This means that any individual market participant *deserves* no share of the surplus under cost-causation, as each is equally the customer who “caused” the marginal transmission loss. *See Sacramento Mun. Util. Dist.*, 616 F.3d at 535 (“No customer is less deserving than another of being treated as the marginal customer . . .”). Because FERC is treating the virtual marketers in this case “as the marginal customer,” they are being treated consistently with cost-causation principles.

The virtual marketers argue against the application of *Sacramento*’s view of cost causation in this case. They explain that they should not be treated “as the marginal customer” because, as they put it, “[v]irtual transactions by definition are purely financial and do not cause the physical flow of power over transmission lines.” Pet’rs’ Br. 30. It is true that the virtual marketers “submit bids for purely financial purchases or sales of energy, which do not entail physical generation or consumption of energy.” *New York Indep. Sys. Operator, Inc.*, 98 FERC ¶ 61,282, 62,216 (2002). But if physical activity were the measure of cost causation, then PJM would not be allowed to charge the virtual marketers *at all*, since they do not place real demands on the transmission system.

Of course, this would be preposterous. The virtual marketers buy and sell contracts for electricity like all the other market participants. Even though their trades are purely financial, they depend on the existence of a market for actual electricity. And their activities, though “virtual,” contribute to the fluctuation of the market price, which in turn influences whether load-serving entities (the technical name for market participants who actually traffic in electricity) will purchase electricity at a given time. Just as a wheat-trading arbitrageur must trade wheat at the market price even though she does not take delivery of the wheat, an electricity-trading arbitrageur must trade electricity at the locational marginal price even though she, in some sense, does not “cause the physical flow of power over transmission lines.” Their trades must be treated as if they impose costs on the system just like the trades of all other participants. *Sacramento* established the principle that each customer who pays a locational marginal price is equally deserving of treatment as the marginal customer. Thus, each customer is entitled to no set share of the resulting surplus. Just as this principle applied to the transmission customers petitioning for review in *Sacramento*, 616 F.3d at 534-35, it applies to the virtual marketers in this case.

It must be noted that the petitioners in *Sacramento* were dissatisfied with a *pro rata* share of the surplus, whereas the petitioners here are dissatisfied with a *zero* share.⁵ This puts this case on different footing from *Sacramento* in some crucial respects, requiring careful analysis of whether the surplus allocation system *unduly discriminates* against the virtual marketers.

⁵ Again, we note that the virtual marketers did not always receive a zero share. See discussion *infra* note 6 and accompanying text.

There is no question that the surplus allocation system selected by FERC discriminates against virtual marketers. They receive none of the surplus, while the entities that pay the fixed costs of the grid receive significant disbursements even though, as a matter of cost causation, they do not deserve any particular amount of surplus, either. The virtual marketers argue that this discrimination is undue, in violation of § 824d(b). They also argue that FERC lacked substantial evidence to back up its supposed justifications for approving the discriminatory system, and that those justifications were arbitrary and capricious.

We accept disparate treatment between ratepayers only if FERC “offer[s] a valid reason for the disparity.” *Electricity Consumers Resource Council v. FERC*, 747 F.2d 1511, 1515 (D.C. Cir. 1984) (per curiam) (internal quotation marks omitted); *see also Ark. Elec. Energy Consumers v. FERC*, 290 F.3d 362, 367 (D.C. Cir. 2002) (“A rate is not unduly preferential or unreasonably discriminatory if the utility can justify the disparate effect.” (internal quotation marks omitted)). FERC identifies valid reasons by pointing to differences between parties that are relevant to the achievement of permissible policy goals. *See Transmission Agency of N. Cal. v. FERC*, 628 F.3d 538, 549 (D.C. Cir. 2010) (“The court will not find a Commission determination to be unduly discriminatory if the entity claiming discrimination is not similarly situated to others.” (citation omitted)). In this case, the Surplus Orders sufficiently justified the approval of a discriminatory system on the grounds that virtual marketers perform different roles from load-serving entities within the market, and that the system will limit virtual marketers’ incentives to engage in market manipulation. Therefore, we

hold that the Commission's action did not run afoul of § 824d(b) or the APA.

