

Manual 12: Balancing Operations- Updates

Attachment F: Dynamic Transfers

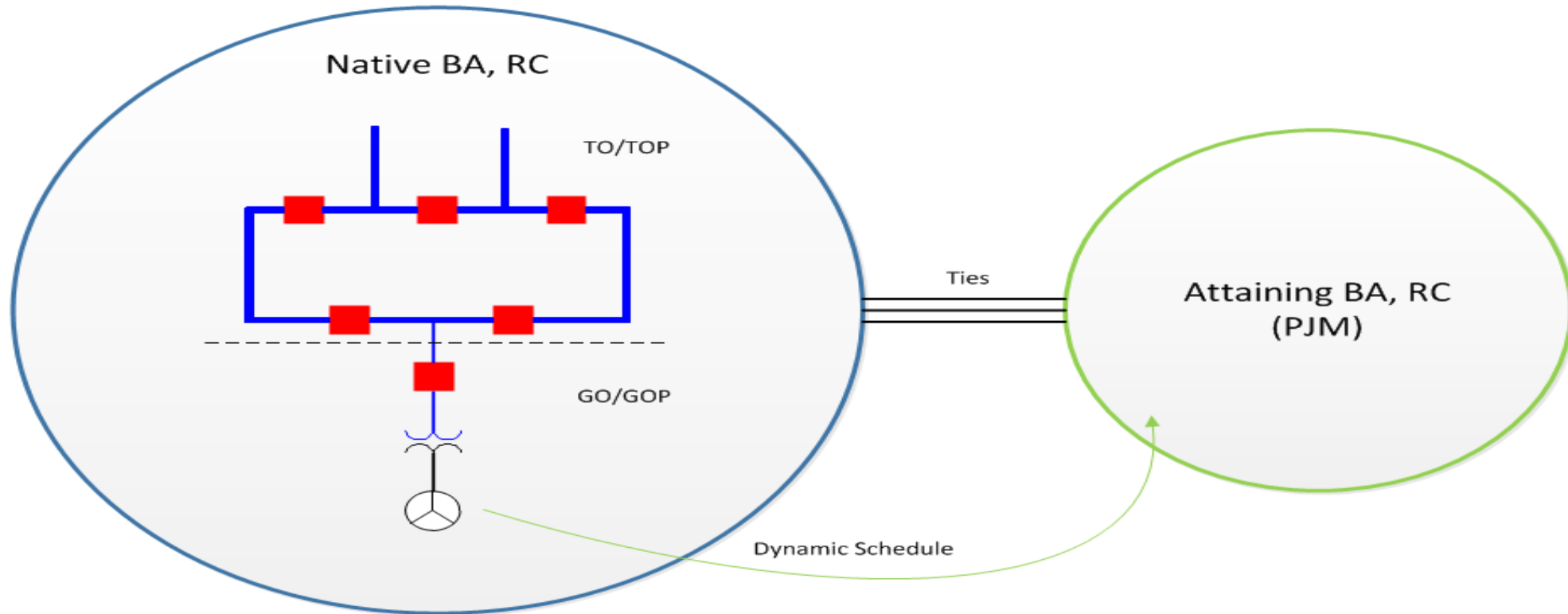
System Operations Subcommittee – 01/27/2016

Operating Committee – 02/09/2016

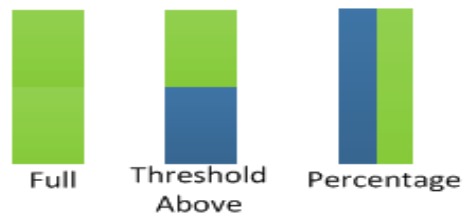
Markets Implementation Committee – 02/10/2016

- Current Whitepaper on PJM's position, reviewed at OC, MIC in March 2014
 - to be retired after proposed manual changes are endorsed.
- Proposed inclusion as Attachment F to PJM Manual 12: Balancing Operations
 - Draft redline version provided as first read for review and comment.
 - PJM also working with neighboring ISOs for feedback
- Key Drivers include: NERC Standard changes, Capacity Performance, PJM/MISO coordination efforts

