

## **Overview of Filing Utilities' "Convergence" Congestion Management Proposal**

### **Introduction**

The proposed approach for RTO West congestion management described below reflects the extensive discussion, data gathering, and analysis completed within the RTO West Stage 2 Congestion Model Content Group (CMCG) over the past many months. Consistent with a number possible options discussed within the CMCG recently, the approach described below is not based on physical scheduling rights across flowgates, but instead reflects a hybrid system of pre-existing scheduling rights and financial rights tied to particular points of injection and withdrawal on the RTO West transmission system.

The approach described below represents a convergence of key elements embodied in different congestion management options developed within the CMCG. It is based on a combination of voluntary decisions and positive incentives designed to balance protection of existing rights with the need for a new, more liquid market structure. This approach recognizes that an acceptable congestion management model must not interfere with ability to serve load reliably or cause involuntary price shocks.

For those participants who view increased liquidity in transmission markets as critical to the success of an RTO, there are specific assessments and tools to enable RTO West to promote release of unscheduled capacity into the primary or secondary trading markets. For those that believe that moving to a more market-based congestion management approach should not increase price risk to loads that have paid for existing rights and facilities, the decision to convert existing contract rights is completely voluntary. At the same time, the approach described below contemplates that there will be incentives to promote voluntary conversion of existing rights into tradable financial rights, so that more capacity will be available in secondary markets.

The Filing Utilities have developed the proposal described below intending to capture key elements in common among several congestion management options discussed within the CMCG in recent months. By doing so, they hope to create a path for moving past the recent stalemate within the CMCG based differences among various congestion management options.

The approach described below is a proposal for further exploration and evaluation. It does not represent an agreement to incorporate this approach into a FERC filing. The Filing Utilities hope, however, that given sufficient review and analysis within their own organizations and among other stakeholders participating in the RTO West development process, it will serve as a workable foundation on which an initial congestion management model for RTO West can be built. The Filing Utilities also recognize that moving forward with this approach may require changes to the RTO West Transmission Operating Agreement (TOA) to reconcile differences between the approach described in this outline and the provision of the TOA.

## Outline of Key Aspects of Congestion Management Proposal

1. The RTO will establish energy balancing (inc/dec – consisting of loads and generation) markets with transparent bid prices tied to various locations on the system.
  - a. On Day 1 of RTO operations, there will be both a real-time and day-ahead redispatch markets (including voluntary inc/dec bids, voluntary demand exchange, voluntary repurchase of Financial Transmission Options (described in Section 2.b below), and any other reasonable technique that allows schedules to occur). The RTO will not, however, run a day-ahead energy market, which means that the RTO will not act as a buyer or a seller in the day-ahead market and that all scheduling coordinators will be required to submit balanced schedule requests (matching injections and withdrawals).
  - b. An ancillary services market will be established, within which self-tracking/self-provision of IOS (interconnected operations services) will be allowed.
2. Holders of pre-existing transmission agreements will have two choices: to retain their pre-existing contract rights (subject to the need to catalogue those rights as described in item 2.a.i below) or to convert their pre-existing transmission rights into Financial Transmission Options (as described in item 2.b below). The decision to convert pre-existing contracts is completely voluntary for all parties, including Participating Transmission Owners (PTOs), but holders of pre-existing transmission rights will need to convert their contracts to make their rights tradable as Financial Transmission Options. See item 6 below for further information about incentives for voluntary conversion.
  - a. Catalogued Transmission Rights.
    - (i) All pre-existing transmission rights that are not voluntarily converted to Financial Transmission Options will have to be “catalogued” in terms of injection/withdrawal rights (amounts and location of injections and amounts and location of withdrawal) before the start of RTO operations. (In this outline, pre-existing transmission rights that have not been converted but have been catalogued are referred to as “Catalogued Transmission Rights”).
    - (ii) There will be sets of rules for cataloguing pre-existing contract rights (but a process that is consistent with underlying contract rights and recognizes the uniqueness of each contract, such as contracts with bi-directional rights). This process will define rules addressing: (1) what the rights holder can schedule under the preexisting contract; and (2) the range of obligations the RTO will have to manage to meet Catalogued Transmission Rights.
    - (iii) Need to develop process to determine source of any overselling and allocate cost/risk to the responsible party.

