

DC Energy Proposal for Long-Term Transmission Rights in New England

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In this paper, we describe the design philosophy, conceptual details, and compliance with FERC order guidelines of our proposal for LTTRs in New England. We borrow concepts from the PJM ARR methodology, albeit modified to maintain the existing robust FTR markets and maximize power supply efficiency. To the extent that we mimic the PJM ARR process, our proposal is similar to ConEd's Option 1. In addition, although our proposal is different from NEPS's in its mechanics, the outcome and intent are similar.

Fundamental Principles

Maintain market-based pricing in forward markets for congestion.

DC Energy is a strong proponent of locational marginal pricing (LMP) in electricity markets as it provides transparent price signals to the market, which should drive efficient market-based investment in the short-term (e.g., demand response, outage scheduling) and the long-term (e.g., transmission upgrades, generation siting). The financial transmission rights (FTR) market is the critical extension of LMP to the longer time horizon, establishing a forward curve on the LMP, which by itself is a short-term (i.e., day-ahead or real-time) price signal.

Clearly, we support the call for longer-term transmission rights as they extend the horizon of this forward curve, thereby enhancing the economic signals that encourage efficient development of the power system. That said, it is absolutely critical to maintain a transparent and liquid price signal, and this is best accomplished through auctions. Further, while we encourage the development of auction markets for longer-term FTRs, we are concerned that there may not be sufficient liquidity at long maturities due to uncertainty in valuation and necessarily high levels of collateralization. By borrowing from the PJM ARR process, our proposal will maintain the current annual and monthly FTR auctions and provide long term hedging rights to qualified LSEs.

Limit allocations to meet the known reasonable long-term needs of market participants

We respect the intentions of Congress and the FERC to provide congestion price certainty to market participants with stable long-term needs. However, we are very concerned that a design that provides too much flexibility has the potential to undermine efficient power supply. We fear that some market participants will have the economic incentive to procure power in long-term contracts that are advantageous to them, but inefficient with respect to use of the transmission grid. In effect, too much flexibility without proper pricing will prevent the LMP market from providing clear signals for efficient power delivery.

We strongly advocate that a minimal capacity be set aside for long-term rights, that these rights be truly long-term (e.g., > 5 years), and that they have extremely limited renewal (e.g., must renew in 5-year increments) and cancellation rights (e.g., exit fee if not through loss of load obligation). We believe this will reconcile the true long-term needs of market participants with a sound long-term economic outcome for the power markets.

Distinguish between reliability planning, economic planning and simultaneous feasibility

We are concerned that there is potential for misinterpreting simultaneous feasibility as a substitute for reliability planning, and, worse yet, a call for economic planning. *Reliability planning* only considers the deliverability of generation to load in a real AC environment, i.e., will the lights will stay on. It does not consider the cost of congestion so long as the congestion does not prevent the reliable delivery of power. Congestion costs would be dealt with in *economic planning*, which considers the economics of the physical generation and the cost-benefit of upgrading the transmission grid to relieve congestion, i.e., provides guidance to translating the LMP signal into a transmission upgrade. *Simultaneous feasibility* is merely a topological construct that considers injections and withdrawals based on either acceptable requests for point-to-point auction revenue rights (ARRs) or winning bids for FTRs to ensure that the ARR or FTR financial market is solvent, i.e., to avoid underfunding. Although these injections and withdrawals serve as proxies for physical generation and load, they represent an artificial and simplified DC representation of the system.

To a limited extent, the simultaneous feasibility of funding long-term rights can serve as a potential indicator of reliability issues, however, we want to be clear that this should not be a signal to necessarily upgrade the grid nor to reduce or eliminate congestion. In particular, we are concerned about creating incentives to procure new contracts or locate new generation in which the power is effectively not deliverable to the load given the existing power flows on the grid. It would be inappropriate to displace current power delivery, which may be efficient, by preferentially awarding transmission rights to the new, but inefficient, power delivery. It would also be inappropriate for the market as a whole to fund as a reliability upgrade transmission projects necessitated by one market participant's uneconomic siting of new generation. Although the complete solution is beyond the scope of the immediate task at hand, we do not want this design to give some market participants *carte blanche* to move power to their benefit at the expense of the rest of the market. Per the intent of the order, this design should provide preferential access to long-term transmission rights with price certainty to LSEs with stable long-term needs, but nothing more.

