



Financial transmission rights are financial instruments related to congestion on transmission lines. Congestion occurs when the lowest-priced electricity can't reach areas of the power grid experiencing high demand.

Financial transmission rights (FTRs) allow market participants to offset or bypass the congestion charges that result from the use of locational marginal prices (LMPs) in the PJM market. FTRs are financial contracts. They do not create a physical obligation to energy delivery and they operate independent of actual energy deliveries.

What Causes Congestion?

Each path in the high-voltage transmission system has a limit to the amount of electricity it can convey.

As a result, high demand in one area may result in an overload along the paths available to the lowest-priced electricity as it travels from where it is produced to where it is needed.

This situation, called congestion, is addressed by dispatching higher-priced electricity that can follow a less-congested path in the transmission system to the area with high demand. When this happens, the LMP in the area of high demand is higher than the LMP in the area where the lowest-cost energy is produced. The difference in the LMPs, known as the congestion charge, can ultimately be passed along to consumers, raising their bills.

Load serving entities, such as distribution companies, have generally held FTRs as a kind of insurance to protect them and their customers against volatile congestion costs, although financial traders also have acquired FTRs.

How Do FTRs Hedge Against Congestion?

An FTR entitles the holder to a stream of revenue based on the hourly, day-ahead congestion price differences across a transmission path in the Day-Ahead Market, between a specified source and destination. Market participants can hedge against their congestion costs by acquiring FTRs that are consistent with their energy deliveries.

How an FTR Works

If there is no congestion on the transmission system, the LMP theoretically should be the same across all PJM zones. When higher-priced electricity must be dispatched to meet demand in certain congested zones, the LMP will be higher in those areas. This creates a situation where those receiving electricity are paying more into the system than those producing electricity are receiving in payments.

Key Facts:

- FTRs allow market participants to hedge against congestion charges.
- FTRs do not require the holder to physically deliver energy.
- FTRs are traded in long-term, annual, monthly and secondary markets.



The FTR is a method for offsetting those charges by crediting the holder of the FTR for the difference in congestion LMP between the source and destination points, multiplied by the number of megawatts contracted in the FTR.

Benefit or Liability?

An FTR is set up between two points on the electric transmission system, a starting point and an end point. The value of an FTR is calculated hourly. When the price is higher at the end point than the starting point, the FTR is a benefit to the holder. When the price is lower at the end point, the FTR is a liability.

How FTRs Are Created

Auction revenue rights (ARRs) are allocated to PJM transmission customers for designated paths from specific generation resources to the location where the electricity is needed.

ARRs can be converted to FTRs or held as a source of revenue.

If an ARR is not converted to an FTR, its associated capacity is offered into the annual FTR auction, and the revenue from its sale is paid to the holder of the ARR.

FTR Transactions

Market participants can obtain or trade FTRs in four ways:

1. They can bid for them in PJM's long-term auction, in which FTRs are available for the next three planning periods, for periods of one year.
2. They can bid for them in the annual auction, in which FTRs for the entire transmission capability of the system are available.
3. They can bid for them in the monthly auctions, in which leftover FTRs for the current planning year are sold. In these auctions, participants can bid to buy, or offer to sell, FTRs for any of the next three individual months or any quarter in the balance of the current planning year.
4. They can buy them in the secondary market in a bilateral transaction with another market participant.

FTRs obtained through an FTR auction, or through secondary trading, do not change or reassign a transmission service customer's responsibility to deliver electricity.

Oct. 10, 2019