FERC reasonably determined that the virtual marketers are not similarly situated to the rest of PJM's market participants. The virtual marketers are distinguishable from other market participants because "unlike load[-serving entities], arbitrageurs balance each purchase transaction with a sales transaction." *Black Oak Energy, LLC*, 125 FERC ¶ 61,042, 61,145-46. That is, unlike entities that traffic in electricity, the virtual marketers have a purely financial interest in the markets. *See Black Oak Energy, LLC*, 122 FERC ¶ 61,208, 62,185. They do not participate as producers or distributors of electricity, but rather as speculators and risk-takers. Thus, they play a very different role within the system than do load-serving entities. From FERC's policy perspective, the virtual marketers serve a useful purpose: they spot and exploit inefficiencies, driving prices closer to an accurate reflection of fundamental value. *See, e.g., Black Oak Energy, LLC*, 125 FERC ¶ 61,042, 61,146 (stating that the virtual marketers should "make transactions that reduce price divergence between the Day-Ahead and Real-Time markets"). This sets them apart from load-serving entities, and FERC reasonably acts on this difference when it sets policy.

But their unique position within the marketplace animates FERC's concern over whether virtual marketers will have a beneficial effect on the functioning of the markets. Since their business interests are purely speculative, FERC explained, the virtual marketers pose a threat as potential market manipulators. FERC reasonably approved the surplus allocation system because it promoted a policy of preventing market manipulation of a certain stripe. We defer to FERC's policy priorities, so this explanation is adequate under arbitrary and capricious review. *See Alcoa Inc. v. FERC*, 564 F.3d 1342,

1347 (D.C. Cir. 2009) (“Issues of rate design are fairly technical and, insofar as they are not technical, involve policy judgments that lie at the core of the regulatory mission.” (internal quotation marks and citations omitted)). As FERC explained, any formula that disburses surplus to the virtual marketers according to trading volume will create incentives for them to focus on increasing their surplus disbursements by increasing their trading volume. *See Black Oak Energy, LLC*, 122 FERC ¶ 61,208, 62,185. FERC put it this way:

Paying excess loss charges to [virtual marketers] . . . is inconsistent with the concept of arbitrage itself. The benefits of arbitrage are supposed to result from trading acumen in being able to spot divergences between markets If [virtual marketers] can profit from the volume of their trades, they are not reacting only to perceived price differentials in LMP or congestion, and may make trades that would not be profitable based solely on price differentials alone.

Id.; *see also Black Oak Energy, LLC*, 125 FERC ¶ 61,042, 61,145 n.46 (“[U]sing a pure load ratio share calculation would provide an incentive for the arbitrageurs to conduct trades simply to receive a larger [surplus allocation].”). That increased trading could distort prices and destabilize the electricity markets, and such activity would place the virtual marketers far afield of their intended role within a competitive energy system. FERC is well within its powers when it promotes a policy of limiting market participants’ incentives to speculate to the detriment of the efficient functioning of the market.

The virtual marketers argue that FERC lacks substantial evidence in the record to support its view that the system it selected will help prevent market manipulation. True, FERC’s

analysis is not based on retrospective data. But given the circumstances, there is no way that it could be, because PJM had not implemented the proposed system when FERC had to act, and we defer to reasonable and cogent explanations of predictable economic outcomes, even in the absence of retrospective data. *See FCC v. WNCN Listeners Guild*, 450 U.S. 582, 594-95 (1981) (approving of the FCC's predictions about the effects of market forces). FERC's economic reasoning also finds support in the submissions of PJM itself. *See Black Oak Energy, LLC*, 122 FERC ¶ 61,208, 62,180. These comments corroborate FERC's reasonable economic predictions.