- (iv) Catalogued Transmission Rights will retain their flexibility as defined in the underlying contracts (load service can be maintained in the same fashion as today). The RTO will manage these Catalogued Transmission Rights with access to the system on the basis of the underlying contracts, with equivalent risk of curtailment and/or congestion costs (subject to restrictions on the magnitude of post-pre-schedule changes described in Section 4.b below). Additional costs not covered by Section 2.a.iii above will be uplifted.<sup>1</sup>

b. Financial Transmission Options

- (i) New and converted transmission rights will be options, financial, bus-to-bus injection and withdrawal pairs (referred to in this outline as “Financial Transmission Options”); but when they are traded in the secondary market they may be traded as a hub-to-hub product, provided that costs associated with any resulting increases in congestion are appropriately allocated.<sup>2</sup> On Day 1 the RTO will assure that there is an available transmission exchange for trading Financial Transmission Options (either by directly establishing the exchange or by arranging with a third party to operate the exchange).
- (ii) Pre-existing transmission contract rights that are converted will be translated into Financial Transmission Options. There will be rules set up to govern the conversion process. These rules will provide, among other things, that when a pre-existing rights holder elects to convert its rights (and the underlying contract is not a simple, Order 888 point-to-point contract where the dispatch is effectively defined), the conversion will require specifying, once every six months, a set of single feasible on-peak and off-peak dispatches for each monthly period. The RTO will maintain a list of all post-conversion rights and the RTO will ensure that the dispatch submitted is consistent with those rights.
- (iii) As more fully described in item 5 below, where there is a problem with insufficient liquidity, the RTO will have tools it can use to enhance liquidity. The general concept concerning costs associated with the RTO’s use of these tools is that those who benefit from the RTO’s actions to enhance liquidity will pay the costs the RTO incurs to take those actions.

- 3. The RTO will recognize diversity and flexibility across contracts and across PTOs. It will continually assess how much transmission capacity it will need to meet all expected schedules and make a judgment about how much remaining capacity there is on the

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<sup>1</sup> As explained further in item 3 below, while holders of Catalogued Transmission Rights will retain the flexibility of their underlying contracts, the RTO will see and assess system usage needs based on the aggregate set of all Catalogued Transmission Rights across the system. This “pooling” effect for Catalogued Transmission Rights should enable the RTO to honor schedules submitted in accordance with Catalogued Transmission Rights more efficiently than if each PTO’s system and Catalogued Transmission Rights were treated in isolation.

<sup>2</sup> More work is needed in this area.

system (consistent with expected outages and seasonal operating restrictions). It will auction all of the remaining capacity (ATC) as Financial Transmission Options, but will not unilaterally limit Catalogued Transmission Rights' flexibility to "create" ATC.

4. Scheduling coordinators will be able to submit schedule requests (if based on Catalogued Transmission Rights, then consistent with their underlying contract rights) as described below:<sup>3</sup>

- a. Pre-Schedule:

Scheduling coordinators must submit balanced schedule requests (injection and withdrawal pairs), but do not have to have Catalogued Transmission Rights or Financial Transmission Options to cover all of the schedules submitted. The RTO will receive all schedule requests (and scheduling coordinators with schedules that are not covered by Financial Transmission Options or Catalogued Transmission Rights will be able to submit their schedules with limit prices for congestion costs). Subject to technical feasibility and redispatch, the RTO will treat schedule requests as follows:

- Case 1 – Schedules submitted by scheduling coordinators with Financial Transmission Options or Catalogued Transmission Rights: The RTO will accept and confirm these schedules and they will not pay any congestion cost.
- Case 2 – "Market-price" schedules submitted by scheduling coordinators without Financial Transmission Options or Catalogued Transmission Rights: These are schedules that will pay whatever the RTO charges for congestion costs. Hence, the RTO will accept and confirm them on the same basis as those in Case 1.
- Case 3 – "Limit-price" schedules submitted by scheduling coordinators without Financial Transmission Options or Catalogued Transmission Rights: The limit price caps the congestion cost that the scheduling coordinator is willing to pay.

At the close of pre-schedule, the RTO will analyze all schedule requests as submitted and will notify scheduling coordinators with limit-price requests whether their specified price limits has been exceeded. Scheduling coordinators that have submitted schedule requests with limit prices that are below the RTO's forecast of congestions costs will have some mechanism to revise their schedule requests if they so desire (this mechanism needs to be developed).

- b. Schedule Adjustments After the Close of Pre-Schedule

The costs associated with adjusting schedules after the close of pre-schedule will be as follows (noting that with respect to schedules submitted against Catalogued

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<sup>3</sup> A "strawman" proposal with more detailed suggestions for the scheduling process is included as Attachment A for discussion purposes. The attached strawman proposal has not been accepted by any particular Filing Utilities.