Dynamic Schedule

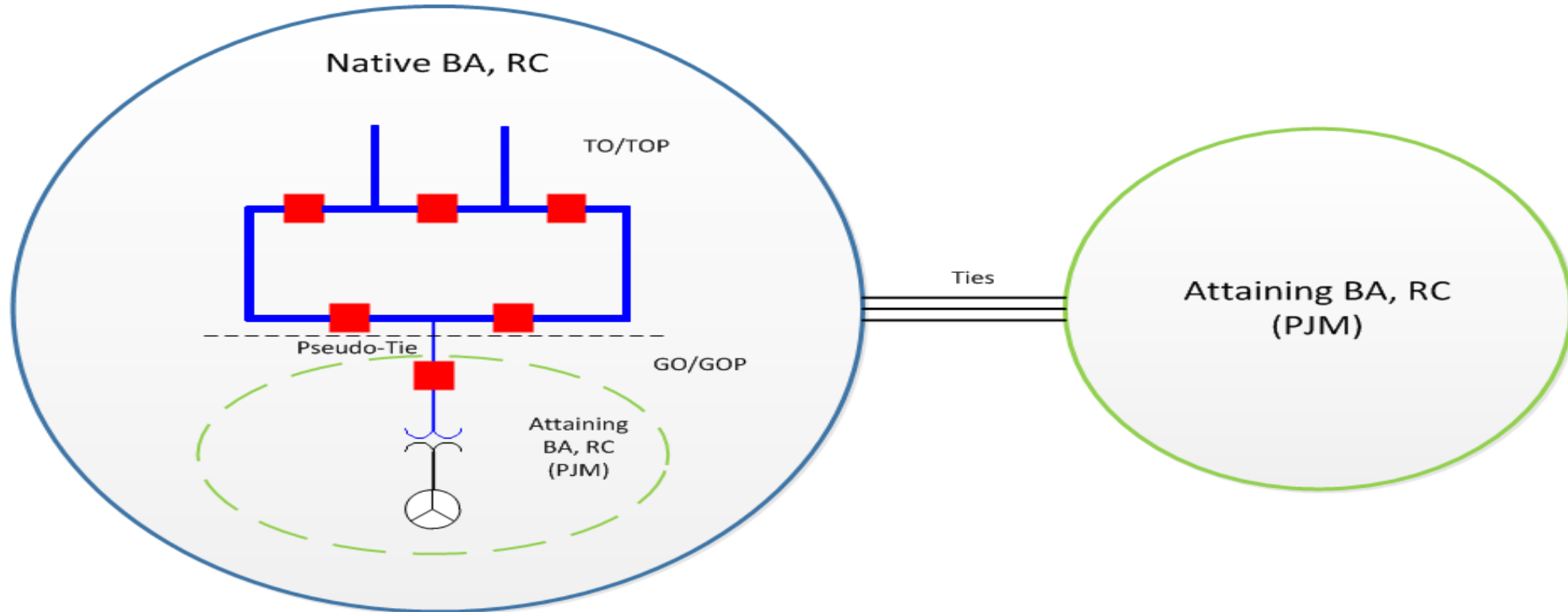


Methods:

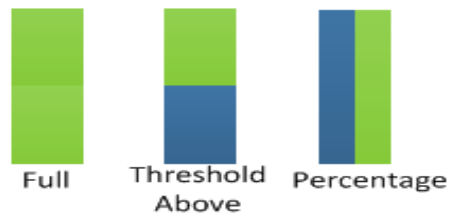


Dynamic Interchange Schedule or Dynamic Schedule: A time-varying energy transfer that is updated in Real-time and included in the Scheduled Net Interchange (NIS) term in the same manner as an Interchange Schedule in the affected Balancing Authorities' control ACE equations (or alternate control processes)