In response, the virtual marketers present a parade of horrors. They predict that the surplus allocation system will deter virtual marketers from participating in the PJM markets, “repress [efficient] price signals” to load-serving entities, and generally reduce the efficiency of the PJM market. *See Pet'rs' Br.* 31, 33, 35. But none of these possibilities – and as far as we know, they are only possibilities – demonstrates the irrationality of FERC's decisions. First of all, when raising the specter of decreased market participation by virtual traders, the petitioners fail to distinguish between good participation and bad participation. It is within FERC's discretion to deter virtual marketers from making certain kinds of trades while leaving in place the background incentives to engage in efficiency-promoting arbitrage. Regarding the repression of efficient price signals to the load-serving entities and the supposed threats to the efficiency of the market, the virtual marketers point to no evidence supporting their view. FERC sufficiently explained why the system it chose was, in the Commission's view, conducive to the production of efficient price signals. *See Black Oak Energy, LLC*, 122 FERC ¶ 61,208, 62,184-86. At the very least, FERC determined that the surplus allocation system was better than available

alternatives at fostering an efficient marketplace. *Id.* The arbitrary and capricious standard is a deferential one, and the virtual marketers' speculative claims are not sufficient to overcome FERC's explanation.

III

As discussed above, PJM's surplus disbursement system ties distributions to the payment of the fixed costs of the grid. Though the virtual marketers pay none of those costs now, they once did when they traded on a market called the Up-To Congestion Market.⁶ Even so, the virtual marketers now receive no share of the surplus. Eventually, they filed a petition with FERC objecting to their disparate treatment, and in September 2009, the Commission ordered PJM to refund the virtual marketers for the surplus allocations to which they were entitled, amounting to \$37 million. *Black Oak Energy, LLC v. PJM Interconnection, LLC*, 128 FERC ¶ 61,262, 62,222 (2009).

But in July 2011, FERC took another look at the matter of refunds and changed its view, effectively ordering PJM to

⁶ The Up-To Congestion Market allows traders to specify a cap on the price they are willing to pay for the congestion component of an LMP price between two points on the grid. *See Issue Details: Up-To Congestion Transactions*, www.PJM.com (last visited July 25, 2013), <http://www.pjm.com/committees-and-groups/issue-tracking/issue-tracking-details.aspx?Issue={A1D2CD14-012A-47E0-8456-A76BDB97BA6C}>. Until September 17, 2010, whenever virtual marketers made trades on the Up-To Congestion Market, they acquired "transmission reservations," which included a component that paid for the fixed costs of the grid; since September 17, 2010, Up-To Congestion trades have not involved payment of grid fixed costs. *See* Pet'rs' Br. 16 n.9 (citing *PJM Interconnection Inc., LLC*, 132 FERC ¶ 61,244 (2010)).

recoup the refunds it had paid the virtual marketers. *See Black Oak Energy, LLC v. PJM Interconnection, LLC*, 136 FERC ¶ 61,040, 61,163-64 (2011). The virtual marketers objected, arguing that FERC failed to provide proper notice that it might reconsider the decision to order refunds. In reply, FERC issued an order in May 2012 explaining that the virtual marketers should have been on notice and affirming its July 2011 decision not to order refunds. *See Black Oak Energy, LLC v. PJM Interconnection, LLC*, 139 FERC ¶ 61,111, 61,780-82 (2012).

The virtual marketers subject to the recoupment now seek review of the July 2011 and May 2012 orders.⁷ (Collectively, we call these the “Recoupment Orders.”) They argue that they lacked proper notice that their refunds might be recouped, and that the Recoupment Orders were, in any event, arbitrary, capricious, and contrary to the FPA’s prohibitions on unjust, unreasonable, and unduly discriminatory rates. We hold that FERC gave the virtual marketers reasonable notice that their refunds were under reconsideration, but that FERC’s orders were arbitrary and capricious because they were insufficiently justified.

A

FERC possesses *sua sponte* statutory authority to reconsider its orders under certain conditions:

Until the record in a proceeding shall have been filed in a court of appeals, . . . the Commission may at any time, upon reasonable notice and in such manner as it shall

⁷ This group includes those who brought the petition for review addressed in Parts I and II of this opinion, along with a group of similarly situated petitioner-intervenors.

deem proper, modify or set aside, in whole or in part, any finding or order made or issued by it under the provisions of this chapter.