We believe that rational allocation of a limited capacity of transmission rights should limit the need for most signals for upgrades. A rational allocation (e.g., limit to high capacity factor baseload generation, tie load zones to historic generation sources, limit to minimum load served) would prevent market participants from collectively procuring power from a common source region, which could exacerbate flows on just a few lines. If the need arises for an upgrade driven by long-term transmission rights feasibility, it is critical that cost allocation not necessarily be socialized nor that the upgrade should do anything more than enable deliverability of baseload generation, i.e., it should not necessarily relieve or eliminate congestion.

Proposal

Option to elect pathwise point-to-zone long-term auction revenue rights (LT-ARRs) in place of traditional auction revenue rights (ARRs)

The Product

The LT-ARR would grant the holder the annual FTR auction clearing price for a specific path with a distinct source and sink. This contrasts with the traditional ARR, which grants the holder a share of the FTR auction revenues based on the FTR auction clearing price of an aggregate generator-to-load zone path. The difference between these approaches is that the revenue from an LT-ARR will enable the holder to purchase the corresponding FTR without the financial risk of placing a winning bid (i.e., bid price > clearing price) into an auction, whereas the traditional ARR does not provide a direct hedge against the clearing price of a particular path.

The source would be a single generator node that would be limited to a set of *acceptable generators*, e.g., high capacity factor generation sources [AND RENEWABLES?] that historically supplied demand in the load zone in question. New generation could also be eligible to the extent that it was deliverable to the load zone given existing loads on the system; any upgrades of deliverability would result in the awarding of LT-ARRs to match the capacity increase. The sink would be a single load zone; it would be specific to zones in which the LT-ARR holder served load (see Eligibility below). The LT-ARR would pay out the clearing price from the annual FTR auction for the 24-hour period, i.e., the sum of on- and off-peak clearing prices.

[WE DO NOT PROPOSE A SPECIFIC SOLUTION FOR TRANSMISSION RIGHTS INTO OR THROUGH ISO-NE, BUT UNDERSTAND THAT THIS WOULD HAVE TO BE WORKED OUT]

Eligibility

A market participant would be eligible to request an allocation of LT-ARRs to the sink zone up to a volume equivalent to their *baseline load* in that zone less any prior LT-ARR allocations to that zone. *Baseline load* would be defined as the minimum hourly load over the past year. For example, in 2005, this would have been 36% of the year's hourly peak load looking across the entire system.

The LT-ARR would have a term of ten years [COULD BE LESS, BUT NOT LESS THAN FIVE YEARS] so long as the LT-ARR holder maintained their baseline load level. If at any time their eligibility (baseline load) falls below the amount of LT-ARRs allocated, the LT-ARRs would be reduced pro-rata to that zone (i.e., the LT-ARR holder could not choose to reduce a less valuable LT-ARR preferentially over a more valuable one). If load migrates to another LSE, the new LSE may elect to take a pro-rata share of the LT-ARRs forfeited; otherwise, the new LSE would simply receive traditional ARRs. Note that if an LSE requests a volume of LT-ARRs less than their baseline load, they do not forfeit the LT-ARRs until the baseline load falls below the volume of LT-ARRs allocated. On the other hand, if baseline load grows, the ARR

holder may request incremental LT-ARRs up to their new baseline load in the next annual LT-ARR allocation; in the meantime, the LSE would simply receive traditional ARR.

Election

Eligible LSEs could elect to nominate valid point-to-zone requests prior to the annual FTR auction. The ISO would determine if the requests are simultaneously feasible from a power flow perspective, taking into account all prior awarded and active LT-ARRs. If there is a binding constraint (this should be extremely rare given the limited slice of the system allocated), the LT-ARRs would be allocated pro-rata based on the paths' share of the flow across the constrained element. A binding constraint would also trigger a reliability upgrade study. When an LT-ARR is awarded, the ISO guarantees feasibility (i.e., will fund the LT-ARR and enable self-scheduling of the full volume into annual FTRs) for the 10-year life of the LT-ARR. Of course, this should also be considered in the reliability planning process.

Renewal and cancellation

LT-ARR holders that maintain eligibility at the end of the term of the LT-ARR would be able to request the same LT-ARR at the end of the term, but their request would be considered as incremental to the existing LT-ARRs. In the unlikely event that the request is not feasible, a pro-rata share would be awarded and a reliability study would be signaled. Like all LT-ARRs, the term of the renewed ARR would again be ten years. The goal of this renewal process is to prevent biasing LT-ARRs procured earlier over those procured later, which might encourage hoarding of rights in the initial allocation.

LT-ARR holders that do not lose sufficient load obligation to necessarily reduce their LT-ARR volume, but would like to cancel their ARR would have no right or limited rights to do so. The rationale is again to discourage hoarding by creating a product that has limited use beyond long-term hedging. If cancellation rights were granted, one form of exit fee would be to maintain the reduction of traditional ARRs that were forfeited as payment for the LT-ARR through the original term of the LT-ARR (see next section for details on payment).

