

Credit Policy for Financial Transmission Rights

Scott M. Harvey

**EUCI
National Perspectives on
Financial Transmission Rights**

March 20, 2007

LECG

Scott Harvey is or has been a consultant on electricity market design and transmission pricing, market power or generation valuation for Allegheny Energy Global Markets; American Electric Power Service; American National Power; California ISO; Calpine Corporation; Centerpoint Energy; Commonwealth Edison; Constellation Power Source; Coral Power; Dynegy; Edison Electric Institute; Edison Mission; General Electric Capital; GPU; GPU Power Net Pty Ltd; GWF Energy; Independent Energy Producers Association; ISO New England; Longview Power; Midwest ISO; Morgan Stanley Capital Group; New England Power; New York Energy Association; New York ISO; New York Power Pool; Ontario IMO/IESO; PJM; PJM Supporting Companies; Reliant Energy; San Diego Gas & Electric; Sempra Energy; Mirant/Southern Energy; Texas Utilities; Transpower of New Zealand Ltd; Westbook Power; Williams Energy Group; and Wisconsin Electric Power Company.

The views presented here are not necessarily attributable to any of those mentioned, and any errors are solely the responsibility of the author.

OVERVIEW

Why is an FTR credit policy necessary?

- Ensure that FTR buyers have the ability to pay for FTRs purchased in auctions.
- Ensure that FTR holders have the ability to make future payments for long-term FTRs.
- Ensure that the holders of counterflow FTRs have the ability to make required congestion payments.

The first two credit policy issues potentially exist for future payments for conventional long-term firm transmission service. The final issue is unique to financial rights defined as obligations.

AUCTION SETTLEMENTS

Ensure that FTR buyers have the ability to pay for FTRs purchased in auctions.

- Market participant bids for FTRs can influence the prices of many other FTRs bought and sold in an auction.
- If a bidder submits bids that clear in an FTR auction but does not have the ability to pay for the FTRs it is awarded, the invalid bids may have raised the prices paid by many other market participants.
- The potential for FTR auction prices to be determined by invalid bids would be disruptive to FTR markets.

It is essential that entities submitting bids in auctions to buy FTRs, or conventional firm transmission rights, have the financial ability to pay for the rights they are awarded.

AUCTION SETTLEMENTS

High-priced bids for FTRs can cause offers for counterflow FTRs to clear in an auction and affect the price paid for the counterflow rights.

If an undercapitalized FTR buyer is not able to make the payments required to cover the purchase of the FTRs which it was awarded in the auction, the ISO may not collect the payments necessary to fund payments to entities awarded counterflow FTRs in the auction.

AUCTION SETTLEMENTS

Credit coverage for auction bids is necessary, even in settlement systems such as PJM and ISO-NE, in which FTRs are paid for at the end of the period.

- FTR auction markets would be substantially compromised if undercapitalized entities were able to submit bids to buy FTRs and then default if the clearing price in the auction were to exceed the ultimate payments to the FTR holder.

LONG-TERM FTRs

Ensure that FTR holders have the ability to make future payments for long-term FTRs.

- Under some long-term FTR systems, LSEs may purchase FTRs with terms extending over a number of years by agreeing to make annual payments.
- This payment structure is very common for long-term firm transmission rights.
- Market-based transmission expansions are likely to entail payments extending over a number of years by the entities responsible for the expansion. This would be the case under either a system of FTRs or firm transmission rights.

It is important that the entities awarded long-term FTRs have the financial capability to make future payments.

LONG-TERM FTRs

Ensuring financial responsibility through appropriate credit requirements is particularly important in the context of transmission expansion, as transmission owners may make substantial investments premised on recovery of these costs from the entities initiating the expansion.

- The need to ensure financial responsibility of entities initiating transmission expansions is not limited to markets based on LMP and financial rights; it also exists in markets based on long-term firm transmission rights and in natural gas transmission markets.
- Payments for firm transmission rights in both gas and power were historically made by regulated entities that were able to recover the payments in their rates, so there was relatively little risk of default.

