

# **TC-20 Settlement Customer Workshop**

## **December 12, 2019**

# Hourly Firm

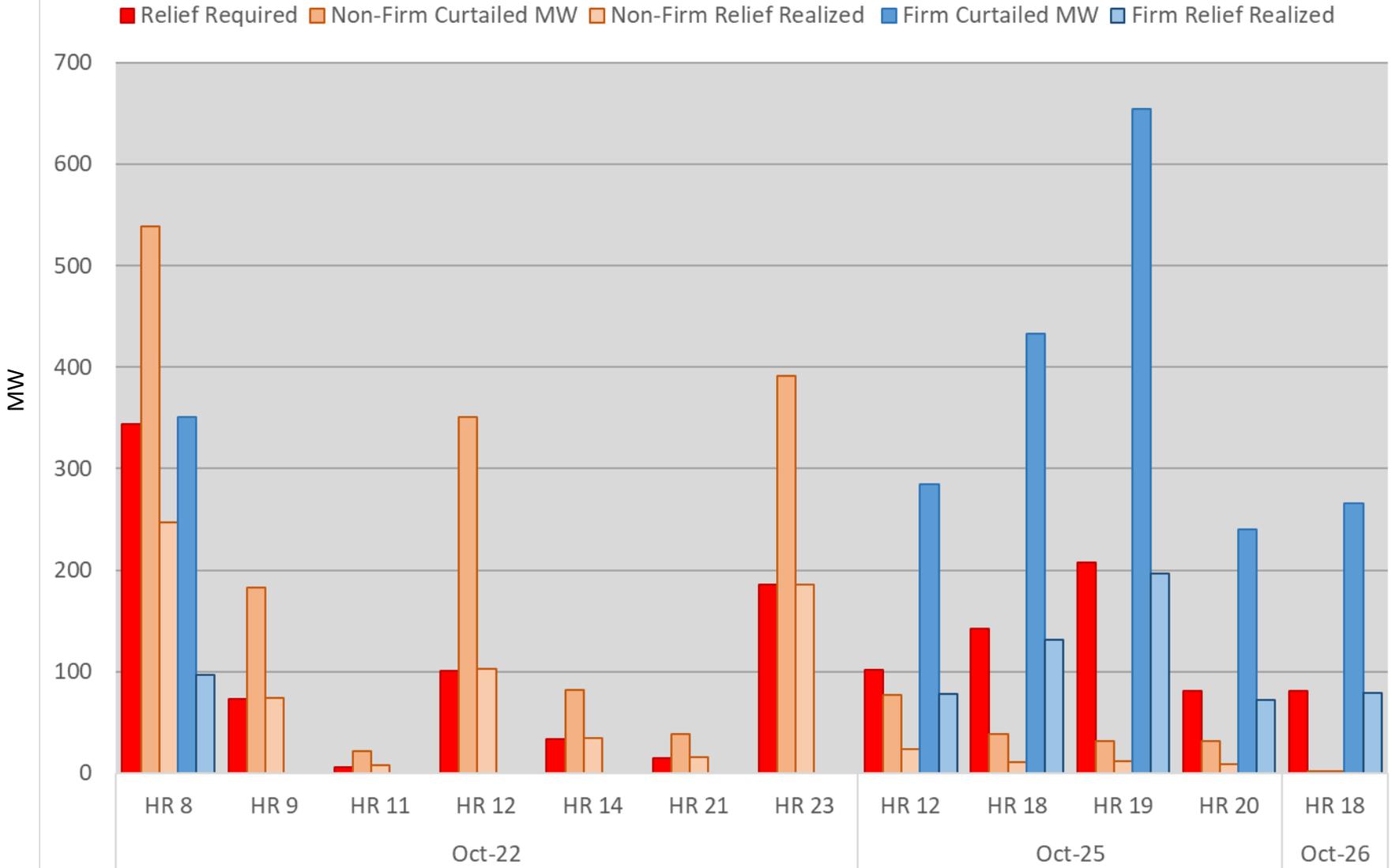
## Today's Objective

As committed in the TC-20 settlement, BPA will provide an update and share results of the evaluation of Hourly Firm based on the [Monitoring and Evaluation Plan](#).

# Overall Events

- **Curtailments:**
  - 12 events over 3 individual days (9/1 – 11/30 on NOEL)
- **TLR Avoidance Events:**
  - 22 events over 19 individual days (9/1 – 11/30 on NOEL)
- **Refused TSRs due to TLR Avoidance:**
  - 860 (9/1 – 11/30 - on NOEL)
- **Percentage of hours where actual flows were within 20% of TTC:**
  - 2.56% - System-wide (28.94% - NOEL only)

