



Operating Procedures

ISO New England Operating Procedure No. 9

*Scheduling and Dispatch of External
Transactions – Appendix A – Mapping of
External Transactions to Transmission
Reservations*

Effective Date: September 8, 2009
Revision No. 2

Appendix A: Mapping of External Transactions to Transmission Reservations

The business practices described in this Appendix establish conventions for matching requested energy profiles with transmission service reservations from transmission service providers within the New England Control Area.

This Appendix provides examples to illustrate the mapping of Real-Time Energy Market transactions to the advance transmission reservations. The mapping is based on the order in which the transactions are submitted and the order in which the transmission reservations are listed by the submitter in the External Transaction submittal software. In the examples, all reservation numbers refer to confirmed OASIS reservations specified in an External Transaction submittal over a single Control Area interface by the entity identified as the Transmission Customer in the OASIS posting of the reservation. All quantities are in whole megawatts (MWs).

Definitions:

Vertical Stacking: In a given hour, the External Transaction is mapped to more than one reservation from a single transmission service provider. The External Transaction is mapped to the reservations based on the order in which the reservations are specified in the External Transaction submittal software. The transmission priority assigned to the External Transaction will be based on the lowest of the mapped transmission reservation priorities.

Horizontal Stacking: In a given hour, the External Transaction is mapped to a single reservation. In a different hour, the same External Transaction is mapped to a different reservation. The transmission priority assigned to the External Transaction will be based on the lowest of the transmission reservation priorities mapped for that External Transaction in all hours.

Examples Provided:

- Example 1. Multiple transactions, single reservation.
- Example 2. Vertical Stacking, general example
- Example 3. Vertical Stacking, detailed example
- Example 4. Horizontal Stacking, general example
- Example 5. Horizontal Stacking, detailed example

Example 1. Multiple transactions, single reservation

A single reservation is mapped to multiple External Transactions based on the order in which the transactions are received and validated. Company A submits External Transactions #1, #2, #3 and #4, in that order, with the indicated energy profiles and reservation information. Reservation #11111 is for the same day of the transactions for 150 MW for all hours.

	Trans. 1	Trans. 2	Trans. 3	Trans. 4
HE 01 – 07	0	50	50	100
HE 08 – 23	100	50	50	0
HE 24	0	50	50	100

The tables below demonstrate how the OASIS reservation will be assigned to the External Transactions as part of the approval process.

As shown below both External Transactions 1 and 2 have adequate capacity available on the reservation to support the transactions and would be approved.

	Reservation #11111 Capacity	Trans. 1 (approved)	Reservation Capacity Remaining After Trans. 1	Trans. 2 (approved)	Reservation Capacity Remaining After Trans 2
HE 01 – 07	150	0	150	50	100
HE 08 – 23	150	100	50	50	0
HE 24	150	0	150	50	100

Because there is not enough capacity in HE 08 – 23 to cover External Transaction 3, the transaction is denied and the capacity remaining on the reservation remains available for use on another transaction. When Transaction 4 is evaluated, there is adequate capacity on the reservation to cover the transaction and it is approved.

	Remaining Capacity on #11111	Trans. 3 (denied)	Reservation Capacity Remaining After Trans. 3	Trans. 4 (approved)	Reservation Capacity Remaining After Trans 4
HE 01 – 07	100	50	100	100	0
HE 08 – 23	0	50	0	0	0
HE 24	100	50	100	100	0

Example 2. Vertical Stacking, general example

An example of Vertical Stacking would be a single External Transaction with more than one reservation specified to import energy in a given hour. Company A submits External Transaction #12345 for 100 MW for hours ending 8 through 10 to be scheduled against reservations #1 and #2, each of which is for 50 MW for hours ending 8 through 10.

	HE 8	HE 9	HE 10
Trans. #12345 (100 MW)	*****		
Res.#1 (50 MW)	-----		
Res. #2 (50 MW)	-----		

Example 3. Vertical Stacking, detailed example

Input:

- External Transaction #5, self-schedule of 200 MW, HE 1 – 24.
- Reservation #22222, daily firm service, 150 MWs for all hours of the transaction
- Reservation #33333, Daily Non-Firm Service, 150 MWs for all hours of the transaction

Company A submits External Transaction #5 linking reservations #22222 first then linking reservation #33333. The reservations will be assigned to the transaction in the order in which they were linked to the transaction. The capacity from the first reservation will be fully utilized before the second reservation is utilized. The resulting priority of the transaction will be the lower priority of the two reservations, which is Daily Non-Firm Service.

	Trans. 5	Res. #22222		Trans. 5 not covered by Res #22222	Res. #33333	
		Cap. assigned to Trans 5	Capacity remaining		Cap. assigned to Trans 5	Capacity remaining
HE 01 – 07	200	150	0	50	50	100
HE 08 – 23	200	150	0	50	50	100
HE 24	200	150	0	50	50	100

Example 4. Horizontal Stacking, general example

Horizontal Stacking refers to the mapping of multiple reservations to a single External Transaction with no overlapping hours (see definition above).



Example 5. Horizontal Stacking, detailed example

Inputs:

- External Transaction #6, self-schedule of 100 MW, HE 1-24
- Reservation #44444, Daily Non-Firm Service, beginning at 00:00 and ending at 07:00 on the day of the transaction, 200 MWs in all hours.
- Reservation #55555, Hourly Non-Firm Service, beginning at 07:00 and ending at 24:00 on the day of the transaction, 100 MWs in all hours.
- Reservation #66666, Daily Non-Firm Service, beginning at 23:00 and ending at 24:00 on the day of the transaction, 100 MWs in all hours.

Company A submits External Transaction #6 linking reservations #44444, #55555 and #66666. Since the reservations do not overlap, the order in which they are linked will not affect the resulting available capacity on the reservations. A transmission priority associated with the Hourly Non-Firm Service would be assigned to transaction #6 because it is the lowest priority of all reservations.

Because reservations #44444 and #55555 provide transmission service for External Transaction #6 for the full time period of the transaction, no capacity is assigned from reservation #66666.

	Trans. 6	Res. #44444			Res. #55555			Res. #66666		
		Capacity available	Capacity assigned	Capacity remaining	Capacity available	Capacity assigned	Capacity remaining	Capacity available	Capacity assigned	Capacity remaining
HE 01 – 07	100	200	100	100						
HE 08 – 23	100				100	100	0			
HE 24	100				100	100	0	100	0	100

OP 9 Appendix A Revision History

Document History (This Document History documents action taken on the equivalent NEPOOL Procedure prior to the RTO Operations Date as well revisions made to the ISO New England Procedure subsequent to the RTO Operations Date.)

Rev. No.	Date	Reason
Rev 1	02/01/05	Updated to conform to RTO terminology
Rev 2	09/08/09	Updated to remove reference to MEPCO and clarified current mapping of Real-Time Energy Market transactions.; Globally, minor grammatical, punctuation, capitalization, bolding and formatting changes