

- **Schedule-based curtailments**
- **Prior to flow curtailments on the Network**

Alignment of Methodology and Process for Congestion Management and Curtailment on MOD 29 Paths and MOD 30 Flowgates



Background & Description

- These projects are intended to align methodologies and processes for management of MOD 29 paths and MOD 30 flowgates (the Network).
- Drivers: In assessing 15-minute scheduling impacts on systems and processes across BPA, Transmission Services identified a functional need for their curtailment methodologies to better align for the management of MOD 29 paths and MOD 30 flowgates
 - Align methodologies, processes, tools and vocabulary between scheduling and dispatch
 - Make the process simpler, more transparent, and more manageable
 - Consistency with FERC guidance
 - Ensure reliability
- Several changes were identified to improve congestion management and curtailments in the 15-Minute Scheduling paradigm
 - Policy: Move to schedule-based, pro-rata curtailment on MOD 29 paths (same as MOD 30)
 - Policy: Proactively manage MOD-30 flowgates ahead of the hour and ahead of the 15-minute interval
 - Roles/Responsibilities:
 - Scheduling management of MOD 29 paths and MOD 30 flowgates ahead of the hour/interval
 - Dispatch management of MOD 29 paths and MOD 30 flowgates within the interval

Schedule-Based, Pro-Rata Curtailment for MOD 29 Paths

- Background:
 - BPA Transmission Scheduling currently uses reservation-based methodology on MOD-29 paths while Dispatch uses schedule-based on MOD-30 Flowgates
 - Reservation-based calculations are complicated and lack transparency
- BPA is considering the move to a schedule-based, pro-rata curtailment methodology for MOD 29 Paths
- Drivers:
 - Facilitates the end state of Scheduling and Dispatch being aligned in methodology for congestion management and curtailment
 - Supports the reliability mission
 - Simpler, schedule-based methodology is more repeatable and more straightforward to automate and support
 - Better supports timeline for offering 15-Minute Scheduling
 - FERC Preference - In comments related to Order 890, FERC clearly states that pro rata curtailment based on schedules is preferable to pro rata curtailment based on reservations

Managing MOD 30 Flowgates ahead of the Hour/Interval

■ Background:

- 15-Minute Scheduling introduces the need for more proactive management of flowgates
 - Avoid the situation where a curtailment is made in the current interval, but leaves future interval(s) at risk
- Experience with the North of Echo Lake pilot suggests managing flowgates ahead of the hour is a viable mechanism to help avoid issues within the hour

■ BPA is considering managing MOD 30 flowgates ahead of the hour/interval as part of the 15-Minute Scheduling Implementation

■ Drivers:

- Prevents ramping back into congestion
- Provides a mechanism for Scheduling to help alleviate some of the within-interval complications and process-demands on path management
- Avoidance of within-interval curtailments
- Avoidance of SOL excursions and violations
- Reduce need to use Stop Hourly Sales
- Managing ahead of the hour/interval allows more time for customers to be proactive in re-sourcing their schedules

What we do today

	MOD 29	MOD 30
Next Hour	<ul style="list-style-type: none"> •Reservation based Calculation •TOP 007 R2 •All MOD 29 paths •RT Schedulers •Non-Firm LIFO 	<ul style="list-style-type: none"> •Schedule based Calculation •TOP-007 R2 •Only NOEL •TO •Non-Firm Pro-Rata
In Hour	<ul style="list-style-type: none"> •Reservation based Calculation •TOP 007 R1 •All MOD 29 paths •RT Schedulers •Non-Firm Pro-Rata 	<ul style="list-style-type: none"> •Schedule based Calculation •TOP 007 R1 •All MOD-30 flowgate •TO •Non-Firm Pro-Rata

Proposal for the future...

	MOD 29	MOD 30
Next Hour & Next Interval	<ul style="list-style-type: none"> •Schedule based Calculation •TOP 007 R2 •All MOD-29 paths •RT Schedulers •Non-Firm Pro-Rata 	<ul style="list-style-type: none"> •Schedule based Calculation •TOP 007 R2 •All MOD-30 flowgates •RT Schedulers •Non-Firm Pro-Rata
Within Interval	<ul style="list-style-type: none"> •Schedule based Calculation •TOP 007 R1 •TO •All MOD 29 •Non-Firm Pro-Rata 	<ul style="list-style-type: none"> •Schedule based Calculation •TOP 007 R1 •TO •All MOD-30 flowgates •Non-Firm Pro-Rata

Project Implementation Plan

- Implementation of schedule-based approach to MOD 29 paths is needed prior to or in parallel with 15-Minute Scheduling.
 - As of today, BPA is reviewing systems and procedures to determine a more specific implementation date

- Implementation of managing MOD 30 flowgates ahead of the hour is needed in conjunction with 15-Minute Scheduling

Cross Project Impacts & Potential Impacts on Customers

■ Cross project Impacts

- Both changes are needed to support 15-Minute Scheduling implementation
- Neither change is anticipated to impact other identified projects

■ Potential customer impacts

- The change from reservation based to schedule based will not change the number nor magnitude of curtailments from the existing process. The change will result in a different allocation of the curtailment.
 - For customers who typically schedule to their full transmission rights, the impacts of curtailments may be reduced.
 - For customers who typically schedule below their full transmission rights, the impacts of curtailments may be increased.
- Customers may be curtailed ahead of the hour or interval, but will have the opportunity to use other transmission within the hour to meet business needs.

Next Steps

- BPA would like to hear from customers regarding both proposed policy changes
 - Schedule-based curtailment on MOD-29
 - Managing MOD-30 ahead of the hour/interval
- BPA would like to include these as future topics in this forum and in the upcoming customer forum.

Appendix

Relevant Compliance Citations

- Compliance with WECC Standard TOP– 007-WECC-1
 - R1 When the actual power flow exceeds an SOL for a Transmission path, the Transmission Operators shall take immediate action to reduce the actual power flow across the path such that at no time shall the power flow for the Transmission path exceed the SOL for more than 30 minutes.
 - R2 The Transmission Operator shall not have the Net Scheduled Interchange for power flow over an interconnection or Transmission path above the path's SOL when the Transmission Operator implements its real-time schedules for the next hour.
- Compliance with FERC Order 890-A
 - FERC stated in a response that Reservation based calculation *“would greatly increase the complexity of scheduling transactions at or near real-time operations, threatening reliability without providing significant competitive benefits”*. Order 890-A at P 977