# Hourly Curtailment Detail - NOEL - Sept.-Oct. 2019

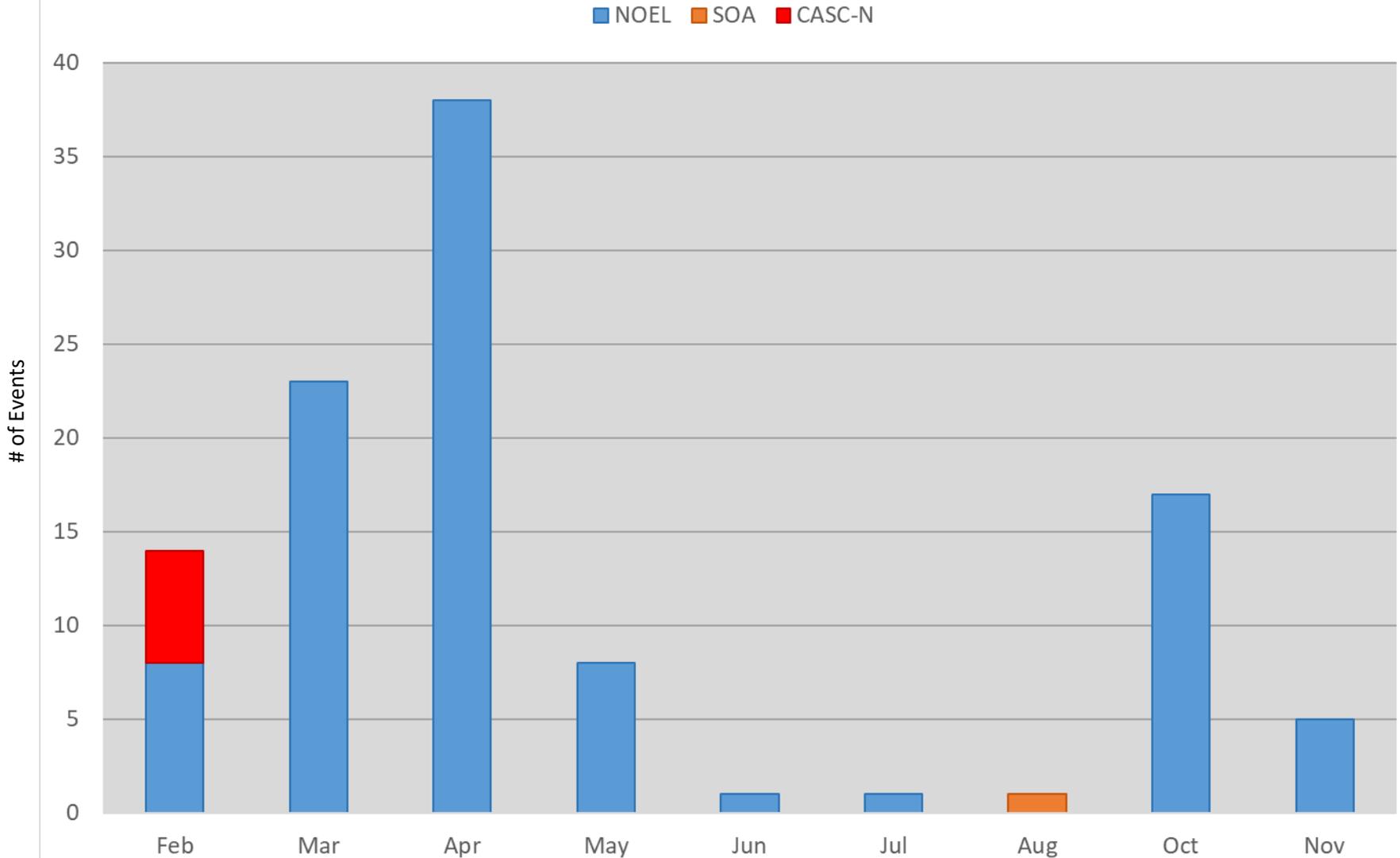


# TLR Avoidance Events – February-November 2019

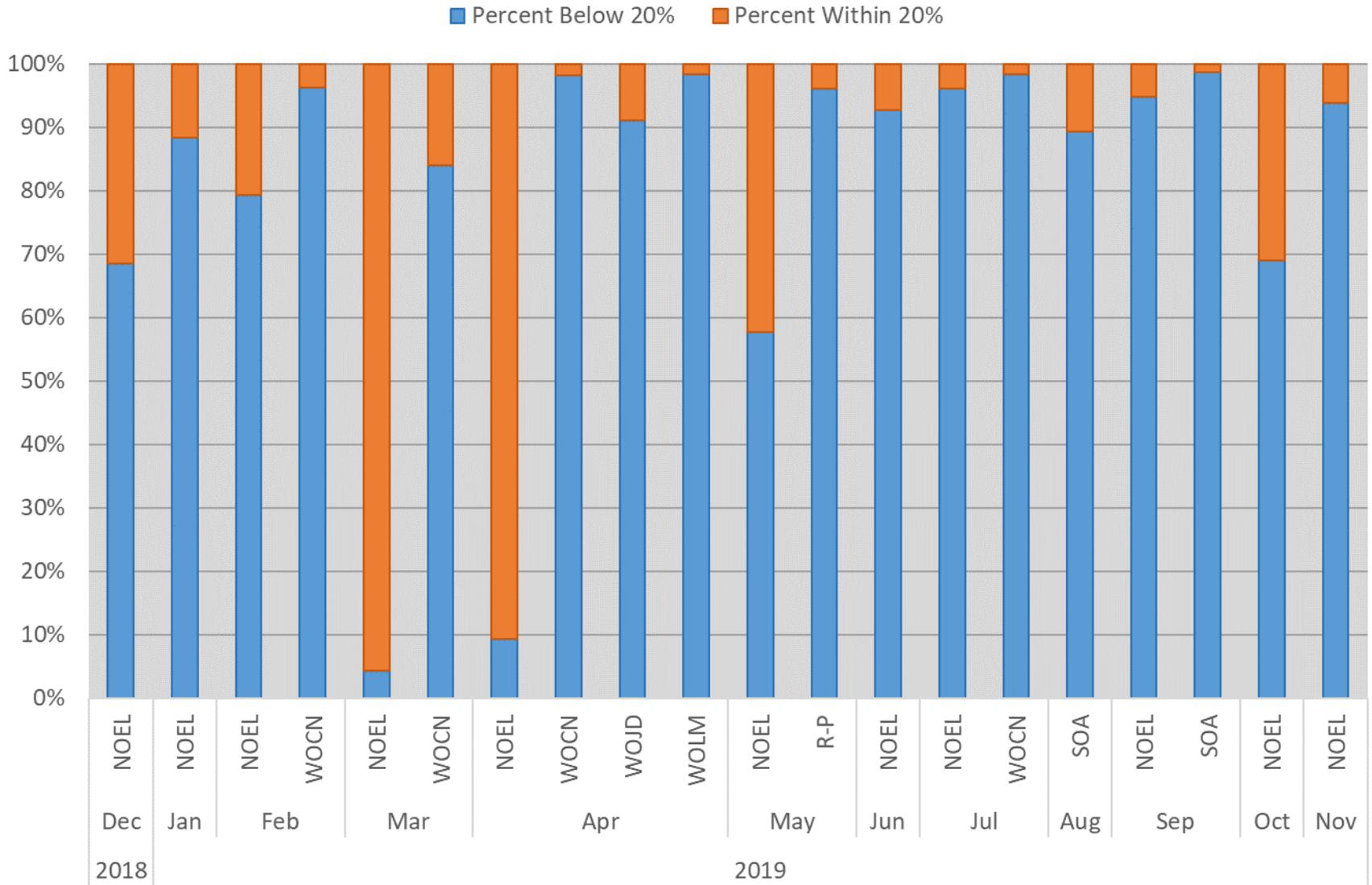
Count of TLR Avoidance Events	Days/ Hours Impacted	Refused TSRs	Flowgate	Annotation	Initial Start	Final Instance
<b>Total: 108</b>	<b>Total: 84 / 1472</b>	<b>Total: 2341</b>	-	-	<b>2019-02-01 00:00:00 PS</b>	<b>2019-11-30 23:59:00 PS</b>
93 Firm / 8 Non-Firm	83 / 1468	2108	N_ECOL_S>N	North of Echo Lake mitigation	2019-02-03 14:00:00 PS	2019-11-19 13:00:00 PS
3 Firm / 3 Non-Firm	3 / 64	215	C-CASC_N	Restricting Transmission Sales on WOCN per Dispatch Instructions	2019-02-22 10:00:00 PS	2019-02-24 20:00:00 PS
1 Firm	1 / 4	18	SOALSN	South of Allston mitigation	2019-08-06 16:00:00 PD	2019-08-06 20:00:00 PD

\*Days and Hours impacted count is not mutually exclusive.