Transmission Rights, all changes must be within contract rights of the underlying contracts):

- (i) All schedule changes will be accepted if they do not create additional congestion.
- (ii) If the schedule change causes additional congestion the scheduling coordinator pays for the incremental congestion costs resulting from the schedule change, except as otherwise provided in subsections (iii) and (iv) below.
- (iii) Forced outage is special case (need to develop rules for schedule changes relating to forced outages).
- (iv) If the schedule change does create additional congestion and the cataloguing process identifies the non-converted contract as having defined flexible rights, the scheduling coordinator can make changes within a defined “deadband” without being charged for RTO congestion clearing costs (the “deadband” concept needs to be defined; for example, it might be defined as a percentage of aggregate schedule or tied to individual injection/withdrawal pairs). Note also that schedule changes that result in incremental congestion outside the deadband will be subject to charges only for the amount of congestion outside the deadband.

5. If, after a period of time, there is a problem with insufficient liquidity on a particular path, there will be tools (as described below) for the RTO to respond to the problem. More work is needed to define what would constitute insufficient liquidity. One indicator of insufficient liquidity would be the lack of any meaningful transmission rights in either primary or secondary markets (firm capacity available six months forward or more) even though the path itself consistently has unused (and unexplained) capacity during the pre-schedule period.

(Note that if building occurs that creates additional capacity, the problem may go away.)

The RTO will have a series of tools it can use to meet its liquidity goals (and it would use them in the sequence specified below):

- (i) Tool 1 – The RTO looks at system-wide netting in view of actual dispatch (which it does under all circumstances anyway – here the difference is that it ratchets up its risk tolerance in making a judgment about how much “room” there is on the system after allowing for expected actual dispatch).\*\*
- (ii) Tool 2 – the RTO will facilitate forward purchases (inc/dec consisting of loads and generation) to create ATC [need to ensure that associated risk is borne by users of this ATC]\*\*

- (iii) Tool 3 – The RTO can offer compensation to holders of Catalogued Transmission Rights to agree to lock in their schedules ahead of time and then sell the capacity no longer needed to honor Catalogued Transmission Rights.
- (iv) Tool 4 – The RTO will be able to sell a forward product that does not assure complete protection from congestion costs, but has a ceiling of amount of congestion the buyer would have to pay for (and also provide information about history of congestion experienced between the applicable hubs during the period covered by the forward product).
- (v) Possible Tool 5 – RTO causes construction if that is provided for in the planning process and if it is cost-effective. (Note: There has been no decision to expand the RTO's authority to cause construction for this purpose.)

Note also that the market monitoring unit would look at whether there is someone holding a lot of capacity but not using it (at pre-schedule).

**\*\*Issue** – The general concept is that the buyers of these services will pay for their costs. We also need to address the question of who pays when the RTO is wrong and incentives for RTO to keep errors to a minimum (while also taking appropriate risks).

- 6. There will be incentives to convert pre-existing contracts into Financial Transmission Options. These incentives will apply to all holders of pre-existing contract rights, not just PTOs.
  - a. There is a built-in incentive to convert simple point-to-point contracts because it makes them tradable.
  - b. Significant further work is needed on rules for converting network contracts and other “flexible” contracts. If it can be made feasible from administrative, operational, and economic standpoints, it may be possible to develop procedures that allow rights holders to relinquish flexibility and sell forward the capacity that is freed up as a result. If feasible, the rights holder would be able decide how much of the contract and for how long it will implement the “partial” conversion.\*\*\*
  - c. Need to consider other possible incentives for conversion.

**\*\*\*Note:** – *the idea about possible “partial” network contract conversion would require a robust verification mechanism. It will work only if we figure out how to address the revenue adequacy problem and design conversion rules that prevent gaming and avoid the danger of unintended consequences (such as throwing off the expectations about actual dispatch of schedules under network contracts on which the RTO relied to predict future available capacity).*

*We also need to think through interaction with pricing model and how to create long-term multi-year rights.*

7. The Day 1 congestion management rules will be subject to a mandatory “sunset” at the end of three years (measured from the initiation of RTO commercial operations). At the end of three years, the RTO Board of Directors will file with FERC to continue with the congestion management rules then in effect or to adopt a new congestion management system, so long as the approach the Board adopts will result in a market with following attributes:
  - a. accommodates broad participation
  - b. sends efficient price signals to all users about the consequences of their transmission usage decisions
  - c. the generation that gets re-dispatched (from the voluntary re-dispatch bid stack) is the least cost to relieve the expected congestion
  - d. transmission rights are used by those that value them most highly
  - e. sends signals for appropriate investment (generation, including generator location; transmission; demand-response; etc.)
  - f. facilitates development of hedging tools
  - g. liquidity and tradability
  - h. doesn't impede reliability
  - i. ability to detect and respond to gaming and market power abuse
  - j. broad seamless market
  - k. subject to “rationality” test – proportionality between costs incurred and benefits to customers
  - l. preserves protection to parties holding pre-existing transmission rights for the terms of those rights.