16 U.S.C. § 825l(a). The virtual marketers argue that FERC lacked authority to change its course on the refunds because it gave them no “reasonable notice” that the issue was on the table. We give *Chevron* deference to FERC’s view of what constitutes “reasonable notice” even though it comes in this case not explicitly, as a statement of law, but implicitly, as a fact-bound determination. *See INS v. Cardoza-Fonseca*, 480 U.S. 421, 447-48 (1987) (applying the *Chevron* framework to the “concrete meaning [given] through a process of case-by-case adjudication” to the statutory term “well-founded fear”); *see also Nat’l R.R. Passenger Corp. v. Boston & Me. Corp.*, 503 U.S. 407, 420 (1992) (deferring to the ICC’s implicit interpretation of the statutory term “required” even though the ICC “did not in so many words articulate” it).

In its May 2012 order, FERC reasoned that the virtual marketers were put on notice that their refunds were at risk by two prior docket entries. First, a group of electricity exporters filed a request for rehearing of the September 2009 refund order arguing that FERC precedent barred retroactive alteration of the treatment of their surplus allocations.⁸ Second, responding in April 2010 to that rehearing request and others, FERC filed an order that significantly expanded upon the scope of the exporters’ rehearing request. We need not decide whether the exporters’ rehearing request provided “reasonable notice” to the virtual marketers that their refunds were being reconsidered because the April 2010 order did.

⁸ Electricity exporters conduct transactions that ship power from within the PJM system into neighboring systems.

The April 2010 order responded to arguments raised in the exporters' request for rehearing of the September 2009 order, and expanded beyond them. The exporters contended that retroactive alteration of the treatment of their surplus allocations was contrary to FERC precedent. Their arguments were equally applicable to the virtual marketers' refunds. As a non-profit, PJM lacks "corporate funds of its own to pay refunds, and it would have to acquire such funds either through surcharges or through an up-lift charge to all members." *Black Oak Energy*, 136 FERC ¶ 61,040, 61,164 n.42. Thus, PJM's membership must pay for any refund that FERC orders PJM to pay. According to the exporters, members' confidence in the marketplace was shaken by having to pay for the refunds. *See Black Oak Energy, LLC*, 139 FERC ¶ 61,111, 61,777, 61,780-81. This logic applied to any surplus allocation refund made by PJM, and the April 2010 order expanded the scope of reconsideration to include all the refunds ordered in September 2009.

The broad inquiry FERC initiated in the April 2010 order should have made it clear to the virtual marketers that their refunds were subject to reconsideration. That order gave all parties "45 days from the date of PJM's filing to brief *any* issues with respect to refunds . . ." *See Black Oak Energy, LLC v. PJM Interconnection, LLC*, 131 FERC ¶ 61,024, 61,171-72 (2010) (emphasis added). In other words, the September 2009 refund order was not final. The April 2010 order also directed PJM to submit a "detailed refund report," which would identify all parties burdened or benefited by the refunds and would explain why PJM conducted the refund as it had. *Id.* (The report was designed to update and clarify a refund report that FERC required of PJM in September 2009. *Id.*) It is reasonable for FERC to hold that the scope of the April 2010 order placed the virtual marketers on notice that their refunds might be reconsidered.

B

The virtual marketers argue that the Recoupment Orders are unjust, unreasonable, and unduly discriminatory because they “reinstigate” a tariff that FERC itself had found unlawful in September 2009. Pet’rs’ Br. 46-47 (citing *Black Oak Energy, LLC*, 128 FERC ¶ 61,262, 62,221-22 (holding that PJM’s treatment of Up-To Congestion trades ran afoul of § 824d)). But the Recoupment Orders did not “reinstigate” an unlawful tariff; they merely modified the remedy that FERC ordered in September 2009. That order imposed a prospective remedy, banning PJM from mistreating virtual marketers who contribute to the fixed costs of the grid, and a retrospective remedy, effectively ordering PJM to pay refunds. With the revisions in the Recoupment Orders, PJM continues to be bound by the ban on mistreatment of virtual marketers who contribute to fixed costs. The revisions nullified only the retrospective feature of the September 2009 remedy; they did not reinstate an unjust tariff. Thus, the virtual marketers’ “unjust, unreasonable, and unduly discriminatory” argument fails.