# TLR Avoidance Events - February - November



# % of Hours with Actual Flows Within 20% of TTC

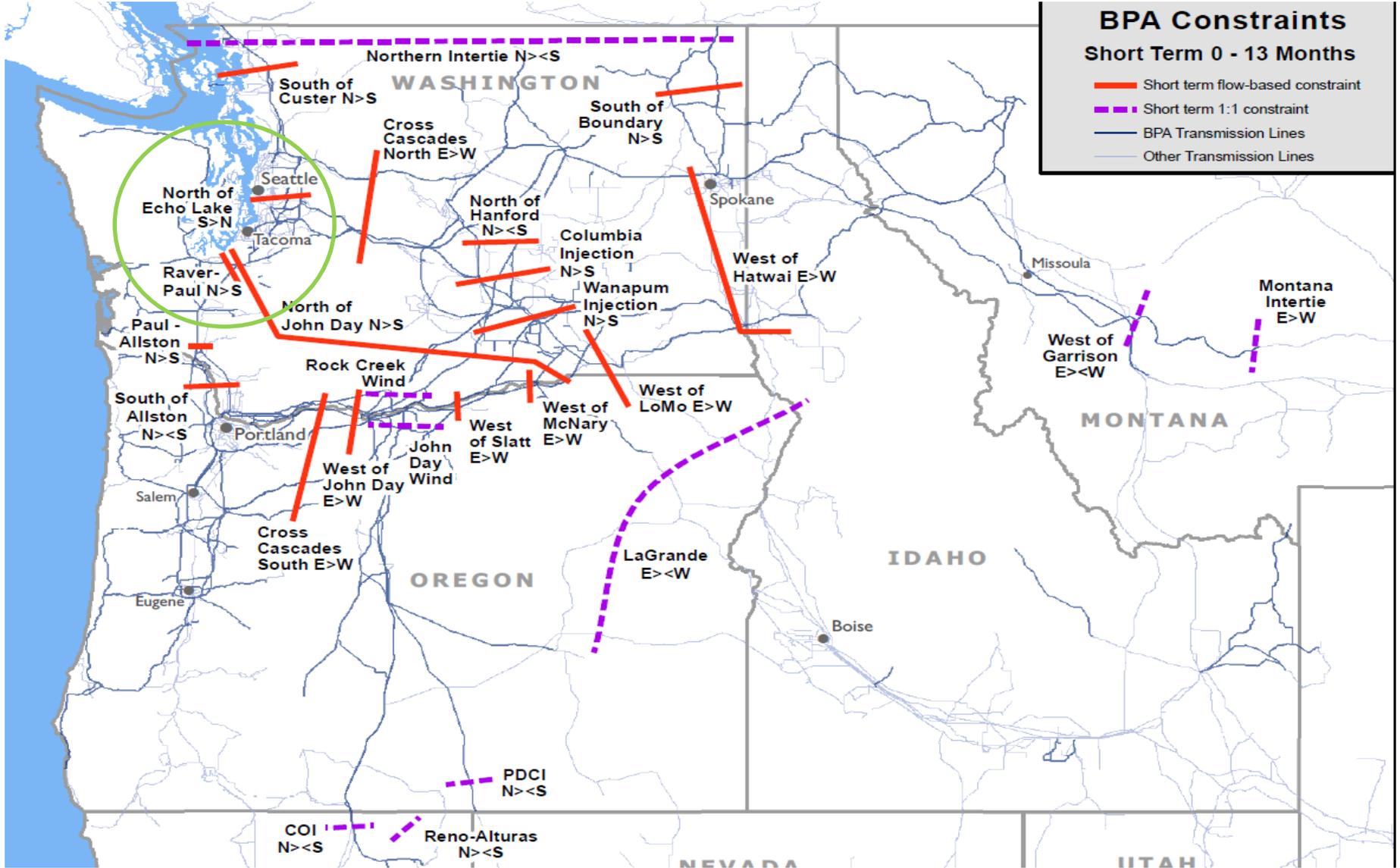


\*Chart includes information for flowgates with greater one percent of hours where actual flows were within 20% of TTC.

# DEEP DIVE

**OCTOBER 21,22,23 2019**  
**NORTH OF ECHO LAKE**

# ATC Short Term Constraints



## Deep Dive Conditions

- Timeframe – October 22 – November 1
- Curtailment Events – 12
  - (Reliability curtailments on network flowgate NOEL per associated mitigation plan)
- TLR Avoidance Events – 13 (11 individual days)
- Planned Outages – (Detailed on following slide)
- Weather Conditions were average for this period