## **Attachment A**

### **“Strawman” Example of Suggested Scheduling Process<sup>1</sup>**

#### A. Pre-Schedule Day Ahead Process

1. At the beginning of the pre-schedule process (9AM) Parties must submit balanced schedules (injection and withdrawal pairs), but do not have to have transmission rights to cover all of the schedules submitted. Subject to technical feasibility and redispatch, the RTO treats the schedules as follows:
  - Case 1: Schedules submitted by parties with an FTO or a pre-existing non-converted contract. The RTO will accept and confirm these schedules as they arrive for they will not pay any congestion cost.
  - Case 2: “Market-price” schedules submitted by parties without an FTO or a pre-existing non-converted contract. These are schedules that will pay whatever the RTO charges for congestion cost. Hence, the RTO will accept and confirm them on the same basis as those in Case 1.
  - Case 3: “Limit-price” schedules submitted by parties without an FTO or a pre-existing non-converted contract. The limit price caps the congestion cost that a Party is willing to pay. If a schedule’s limit price is above the RTO’s congestion cost quote at the time the schedules arrive, the RTO will accept and confirm the schedule. The RTO’s congestion cost quote is based on what the RTO can do (e.g., use inc/dec bids) in accommodating the transactions at their time of arrival. Should there be multiple schedules with limit prices above the RTO’s congestion cost quote, the RTO will accept and confirm those with the highest limit prices first. As the RTOs’ congestion cost quote may vary over time, a Party submitting limit-price schedules can also vary its limit price.
2. Financial settlement for the day-ahead scheduling occurs continuously during the pre-schedule period. For instance, a Party without an FTO or a pre-existing non-converted contract submits a schedule with a market price during the pre-schedule period. The RTO’s congestion cost quote at the schedule’s time of arrival is \$5/MWH. Once accepted and confirmed, the Party owes the RTO \$5/MWH to be transmitted. The amount owed does not change, even if the RTO’s congestion cost quote changes subsequently. To discourage Parties from not fulfilling accepted and confirmed schedules, the Parties are responsible for all the congestion cost owed, even if they do not use the transmission. (Note that the amount finally owed to the RTO can be tied to the balancing energy market settlement.)

#### B. The Schedule Adjustment Period-- The rules for adjusting schedules after the close of pre-schedule will be as follows:

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<sup>1</sup> This strawman proposal is for discussion purposes and has not been accepted by any particular Filing Utilities.

1. A forced outage is a special case (need to develop rules for schedule changes relating to forced outages). The intent is to cover a limited amount of congestion costs (either dollars or time) during a forced outage.
2. All proposed changes will be accepted if they do not create any additional congestion.
3. To preserve some flexibility in pre-existing non-converted contracts, the following exception will be made (noting that with respect to schedules submitted against pre-existing contract rights, all changes must be within the contract rights of the original pre-existing contract and reflected in the cataloguing process). If the schedule change does create congestion, the party can make changes within a defined “deadband” without being charged for RTO congestion clearing costs (the “deadband” concept needs to be defined; for example, it might be defined as a percentage of aggregate schedule or tied to individual injection/withdrawal pairs). If the schedule causes congestion that is outside the deadband, the party pays for the incremental congestion costs (outside the deadband) resulting from the schedule change.
4. Balancing energy market settlement. Because of unexpected changes in accepted and confirmed schedules, the RTO will rely on the balancing energy market to maintain reliable grid operation in real time. A Party that injects more (less) power than the scheduled amount (outside a deadband of say 5%) will receive from (pay to) the RTO the excessive (deficient) energy price times the excessive (deficient) MWH. The excessive energy price may be less than the deficient energy price to discourage strategic bidding and intentional violation of an accepted and confirmed schedule.
5. Penalty for over-reliance on the balancing energy market. A Party may consistently fail to perform per accepted and confirmed schedule. There should be a per MWH penalty that increases with the extent and frequency of failures.
6. Final *ex post* settlement. The RTO will collect from each party the following items:
  - (i) Congestion cost settlement in the pre-schedule process. For Parties with FTO or a non-converted contract, the amount is zero.
  - (ii) Balancing energy settlement as described in (4).
  - (iii) Penalty for over-reliance on balancing energy described in (5).

(Note: Suppose the over-reliance penalty is zero. Should the total payment be the (a) sum of (i) and (ii) or (b) the greater of (i) or (ii)? (a) may cause double billing and discourage participation in the pre-schedule market. (b) may cause under-collection if the RTO already committed to paying the inc/dec bids that make a confirmed transaction possible. This is something that needs more thinking)