



Nominating and Procuring Financial Transmission Rights in Locational Marginal Pricing Markets



ICF International supports private- and public-sector energy clients by providing economic forecasting, technical services, and policy analyses to enhance our client's ability to make the best strategic and resource development decisions.

Transmission Services:

- Locational Marginal Pricing (LMPs)
- Congestion Forecasting
- Financial Transmission Rights (FTR) Design
- Forecasting Interregional Transmission Capacity
- Reactive Power Valuation
- Voltage Support Issues
- Generation and Transmission Interconnection Assessments
- System Impact Studies
- System Stability Studies
- Siting of Generation and Transmission Assets
- Optimal Power Flow Analysis

Power market participants who need to schedule transmission to meet their load-serving or transactional obligations in Locational Marginal Pricing (LMP) markets are required to make decisions about whether to hold or decline Financial Transmission Rights (FTRs) to hedge potential transmission congestion costs. Making the right decisions requires a forward view of the market and an understanding of expected power flows through the transmission network under various conditions and patterns of generation dispatch and load withdrawals. Many market participants have incurred substantial losses in congestion costs either by ignoring to procure or nominate FTRs or by making incorrect decisions about FTRs.

Determining what congestion rights to hold for each source-to-sink transaction, in what amounts, and during what periods is a daunting exercise—but lack of action can be costly. ICF International assists numerous market participants in procuring FTRs in the Northeast markets. We have assisted various market participants in the New England, PJM and Midwest Independent System Operator (MISO) markets with this challenge using our expertise in power systems modeling and forecasting of LMPs and transmission congestion.

ICF will help clients answer the following questions for each of their long- or short-term source-to-sink transactions:

- What are the expected congestion costs?
- What is the expected revenue from negative congestion costs?
- Should FTRs be used to hedge congestion costs or would holding FTRs increase congestion risk exposure?
- Are there seasonal or monthly patterns that justify holding FTRs in selected seasons or months?
- How many FTRs should be held?
- What are the expected revenues from FTRs?

If you are a network transmission customer, have native load obligations, or are responsible for procuring transmission to meet your delivery obligation, ICF can show you how to save on your transmission costs using appropriately designed and selected FTRs. We will provide standardized or customized FTR analyses to meet all of your needs.

Featured Projects

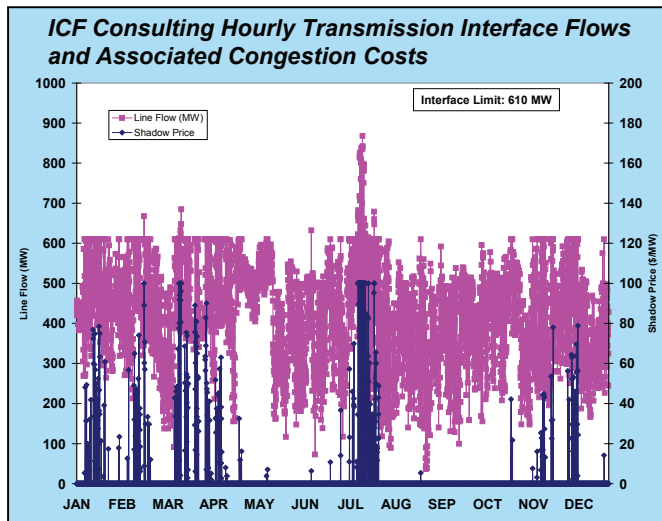
Transmission Congestion Assessment

ICF assisted a large generation and transmission company in the Mid-American Power Pool (MAPP) region with an assessment of the MAPP/MISO market for Midwest Independent System Operator (MISO) DAY 2 operation with a three-year forecast of locational marginal prices (LMPs) and transmission congestion. We then designed a Financial Transmission Rights (FTR) strategy to nominate candidate FTRs for client operations to hedge congestion costs. For each of the client transactions, the FTR design provided information on the following:

- What are the expected congestion costs from Point-to-Point (PTP) energy transactions, and network resources to network load?
- What are the expected negative congestion revenues?
- What are the expected equivalent FTR revenues and are there any seasonal patterns?
- What are the expected equivalent FTR risk exposure?
- Should the client hold FTRs?
- Should the FTRs be annual, seasonal, or monthly?

Transmission Risk Exposure Assessment

ICF assisted in managing a clients' operational risk and flexibility in transmission in the Mid-Atlantic market. We estimated the transmission risk exposure on all the major bulk power transmission facilities; the estimated duration of hours of congestion on each transmission line link; and the optimal value and type of Financial Transmission Rights (FTR) needed to hedge transmission price risk for physical transactions and for supporting trading positions.



Locational Marginal Price Forecast

ICF forecasted locational marginal prices (LMP) and transmission congestion for Midwest Independent System Operator (MISO) DAY 2 operation in the New England market to support a client's dispatch decisions for their generation asset, design of structured energy products, and Financial Transmission Rights (FTR's). ICF used GE-MAPs™ to perform a detailed modeling of the New England market within the context of the larger Northeast markets by modeling all the physical transmission facilities, economic generation injections, and hourly nodal loads. The analyses provided forecasts of LMPs at each node, load zone, and the New England trading hub; and hourly congestion across all transmission lines and interfaces. Our analysis was used by the client's team to support trading positions with other counter parties and to procure FTRs to hedge potential congestion costs associated with the client's energy delivery obligations in the New England Market.

About ICF International

ICF International (Nasdaq: ICFI) partners with government and commercial clients to deliver consulting services and technology solutions in the energy, environment, transportation, social programs, defense, and homeland security markets. The firm combines passion for its work with industry expertise and innovative analytics to produce compelling results throughout the entire program life cycle, from analysis and design through implementation and improvement. Since 1969, ICF has been serving government at all levels, major corporations, and multilateral institutions. More than 2,000 employees serve these clients worldwide. ICF's Web site is <http://www.icfi.com>.

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