But we agree with the virtual marketers that the Commission acted arbitrarily and capriciously when it effectively ordered PJM to recoup the refunds. FERC justified the recoupment on the ground that it brought the remedies for PJM’s unjust distribution of the surplus into alignment with Commission precedent. According to FERC, its policy is to deny refunds where revenues were accurately collected, and rates are being changed on a prospective basis. *See Black Oak Energy, LLC*, 136 FERC ¶ 61,040, 61,163-64 (citing orders). FERC argued here that PJM had accurately collected revenues according to its LMP tariff, but that the system needed to be altered. By this reasoning, had FERC followed its precedent in

the first instance, there would have been no \$37 million refund. FERC would have required PJM to comply prospectively and left it at that. The Recoupment Orders were FERC's effort at correcting this mistake. FERC admits that it "belatedly" reached its conclusion that no refund should have been ordered in the first place, thus "compelling PJM to recoup refunds it previously made," but argues that when it reached this correct conclusion "is not of legal consequence." Resp'ts Br. 41 (citation omitted). We disagree.

There is a significant distinction between *denying* refunds and *recouping* them. As the virtual marketers argued in their request for rehearing of the July 2011 order, recoupment may reduce the confidence of participants in the smooth functioning of the market in a way that straightforward denial of refunds does not. Yet, in its Recoupment Orders, FERC repeatedly obscured the fact that it was effectively ordering PJM to claw back money that has already been paid out. Instead of justifying recoupment, the Commission wrote as if it were denying the refunds outright. The order stated, "denying refunds . . . is the fairest approach," and "refunds should not be required." *Black Oak Energy, LLC*, 139 FERC ¶ 61,111, 61,782-83. True enough, but there is more to this case than that, for the refunds at issue were already out the door. In addition to explaining why it should have denied the refunds in the first place, FERC must explain why *recouping* is warranted. Because FERC failed to explain how it analyzed this crucial aspect of the case, we hold that the Commission acted arbitrarily and capriciously. *See, e.g., Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). It may well be that FERC's policy reasons for effectively ordering recoupment outweigh its negative effects, but FERC must analyze that question, not ignore it. For that reason, we remand.

Although we remand, we do so without vacating the Recoupment Orders. The decision to vacate depends on two factors: the likelihood that “deficiencies” in an order can be redressed on remand, even if the agency reaches the same result, and the “disruptive consequences” of vacatur. *Allied-Signal v. Nuclear Regulatory Comm’n*, 988 F.2d 146, 150-51 (D.C. Cir. 1993). We find it plausible that FERC can redress its failure of explanation on remand while reaching the same result. *See, e.g., Lone Mountain Processing, Inc. v. Sec’y of Labor*, 709 F.3d 1161, 1164 (D.C. Cir. 2013) (“The Commission may well arrive at the same result it reached originally, but it must do so with more clarity than it showed in the first instance.” (citation omitted)). And vacatur in this case would certainly be disruptive because it would prompt yet another refund, which would require yet another charge on uninvolved market participants. As we have noted, because PJM is a non-profit, the only way it can obtain funds to pay out a refund is by charging its market participants to cover them. *See Black Oak Energy, LLC*, 139 FERC ¶ 61,111, 61,783. If FERC, considering all the factors, ultimately concludes that recoupment was the proper path, the whole cycle would repeat itself, imposing significant transaction costs on PJM, its members, and the virtual marketers themselves. Faced with those prospects, we deem it better to preserve the status quo as FERC reconsiders its Recoupment Orders. However, we emphasize that FERC’s opportunity to reconsider is not an invitation to do nothing. *See In re Core Commc’ns, Inc.*, 531 F.3d 849, 862 (D.C. Cir. 2008) (Griffith, J., concurring). The Commission may not obtain the result it seeks through inaction when it has failed to justify that result with reasoning.

IV

For the foregoing reasons, we deny the petition for review of the Surplus Orders and grant the petition for review of the

Recoupment Orders. We remand the matter of the recoupment to the Commission for reconsideration consistent with this opinion.

So ordered.