## Dispatcher Actions

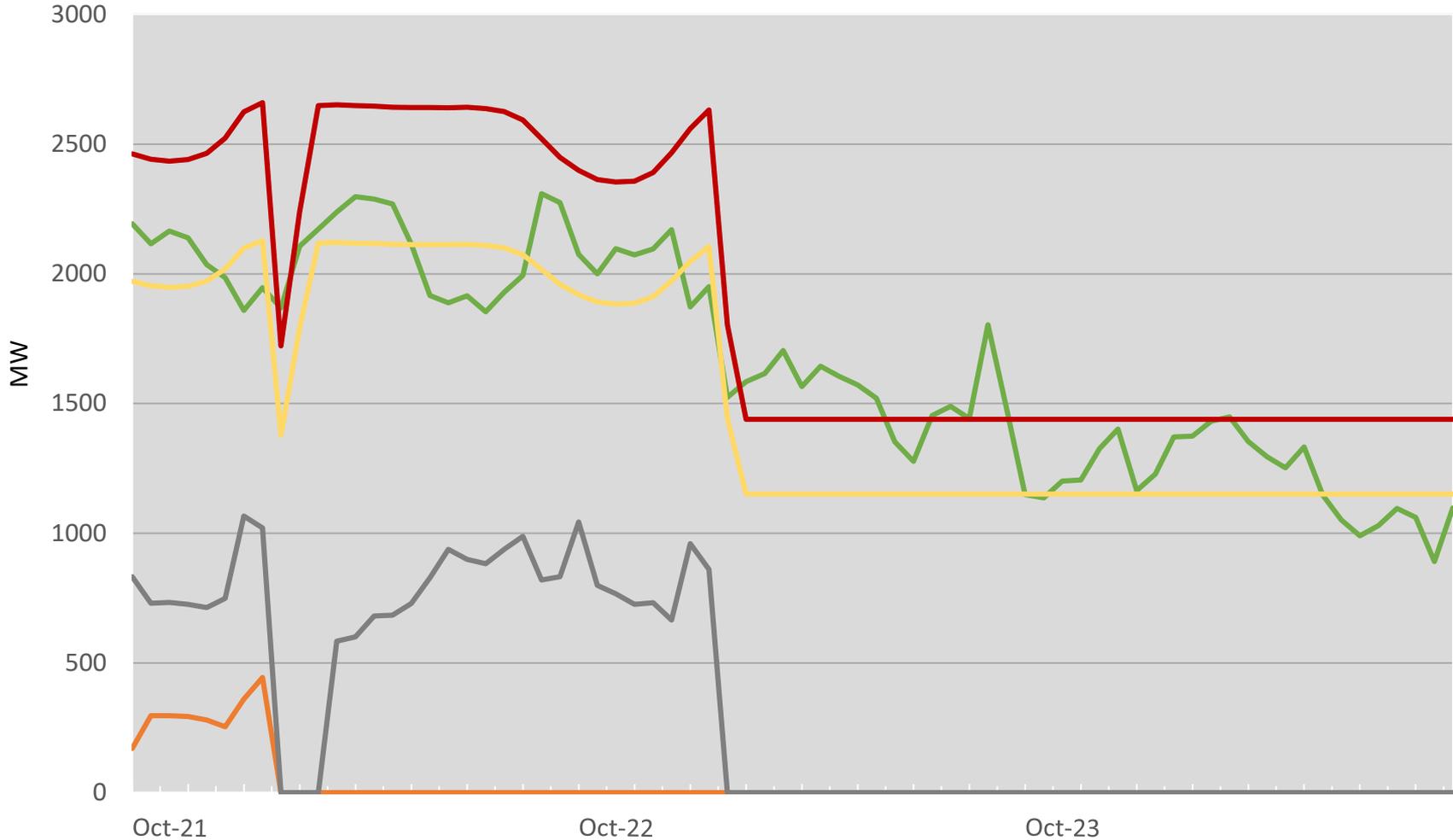
- Curtailed flows and limited sales on NOEL
  - No Discretionary Redispatch

## NOEL Outage Summary

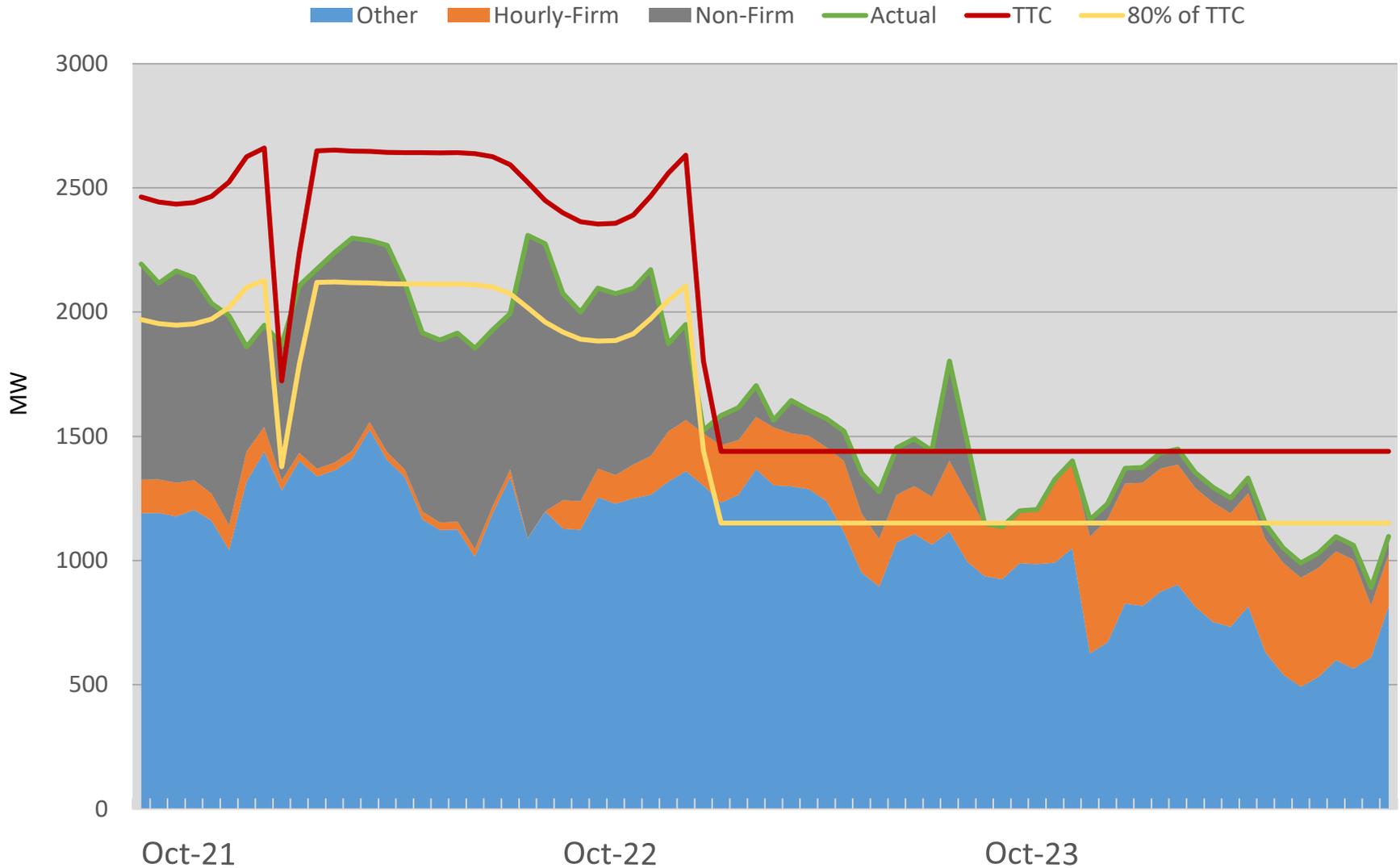
Segment/ JOTS Facility	Annotation	Start (order by start)	Stop
SCSTER NOEL	BPA - SCHULTZ-ECHO LAKE 1 500kV LINE (SLIM 580)	2019-10-21 08:00:00 PD	2019-10-21 14:15:00 PD
RT NETWORK FLOWGATE	Schultz-Echo Lake #1 500kV return to service	2019-10-21 10:00:00 PD	2019-10-22 00:00:00 PD
SCSTER NOEL	BPA - SCHULTZ-ECHO LAKE 1 500kV LINE (SLIM 580 R2)	2019-10-22 08:00:00 PD	2019-11-01 00:00:00 PD
SCSTER NOEL	BPA - SCHULTZ-ECHO LAKE 1 500kV LINE, BPA - MAPLE VALLEY-TALBOT 2 230kV LINE	2019-10-30 07:00:00 PD	2019-11-01 00:00:00 PD
SCSTER NOEL	BPA - SCHULTZ-ECHO LAKE 1 500kV LINE, BPA - MAPLE VALLEY-TALBOT 2 230kV LINE	2019-10-30 07:00:00 PD	2019-11-01 00:00:00 PD
RT NETWORK FLOWGATE	BPA - SCHULTZ-ECHO LAKE 1 500kV LINE, BPA - MAPLE VALLEY-TALBOT 2 230kV LINE Back in Service	2019-10-31 19:00:00 PD	2019-11-01 00:00:00 PD
SCSTER NOEL	BPA - SCHULTZ-ECHO LAKE 1 500kV LINE, BPA - MAPLE VALLEY-TALBOT 2 230kV LINE (SLIM 617 R1)	2019-11-01 00:00:00 PD	2019-11-01 09:00:00 PD