LONG-TERM FTRs

With open access to the transmission system in gas and power, some of the entities potentially desiring to acquire transmission rights are unregulated marketers or other entities with possibly limited financial capability.

- There have been instances of expanders defaulting or attempting to default on payments for expansions of both gas pipelines and electric transmission.
- It is important to require adequate credit coverage of entities initiating transmission expansions, and substantial security is in fact often required.

LONG-TERM FTRs

It is important under open access to avoid imposing barriers to entry by imposing undue financial responsibility requirements on those seeking to fund expansions, whether of gas transmission pipelines or the electric transmission grid.

- Conversely, however, it is essential that transmission expansions not become a case of heads the marketer wins, tails the ratepayer of the transmission provider loses.
- This requires a credit policy that provides a reasonable assurance that entities initiating transmission expansions have the financial capability to make the required payments over the term of the project.

LONG-TERM FTRs

Credit coverage for long-term FTRs and expansion FTRs does not need to cover the sum total of all future payments.

- The transmission provider or RTO will be able to resell the FTRs or firm transmission rights in the event of default.
- Default is most likely to occur, however, in circumstances in which the current market value of the FTRs is less than the future payments due.
- Financial assurance for transmission expansions and other long-term rights therefore does not need to cover the entire future obligation, but needs to provide a reasonable likelihood of covering the potential change in market value.

LONG-TERM FTRs

The determination of an appropriate credit policy is particularly difficult for expansions supported by traditional firm point-to-point rights because use-it-or-lose-it rights have no value if not scheduled and there may be no alternative user at the original source if the original generation project is delayed or cancelled.

- There is no well-defined rule for redefining sources and sinks for physical rights.

LONG-TERM FTRs

If long-term FTRs were a continuously traded financial instrument like gas futures, one could observe the historic variability of FTR prices and project the credit coverage to protect against a given probability of value changes. However:

- One cannot observe changes in FTR or physical right market values on a regular basis.
- In most regions, there is not much history for projecting variations in FTR prices.
- Securing credit coverage for transmission expansion requires assessing the potential changes in congestion prices after the expansion.
- Every transmission project has potentially unique impacts on future congestion prices.

LONG-TERM FTRs

As more long-term FTR auctions are held, we will gradually build up information on the variability of FTR values. This historical data could be used to assess the likelihood of FTRs losing more than X% of their value over 10 years.

- If FTRs are paid for prior to the determination of actual congestion charges, credit policy for the purchase of long-term FTRs needs to cover the variability of expected future FTR values, not actual after-the-fact FTR value.
- The variability of ex ante FTR value is potentially much less than the variability of ex post returns.

COUNTERFLOW FTRs

Ensure that the holders of counterflow FTRs have the ability to make the required congestion payments.

Another credit policy issue is to ensure that FTR holders have the financial capability to make any required payments to the ISO/ RTO if the congestion charges associated with the FTR are negative.

- This issue is particularly important for counterflow, negatively priced FTRs.
- Entities buying negatively priced FTRs are paid to provide financial counterflow (i.e., they absorb the risk stream for the LSE that buys the positively priced FTR made feasible by the counterflow FTR.) This means that the buyer of the negatively priced FTR will likely be obligated to make congestion payments to the ISO/RTO.
- Any negatively priced FTR that is awarded is providing counterflow that makes feasible some positively priced FTR awarded in the auction.

COUNTERFLOW FTRs

Credit policy for potential counterflow FTRs needs to ensure a reasonable likelihood that the FTR holder will be able to cover:

- The expected value of payments due on the FTR (approximated by the auction price); and
- Likely payments in excess of the expected value.

COUNTERFLOW FTRs

Credit coverage for payments in excess of the expected value is important because LSEs hold FTRs to hedge congestion charges that may differ from the expected value.

- There is expected to be variation in congestion charges around the mean. Over any year, 2 years or 3 years, actual congestion payments may differ from the expected level, possibly by a lot.
- This variability is a reason for LSEs to hold FTRs. If FTR payments always averaged out to the expected level over a year, why would LSEs hold an annual FTR?