This would not preclude bilateral trading of this right, however, the underlying security might be recalled in the event of lost load obligation.

Residual auction revenue distributed based on current ARR methodology; LT-ARR holders would trade in traditional ARRs as "payment" for the LT-ARR

After allocating the value of the LT-ARRs (based on the annual FTR auction clearing price of the respective FTR path) to the LT-ARR holders, the residual annual FTR auction revenue and all monthly FTR auction revenue would continue to be distributed to LSEs according to the current ARR mechanism. This would still represent the majority of auction revenues given the limited volume of LT-ARRs awarded.

As "payment" for the LT-ARR, an LSE that elected to receive an LT-ARR would forego a portion of their traditional ARRs. The trade-in value would be based on their value (i.e., clearing price times volume) at the time of initial allocation; it would not be based solely on the volume

because of the value inequity between the LT-ARR and the traditional ARR. A premium could also be added to this value, given that the pricing would occur at the beginning of the term for a one year period despite it representing a ten year right.

For example, an LSE is granted a 100MW LT-ARR that has an annual FTR auction clearing price of \$1,000/MW-year, a \$100,000 value. Absent any LT-ARRs, the LSE would have received 500MW of traditional ARR that would have had a value of \$500/MW-year, a \$250,000 value. With the LT-ARR, the LSE trades in the \$100,000 and receives only \$150,000 of value in the annual auction, which is equivalent to 300MW (note this is a 2:1 trade-in based on volume). For the life of the LT-ARR, the LSE would forfeit 200MW of traditional ARRs.

Annual and monthly FTR auctions unchanged except for provision enabling point-to-zone LT-ARR holders to self-schedule into annual auction and acquire the FTR without actively participating in the auction

The action of self-scheduling enables a market participant who holds an LT-ARR to avoid the need to place a winning bid in an FTR auction to receive the FTR specified by the LT-ARR. In self-scheduling, the LT-ARR holder acts as a price taker, i.e., places a bid for infinite value, into the annual auction for the exact path that the LT-ARR specifies. Given that the LT-ARR grants the holder the revenue generated from this specific path, there is no explicit financial gain/loss to the LT-ARR holder to acquire the FTR.

Compliance with FERC NOPR

1. An LTTR must specify a source, sink and fixed quantity

The LT-ARR defines a path from a source node based on historical generation to the sink zone. The volume is fixed to the recent baseline load. Per the reassignability clause (Guideline 6), the quantity is fixed inasmuch as the baseline load is maintained above the allocated volume of LT-ARRs.

2. The value of the LTTR hedge is fixed for its term

Full funding is a separate aspect of the LTTR issue that is not addressed in this proposal. We would expect that all FTRs would be fully funded given that the FTR product itself would be indistinguishable between one self-scheduled via an LT-ARR and one awarded to a winning bidder in a traditional annual or monthly FTR auction.

3. Parties that pay for transmission expansion are eligible to receive LTTRs

Not explicitly discussed in this proposal, however, point-to-point LT-ARRs could be granted and self-scheduled into annual auctions. On a related note, generator interconnections that increase the capability of the system would, of course, also be granted LT-ARRs.

4. LTTRs must have an effective minimum term of ten years

The LT-ARR is defined to have a 10-year minimum lifetime. So long as the LSE continues to serve sufficient baseline load to that zone they would be eligible to request the same LT-ARR at the end of the 10-year term.

5. Load Serving Entities (“LSE”) have priority over non-LSEs in the allocation of LTTRs

Given that pathwise point-to-zone ARR would only be granted to market participants based on their baseline load served, LSEs would inherently have priority over non-LSEs in receiving FTRs so long as they chose to self-schedule. No priority is given when an LSE bids a finite value for a path that is below or at the clearing price (i.e., pro-rata share of available volume if bid at clearing price).

6. Rights are re-assignable to follow load

The LT-ARRs held by the original LSE would be forfeited pro-rata across their portfolio of LT-ARRs to that zone where they lost load; the new LSE could elect to take title of the pro-rata share of LT-ARRs or simply receive traditional ARR revenue. In the subsequent planning year the new LSE could request LT-ARRs to match their eligibility and needs. Any associated FTRs acquired through self-scheduling the LT-ARR would not be transferable through the ISO (but could be transferred via a bilateral agreement).

7. LSEs do not have to participate in an auction to acquire LTTRs

Holders of LT-ARRs will be able to self-schedule their LT-ARRs to convert into annual FTRs without placing an actual bid into the auction.