# Available Capacity - NOEL - Oct. 21,22,23 2019

Actual    TTC    80% of TTC    Firm ATC    Non-Firm ATC

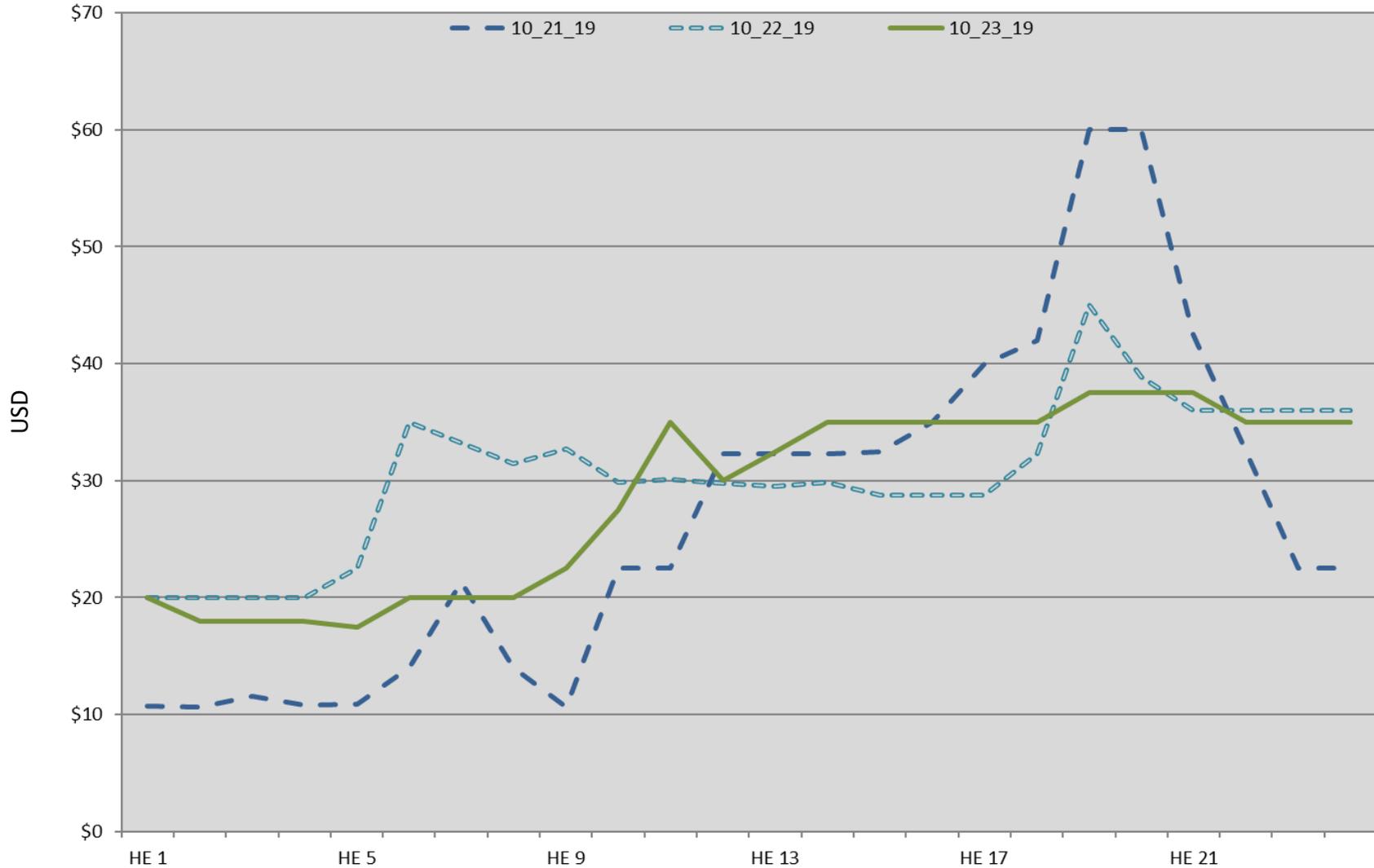


# Product Flow and TTC - NOEL - Oct. 21,22,23 2019



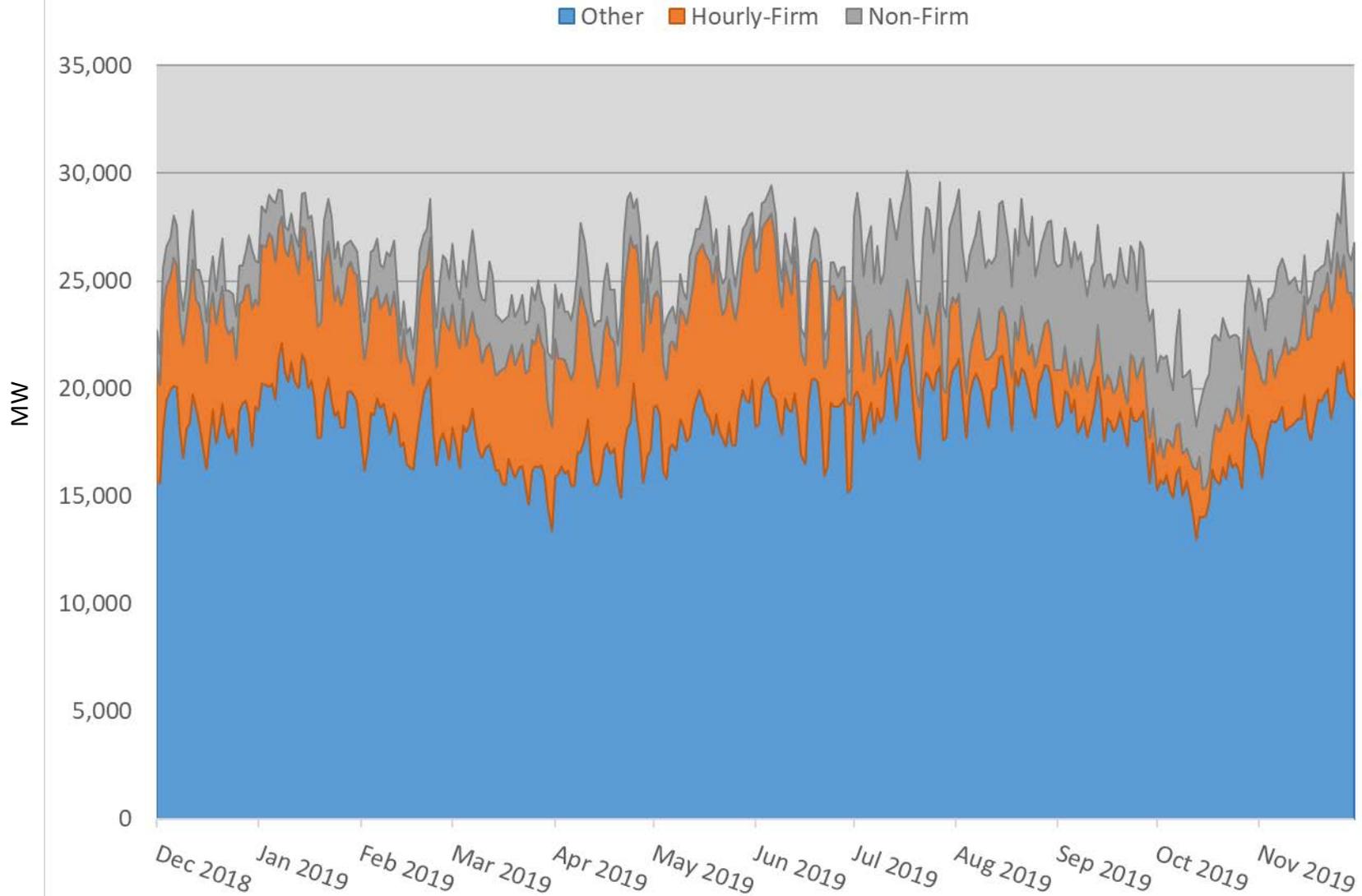
\*Other includes: Long Term Firm, Short Term Firm, GF