House Committee on Energy and Commerce

Subcommittee on Energy

Powering America: Examining the Role of Financial Trading in the Electricity Markets

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Responses for the Record

1. *Financial trading institutions, such as yours, execute financial trades with the purpose of making a profit. When your company makes money from a financial transaction, such as an FTR, where does your payout come from? Do consumers pay for your payout through their electricity bills?*

Consumers do not pay for the payout received by a Financial Transmission Right ("FTR") owner, if that position is in fact profitable. FTR contracts are settled at the wholesale level and not at the retail (consumer) level. That is, sales of FTRs in the auctions conducted by the Regional Transmission Organizations/Independent System Operators ("RTOs/ISOs") are paid by the purchasing entities, which include, but are not limited to, generation owners, trading institutions, load serving entities, and private investors, and paid to load serving entities who were allocated transmission rights on behalf of the consumers they serve. Then, each day, owners of FTRs receive or pay the value of congestion determined in the day-ahead wholesale electricity markets conducted by the RTOs/ISOs.

To understand fully the flow of money with respect to FTRs, it is important to understand that load serving entities are the wholesale market participants who supply power to consumers. What consumers pay for power supply is based upon the terms of the contract between each consumer and its respective load serving entity. This type of arrangement allows for consumers to choose to be protected from the volatility and

complexity of wholesale electricity markets, since the load serving entities are the ones who are participating in the wholesale markets, including FTR markets. This type of arrangement also allows for consumers to understand how their electricity bills will be determined on a forward basis; in other words, it creates certainty for consumers. The responsibility of participation, including financial settlement and risk management, in the wholesale markets falls squarely on the load serving entity, and unless otherwise agreed upon through the contractual arrangement between load serving entities and consumers, consumers are not exposed to commercial activity in the wholesale markets.

The importance of wholesale competitive markets to consumers cannot be overstated. The billions of dollars in savings that consumers realize as a result of competitive markets can be attributed to, for example, allowing wholesale power generation service providers to compete with each other to sell electricity to consumers who will buy it at the lowest possible price. These cost-saving benefits to consumers have been quantified in a number of studies. In a recent report released by the COMPETE Coalition, from 1997 through 2014, prices in consumer-choice jurisdictions increased 4.5% *less* than inflation, while prices in regulated jurisdictions rose 8.4% *more* than inflation.[1] These results demonstrate significant savings to consumers.

2. *What potential market or regulatory reforms should Congress or FERC be considering in order to increase the market benefits associated with financial trading?*

PTI makes the following recommendations to both Congress and the Federal Energy Regulatory Commission ("FERC" or "Commission"):

a. FERC should mandate immediate compliance with Order No. 681 and ensure that all RTOs/ISOs implement long-term auctions. Long-term auctions provide a necessary forward price curve to ensure that the system

[1] O'Connor, P. and O'Connell-Diaz, E., *Evolution of the Revolution: The Sustained Success of Retail Electricity Competition* at 5-7 *available at* https://sites.hks.harvard.edu/hepg/Papers/2015/Massey_Evolution%20of%20Revolution.pdf.

is not overbuilt and consumers are not paying for unnecessary facilities for years to come.

b. FERC should ensure that congestion costs incurred by the market are borne by those who cause those costs to be incurred. As discussed in PTI's testimony, New York ISO currently allocates congestion costs to transmission owners. As a result, New York ISO, unlike every other ISO, has very few late scheduled outages or forced outages. New York ISO's paradigm provides the appropriate economic incentive for transmission owners to manage their outage schedules. Juxtapose this to the California ISO, which noted in a recent report that for outages subject to a 30-day advance notice requirement under the tariff, about 57% of these outages were not submitted to the ISO on time. Specifically, the report noted that in PG&E, SCE, and SDGE outages subject to the requirement were not received in time 50%, 65%, and 70% of the time, respectively.[2]

c. Congress should ensure that the RTOs/ISOs have the most up-to-date technology possible to solve their models.

3. *In your testimony, you stated that FTR revenue inadequacy is caused by a market design flaw that needs to be resolved. While PJM's Market Monitor has also stated that the current market design needs to be reformed, he believes any changes should ensure that load receives all congestion revenues. How do you respond?*

In a FERC decision on Rehearing dated January 31, 2017, the Commission explicitly rejected Dr. Joe Bowring's[3] argument that the purpose of FTRs is to return congestion revenues back to load. The Commission clearly affirmed its decision on Rehearing and stated as follows:

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[3] Bowring is President of Monitoring Analytics, PJM's market monitor.