COUNTERFLOW FTRs

If the holders of counterflow FTRs default on their obligation to make payments to the ISO, the remaining FTRs may not satisfy a simultaneous feasibility test, meaning that the congestion charges collected by the affected ISO may not be sufficient to cover payments due to the remaining FTR holders.

- With full funding of FTRs, this shortfall will be borne by other market participants.
- The potential for ISO revenue inadequacy is greatest for defaults on FTRs having negative prices in the FTR auction.

COUNTERFLOW FTRs

The historic variability of FTR pricing and payments can be used in assessing the level of credit coverage to be required to hold counterflow FTRs, but has limitations.

- Very little historic data will be available for regions that have recently implemented LMP or have not yet implemented LMP.
- Even in regions that have several years of experience with LMP, the number of realizations for annual FTRs is very small.

SCOTT M. HARVEY (617) 761-0106

sharvey@lecg.com

350 Massachusetts Ave.
Suite 300
Cambridge, MA 02139
(617) 252-9994
(617) 621-8018 – fax

33 West Monroe
Suite 1850
Chicago, IL 60653
(312) 267-8200
(312) 267-8220 - fax

2700 Earl Rudder Freeway So.
Suite 4800
College Station, TX 77845
(979) 694-2421
(979) 694-2442 - fax

One Main Place
1201 Main St., Suite 1950
Dallas, TX 75202
(214) 753-5000
(214) 753-5050 - fax

2000 Powell St.
Suite 600
Emeryville, CA 94608
(510) 653-9800
(510) 653-9898 – fax

1603 Orrington Ave.
Suite 1500
Evanston, IL 60201
(847) 475-1566
(847) 475-1031 – fax

5 Houston Center
1401 McKinney, Suite 2300
Houston, TX 77010
(713) 374-7900
(713) 374-7990 - fax

333 South Grand Avenue
Suite 3750
Los Angeles, CA 90071
(213) 621-0228
(213) 621-0277 - fax

424 Church Street
Suite 2550
Nashville, TN 37219
(615) 726-7960
(615) 726-7970 - fax

675 Third Avenue
21st Floor
New York, NY 10017
(212) 468-7878
(212) 468-7879 – fax

335 Bryant Street
Third Floor
Palo Alto, CA 94301
(650) 473-4200
(650) 322-1483 - fax

201 South Main
Suite 450
Salt Lake City, UT 84111
(801) 364-6233
(801) 364-6230 – fax

201 Mission Street
Suite 700
San Francisco, CA 94105
(415) 267-0300
(415) 267-0310 - fax

1018 Garden Street
Suite 208
Santa Barbara, CA 93101
(805) 963-5770
(805) 963-5792

1725 Eye Street, NW
Suite 800
Washington, DC 20006
(202) 466-4422
(202) 466-4487 - fax

1255 Drummers Ln.
Suite 320
Wayne, PA 19087
(610) 254-4700
(610) 254-1188 - fax

Level 3, 12 Viaduct Harbour Ave
Viaduct Basin, PO Box 2475
Shortland St, Auckland, NZ
64 9 913 6240
64 9 913 6241 - fax

Cerrito 866, Piso 4
C1010AAR Buenos Aires
Argentina
54 11 4816 1001
54 11 4813 4999 – fax

40/43 Chancery Lane
London WC2A 1JA
United Kingdom
44 20 7269 0500
44 20 7269 0515 - fax

Level 28, 303 Collins St
GPO Box 5034Y
Melbourne 3000, Australia
61 3 9678 9066
61 3 9678 9009 - fax

Level 24, 9 Castlereagh St
Sydney NSW 3000
Australia
61 2 9221 2628
61 2 9221 0868 - fax

180 Bloor Street West, Suite 1400
Toronto, Ontario M5S 2V6
Canada
(416) 926-4200
(416) 926-4210 – fax

9th Floor, 1 Willeston St.
P.O. Box 587
Wellington, New Zealand
64 4 472 0590
64 4 472 0596 - fax

LECG Energy Website: [www.lecg.com/Practices/Energy/Research Papers & Testimony](http://www.lecg.com/Practices/Energy/Research%20Papers%20&%20Testimony)