Firm, Counter Flow, Loop Flow, Modeling Error... etc.

### Mid C Average Hourly Price



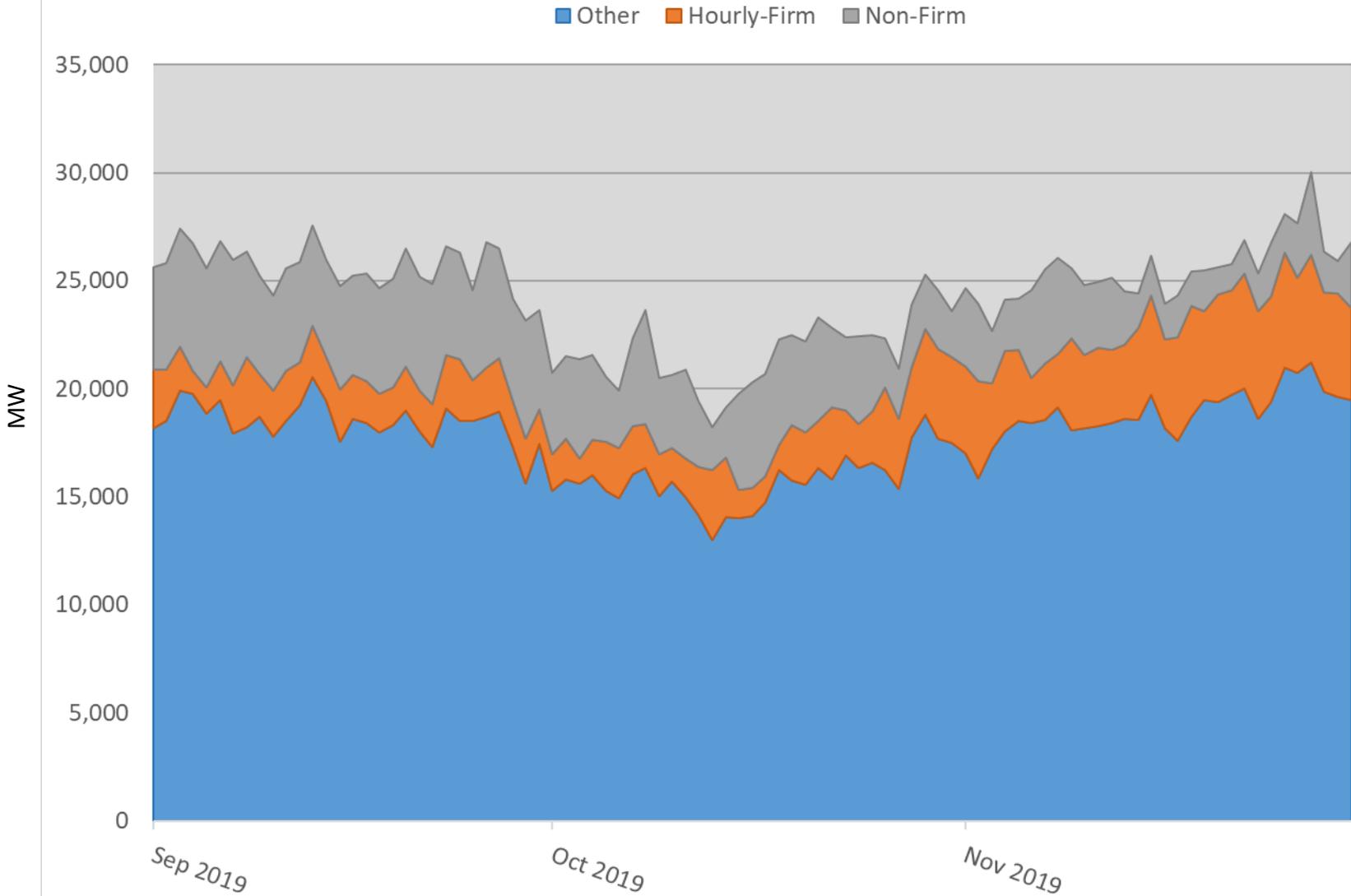
# PRODUCT USAGE

# Annual Systemwide - Product Usage



\*Other includes: Long Term Firm, Short Term Firm, GF Firm, Counter Flow, Loop Flow, Modeling Error... etc.