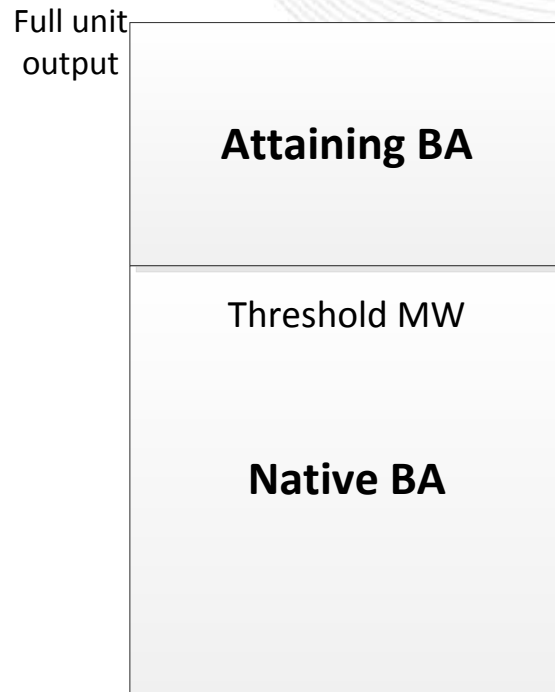
Pseudo-Tie



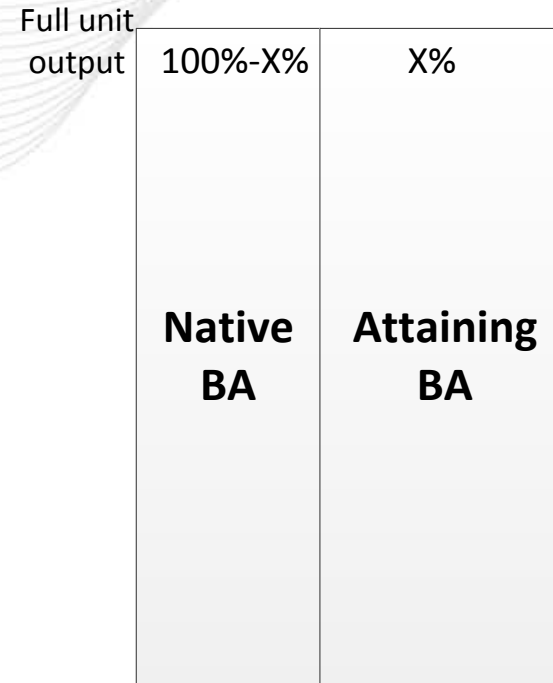
Methods:



Pseudo-Tie: “A time-varying energy transfer that is updated in Real-time and included in the Actual Net Interchange term (NIA) in the same manner as a Tie Line in the affected Balancing Authorities’ control ACE equations (or alternate control processes)”



Dynamic Transfer of unit's output above a Threshold value
(**Pseudo-Tie and Dynamic Schedule**)



Dynamic Transfer of a percent of unit's output
(**Pseudo-Tie and Dynamic Schedule**)

- Capacity
 - Whitepaper: Both Dynamic Schedules and Pseudo-Ties can be used to meet capacity obligation
 - Manual: Capacity Performance resources need to be pseudo-tied. Effective 6/1/2020, Dynamic Schedules cannot provide capacity.
- Energy
 - Whitepaper: Dynamic Schedules and Pseudo-Ties can receive Economic Basepoints depending on modeling
 - Manual: Dynamic Schedules will only receive interface pricing. No unit specific Economic Basepoints.

- Regulation
 - Whitepaper: Allow both Dynamic Schedules and Pseudo-ties if capable
 - Manual: Pseudo-ties with entire unit output and **above** threshold to participate only in Attaining BA
- Synchronized Reserve
 - Whitepaper: Allow both Dynamic Schedules and Pseudo-ties if capable
 - Manual: Allow Pseudo-ties with entire unit output and **above** threshold to participate
- Non- Synchronized Reserves
 - Whitepaper: Allow both Dynamic Schedules and Pseudo-ties if capable
 - Manual: Allow Pseudo-ties with entire unit output only in Attaining BA

- Whitepaper: Allow changes to Threshold or Percentage prior to 0000 hrs. of an Operating Day.
- Manual:
 - For Dynamic Schedules, Threshold or Percentage changes to be submitted and approved before Day-Ahead markets for both BAs are executed. Change made effective 0000 hrs. of Operating Day.
 - Pseudo-Ties can only change Threshold or Percentage after confirmation of additional Firm Transmission Service for a minimum term of 1-year
 - Requires approval from all BA/RCs

- Minimum term of a Dynamic Transfer is one year
- May need BA - BA agreement / Joint Operating Agreement if Native BA needs to operate a Pseudo-Tied resources to serve its needs.
- A resource can only use one Dynamic Transfer method: Pseudo-Tie or Dynamic Schedule.
- Day-Ahead Scheduling Reserve Credit eligible when entire unit output is Pseudo-tied.
- PJM may require to model a Dynamic Schedule instead of Pseudo-Tie depending on modeling efforts/ congestion modeling limitations.
- Response to TLR curtailments and coordination responsibilities to GO/Market Participant.

- First Reads, Second Reads (Endorsement):
 - SOS: January 27, 2016, February 24, 2016
 - OC: February 8, 2016, March 8, 2016
 - MIC: February 9, 2016, March 9, 2016
 - MRC, MC: March 31, 2016, April 28, 2016
- OATT/ OA Revisions FERC filing - May 1, 2016
- July 1, 2016 implementation - Targeted

- Manual Changes
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 - Dave Souder
 - david.souder@pjm.com, Phone: 610-666-4795
- Dynamic Transfer Request Form
 - <http://pjm.com/about-pjm/member-services/member-forms/dynamic-transfers/form-dynamic-xfer-request.aspx>
 - PJM Member Services/Client Manager, Phone: 610-666-8980