> We reject the arguments that the sole purpose of FTRs is to return congestion revenue to load and the market should therefore be redesigned to accomplish that directive. FTRs were designed to serve as the financial equivalent of firm transmission service and play a key role in ensuring open access to firm transmission service by providing a congestion hedging function. The purpose of FTRs to serve as a congestion hedge has been well established. In the Energy Policy Act of 2005, Congress added section 217(b)(4) to the FPA,[4] directing the Commission to exercise its authority to "enable load serving entities to secure firm transmission rights (or equivalent tradable or financial rights) on a long-term basis for long-term power supply arrangements made, or planned, to meet such needs." In Order No. 681, the Commission clearly emphasized the significance of FTRs in hedging congestion price risk.[5]

Further, FTRs are inextricably linked to the underlying delivery of power to customers, and they are integral to shielding consumers from the price volatility that comes with having to perfectly balance the grid every minute of the day. The ability for load serving entities to shift their risk away from their customers and onto a counterparty that is better able to manage that risk is critical for protecting consumers. Without a proper forward price curve that is developed by forward congestion values from FTR auctions, suppliers, load serving entities, financial participants, and financial institutions would have to build in substantial risk premiums in order to be able to take on such significant risk without any type of hedging opportunity. This would effectively be a dead weight tax on consumers. Therefore, without FTRs, electricity prices would undoubtedly increase for ratepayers.

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[4] 16 U.S.C. § 824q(b)(2)(2012)

[5] *See* PJM Interconnection, L.L.C., Order on Rehearing and Compliance, 158 F.E.R.C. ¶ 61,093 (2017) (*quoting Long-term Firm Transmission Rights in Organized Elec. Mkts.*, Order No. 681, FERC Stats. & Regs. ¶ 31,226 at P 169, *reh'g denied*, Order No. 681-A, 117 FERC ¶ 61,201 (2006), *order on reh'g and clarification*, Order No. 681-B, 126 FERC ¶ 61,254 (2009)) .

Monitoring Analytics and Dr. Eric Hildebrandt[6] both argue that FTRs could be traded on a separate exchange, failing to recognize that FTRs are fundamentally linked to the day-to-day operations of the grid. The pricing of these rights is utilized in the transmission planning process; the number of rights allocated shifts based on the physical capability of the grid in a manner only the RTO/ISO can model and alter. And only the RTO/ISO can reconfigure the actual right, meaning they can change the path from A to B to A to C, if that is the more appropriate configuration that needs to be priced and allocated. In fact, FERC recently opined on the reconfiguration and reallocation of rights in PJM. Historical rights that were not reflective of the current transmission system were being allocated, causing distortions in the modeling and pricing. FERC mandated that PJM update its allocation process to allocate rights based on the current system.[7] Only the RTOs/ISOs can model the physical system constraints that will be applicable for the period auctioned in order to determine an appropriate price based upon the preferences of willing buyers and sellers.

In addition, FTRs are paid from day-ahead revenue that is not just an exchange of money between FTR traders, but rather a blend of complex activity by all market participants, including generation owners and load serving entities. An exchange would not incorporate this activity. Lastly, the RTOs/ISOs are the only entities that can adequately model and address planned outages in their auctions. For example, if line A holding 200 MW of capacity is scheduled to be out for maintenance for two weeks next month, the ISO is the only one that can prorate the capacity auctioned off next month to 100 MWs, instead of the 200 MW that line would ordinarily provide if it was in service all month. This is precisely why the California ISO report noted above discussed the importance of timely outage scheduling.

As a result, taking these products to an exchange separates rational congestion management activity from the economic activity to balance supply and demand on the

[6] Hildebrandt serves as market monitor for the California ISO.

[7] PJM Interconnection, L.L.C., Order on Rehearing and Compliance, 158 F.E.R.C. ¶ 61,093 (2017).

transmission grid and would ultimately increase costs for consumers. From a legal perspective, such a divided structure would go against the core principles of Order No. 888,[8] the key FERC order instituting open access. Last and most important, the Commission was clear that a full redesign of the FTR market is not warranted.[9]

In a commodity market, such as electricity, there are natural buyers and natural sellers. Financial participants provide a counterparty to those entities and create a liquid market for those transactions to occur. As discussed during PTI's testimony, an FTR is a fixed for floating swap; meaning Participant A is getting paid to take on the risk, while Participant B has chosen to shift that risk to Participant A in exchange for a fixed price. Participant A may make or lose money, but Participant B no longer carries that risk. Therefore, financial participants shift risk away from load serving entities, which have contractual arrangements with consumers, by being a counterparty in these markets.

As stated in PTI's statement for the record, the forward price signal that FTRs provide to the market leads to more efficient infrastructure development. The organized markets have to balance the need for additional infrastructure development with the cost of congestion. Does it make sense to build a new transmission line or a new plant in a particular region or pay for the cost of congestion in that region, if that would overbuild the system to the detriment of consumers? The only way to answer that question is to have a forward price curve where willing buyers and sellers take on economic risk and provide a forward price signal to evaluate the need for such infrastructure. It is important to note that the organized markets have not seen load growth over the past several

[8] Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities and Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, Order No. 888, 61 Fed. Reg. 21,540 (May 10, 1996), FERC Stats. & Regs. ¶ 31,036 (1996).