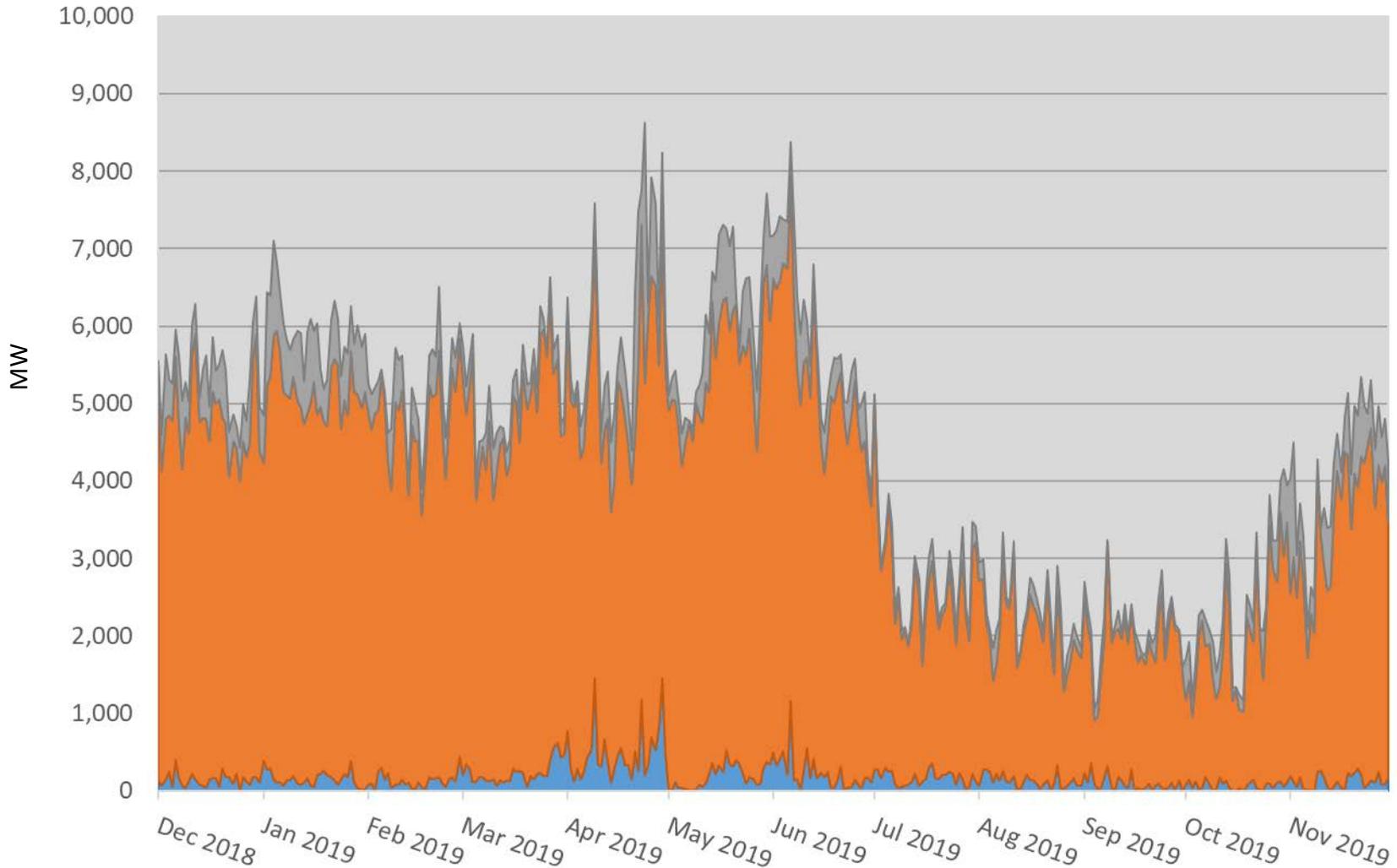
# Three Month Systemwide - Product Usage



\*Other includes: Long Term Firm, Short Term Firm, GF Firm, Counter Flow, Loop Flow, Modeling Error... etc.

