Cross Border FTRs

Joint and Common Market
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FTRs in Allocation

- Inclusion of cross-border FTRs in annual allocations
  - Single point of entry for requests
  - FTRs separated into two partial paths
    - From source to interface and from interface to sink
  - Midwest ISO and PJM jointly evaluate “matched” partial paths and provide single MW response
  - Each FTR settles in respective market
  - Potential Benefits
    - One request: single nomination for entire path
    - Eliminate FTR partial paths: customers avoid different allocations in each RTO (partial congestion cost hedge)

FTRs in Allocation

- Steps to enable joint evaluation of requests and single allocated MW value:
  - Process to iterate allocation solutions to award simultaneously feasible amount in BOTH markets
  - Synchronized process for nominating and awarding FTRs
    - Identical tier or stage sizes would be optimal, but allocation could work with differences
  - Common product terms (annual versus seasonal, peak and off-peak versus all hours)

FTRs in Allocation - Iteration of allocation solutions

- Award of a single MW quantity will reflect lower of amount available in each market
- Determination of this value will require iteration in one or both markets
  - Time constraints will likely allow a single iteration - RTO able to award a greater value would adjust allocation to lower amount
  - Alternative methodologies may reduce revenue adequacy or allocation to other market participants
    - Could reduce the nominated value with some potential for infeasibility and revenue inadequacy
    - Could reduce by re-running allocation with FTR fixed (non-curtailable) with potential for either higher or lower awards to other market participants

FTRs in Allocation

Synchronized process for nominating and awarding FTRs

- Both Midwest ISO and PJM allocate ARRs/FTRs based on nomination/allocation rounds (stages/ tiers)
- Assuring a single allocated quantity over the course of the allocation requires a single allocated quantity in each round
- The requirement to iterate to an allocation solution in each round requires an equal number of rounds that occur on an identical (or nearly so) timeline

FTRs in Allocation

Synchronized process for nominating and awarding FTRs (cont.)

- PJM allocation stages are approximately 50% and 4 x 12.5%
- Midwest allocation tiers are 35%, 15% and 2 x 25%
- Identical sizes are not required, but differences will limit nomination flexibility
- Nomination priority will also limit nomination ability
  - PJM's first stage is restricted, Midwest ISO's tiers are unrestricted

FTRs in Allocation

Common product terms (annual versus seasonal, peak and off-peak versus all hours)

- PJM allocation is for annual ARRs
- Midwest ISO's allocation is for seasonal, peak and off-peak FTRs
  - Current Midwest ISO allocation can result in different MW values in each of eight seasons and time periods
- Allocation of a single MW value would require common product terms

FTRs in Auction

Two methods by which FTRs could be included in auctions

- Independent auctions based on “matched” partial paths, similar to allocation
- Single cross-market auction

Auction: Long Term

- Independent auctions
  - Single point of entry for bids and offers
  - FTRs separated into two partial paths
    - From source to interface and from interface to sink for both bids/offers and clearing
  - Midwest ISO and PJM clear “matched” partial paths and provide single cleared quantity at cumulative price
  - Each FTR settles in respective market
  - Potential benefits:
    - One request: single bid or offer for entire path
    - Eliminate FTR partial paths: customers avoid different cleared quantity in each RTO
    - FTR Settlement = congestion cost exposure: settlement reflects congestion cost for tagged schedules

Auction: Long-term

Matched partial path FTRs

- Steps to enable joint evaluation of requests and single allocated MW value:
  - Process to iterate allocation solutions to award minimum of availability in both markets
    - More complicated than in allocation – process must not distort cleared prices
  - Synchronized process for conducting auctions
    - PJM multi-stage, Midwest ISO single stage

Auction: Longer-term

Single cross-market auction

- Single point of entry for bids and offers
- Single determination of clearing prices and quantities
- Instrument definition and settlement alternatives
- Potential benefits
  - One request: single bid or offer for entire path
  - Single clearing price and quantity: customers avoid different cleared amounts in each RTO
- Technical feasibility issues
  - Options and multi-period auctions are technically challenging
  - Combined region may not be possible

Auction: Longer-term

Single cross-market auction

- Settlement alternatives
  - Contingent bids for matched partial path pairs, independently clear in each market
    - Difficult: contingent bid capability not currently developed
  - Single FTR with settlement based on source and sink
    - Technical feasibility issues
    - Settlement/cost shifting issues
      - Reference bus differences, losses treatment
      - Value of hedge is transaction specific (does not reflect congestion associated with schedules from ultimate source to ultimate sink)
- Considerations
  - Would cross border FTR auction have to be independent due to bid adjustments to manage reference bus / interface pricing issues?

FTR Market Convergence: Costs and Benefits

	Cost		*Potential* Benefit	
	Ongoing (Incremental $/year)	Implem-entation	$ / transaction	$ / year
FTR Allocations	$Low	$Medium	$?	$?
FTR Auctions (Alt. 1)	$Low	$Medium	$?	$?
FTR Auctions (Alt. 2)	$Medium	$ High	$?	$?