[9] *See* PJM Interconnection, L.L.C., Order on Rehearing and Compliance, 158 F.E.R.C. ¶ 61,093 (2017) ("[T]he Market Monitor and Joint State Commissions reiterate the proposal . . . that the Commission should support a market redesign to ensure loads receive all congestion revenues. We reject the arguments that the sole purpose of FTRs is to return congestion revenue to load and the market should therefore be redesigned to accomplish that directive.").

years.[10] Overbuilding the system would thus be an unnecessary cost that consumers would bear for decades to come.

When thinking about how the money flows, it is important to remember that a small portion of these rights are actually auctioned off and a large majority is allocated to utilities that serve retail customers. In fact, only the excess capacity is auctioned off in the FTR auction. These rights in total reflect the expected physical capability of the transmission system to deliver electricity; they are finite and their number is determined through analyses conducted by the organized markets. These finite rights are allocated to the transmission customers, also known as load serving entities, representing consumers that have paid for the fixed investment in the transmission system and are thus entitled to rights to the electricity transfer capability of this system. Transmission customers are allocated a certain number of contracts. How do we determine the value of these contracts that are provided to the transmission customer? The value of the allocated rights is determined in the open auction. Bilateral contracts are also priced off of the auction price. Basically, this is a public auction of excess capacity.

When there is no liquidity in the open auction or competition to arrive at an efficient price, the value of that contract diminishes because parties build in a risk premium. Simply put, without a locational FTR market construct, there is no mechanism to price bilateral contracts or allocated rights.

In short, FTR auctions save consumers money in four key ways:

- They provide an accurate price for the contracts that are allocated to transmission customers representing consumers.

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[10] *See, e.g.*, PJM Interconnection, L.L.C., Where has Electricity Demand Growth Gone in PJM and What are the Implications? (2014), *available at* https://www.eia.gov/conference/2014/pdf/presentations/sotkiewicz.pdf; *see also* Analysis Group, Electricity Markets, Reliability and the Evolving U.S. Power System 27–28 (2017), *available at* http://www.analysisgroup.com/uploadedfiles/content/insights/publishing/ag_markets_reliability_final_june_2017.pdf.

- They provide a price for the congestion on the grid to determine whether or not the cost of congestion is a more appropriate investment than the build out of additional infrastructure.
- They provide a price signal to lenders financing infrastructure development which thus reduces the cost of financing.
- The trading of financial products results in a more competitive, liquid, and transparent wholesale electricity market which ultimately leads to reduced costs for consumers.[11]

4. *In your written testimony, you stated that the hardware and software used by the RTOs is inadequate and outdated – you provided an example where PJM was a week late in solving its FTR auction. Is the solution simply for the RTOs and ISOs to focus time and money on this issue, or is something else holding them back?*

PTI does not believe that the RTOs/ISOs have adequately focused on technology. More importantly, there is a lack of transparency regarding hardware and software upgrades. It would be extremely beneficial for FERC to require each RTO/ISO to file an annual report stating which upgrades or improvements have been accomplished and which upgrades or improvements are planned for the coming year. Critical information regarding model solve time improvements as well as auction time improvements should be a strong focus of the reporting requirement. The answer should not be to limit market activity, and it is critical for both Congress and FERC to not allow the RTOs/ISOs to limit competition under the guise of technological limitations. In other words, financial products should not be limited in either implementation of necessary products or in volume of current products because the RTOs/ISOs have not adequately maintained their systems to meet market participant demands.

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[11] S*ee, e.g.*, Thomas, et al., *Electricity Customer Choice in Ohio: How Competition Has Outperformed Traditional Monopoly Regulation*, Cleveland State University (2016), *available at* http://engagedscholarship.csuohio.edu/cgi/viewcontent.cgi?article=2420&context=urban_facpub; Compete Coalition, RTO and ISO Markets are Essential to Meeting our Nation's Economic, Energy and Environmental Challenges (2014).

5. *In your testimony, you recommend that FERC's enforcement office should make publicly available the screens they use to identify targets for investigation. However, if FERC reveals its methods to flag misbehavior would this not give bad actors a roadmap to avoid FERC's policing of suspicious trading activity?*

PTI does not believe that FERC providing its enforcement screens to the industry would provide bad actors with a roadmap to skirt those screens. We believe this is akin to stating, inaccurately, that by sharing the law of the land you are providing a roadmap for citizens to break such laws. The very opposite is true. Providing the rules forces civil discourse regarding the rules, allows others in industry to police for behavior that the Commission considers manipulative or similar behavior and assists compliance officers in the industry to build better, more comprehensive enforcement programs.

The FTR forfeiture rule in PJM is a great example of this issue. The FTR forfeiture rule is a rule that states that a market participant would have to forfeit profit from a long-term position, if that market participant's short-term position impacted the pricing of the long-term position. For many years there was a lack of transparency regarding application of the rule and the Market Monitor in PJM made this very same argument that providing clarity regarding the rule would help market participants avoid direct violation of the rule. The Commission opened this issue up for debate and PJM stated that the current administration of the rule was punitive and proposed changes in accordance with discussions in the stakeholder process. Clear rules for market participants and an open dialogue regarding such rules assists both market participants in developing more sophisticated compliance programs and FERC enforcement in building a better, more constructive enforcement regime.