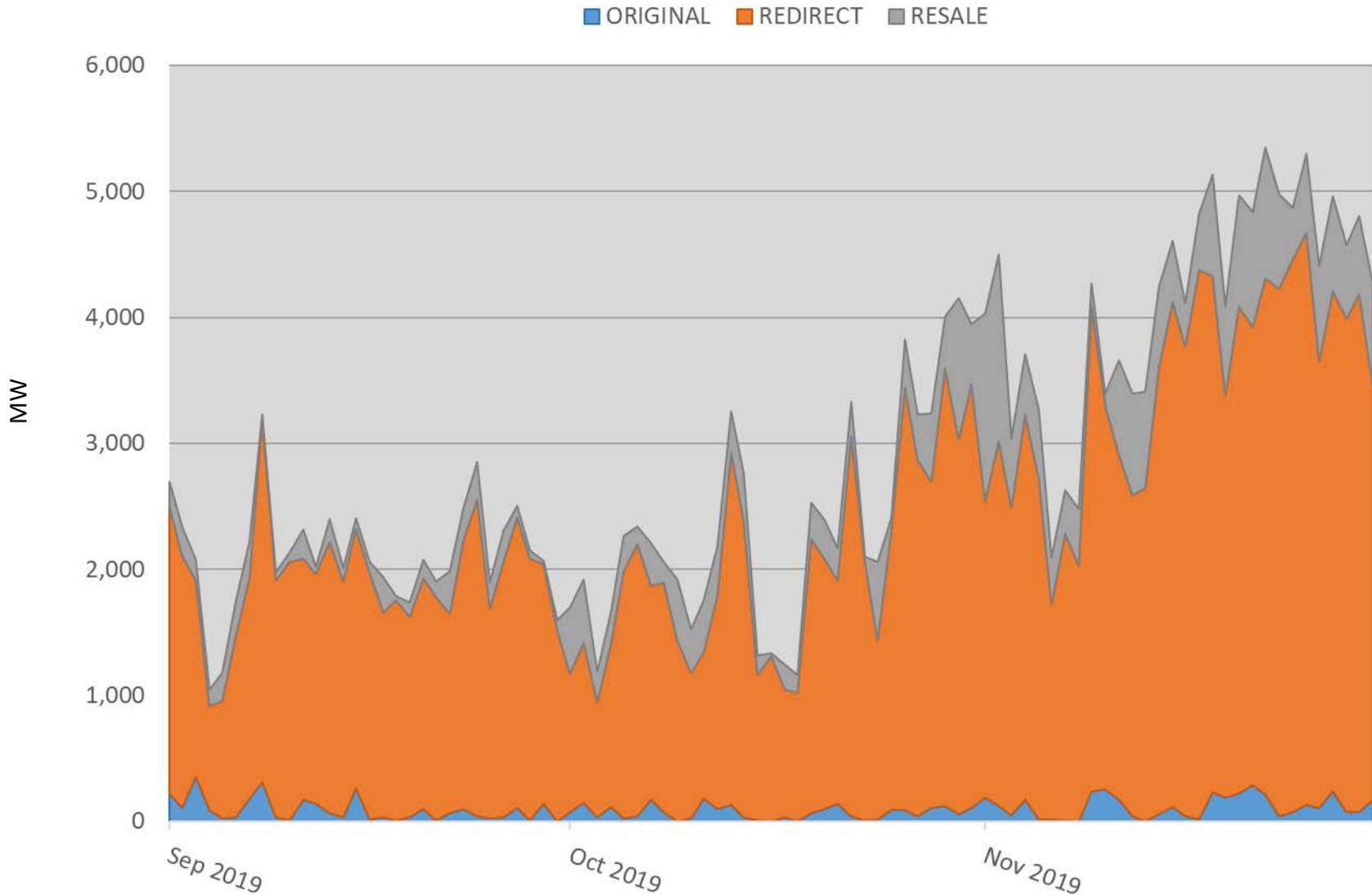
# Systemwide Hourly Firm - Usage Analysis - Annual

ORIGINAL REDIRECT RESALE



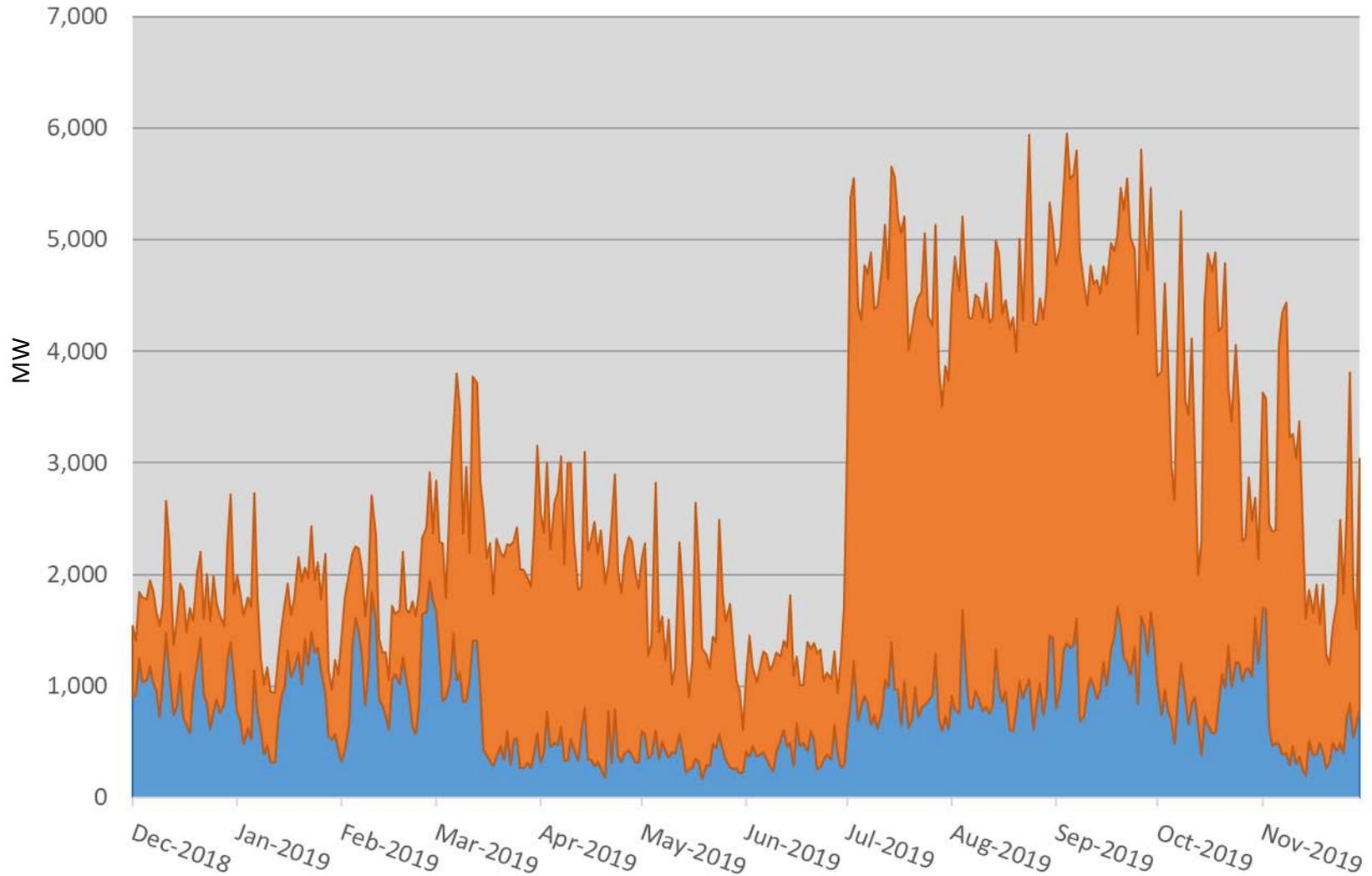
\*Other includes: Long Term Firm, Short Term Firm, GF Firm, Counter Flow, Loop Flow, Modeling Error... etc.

# Systemwide Hourly Firm - Usage Analysis – Three Month



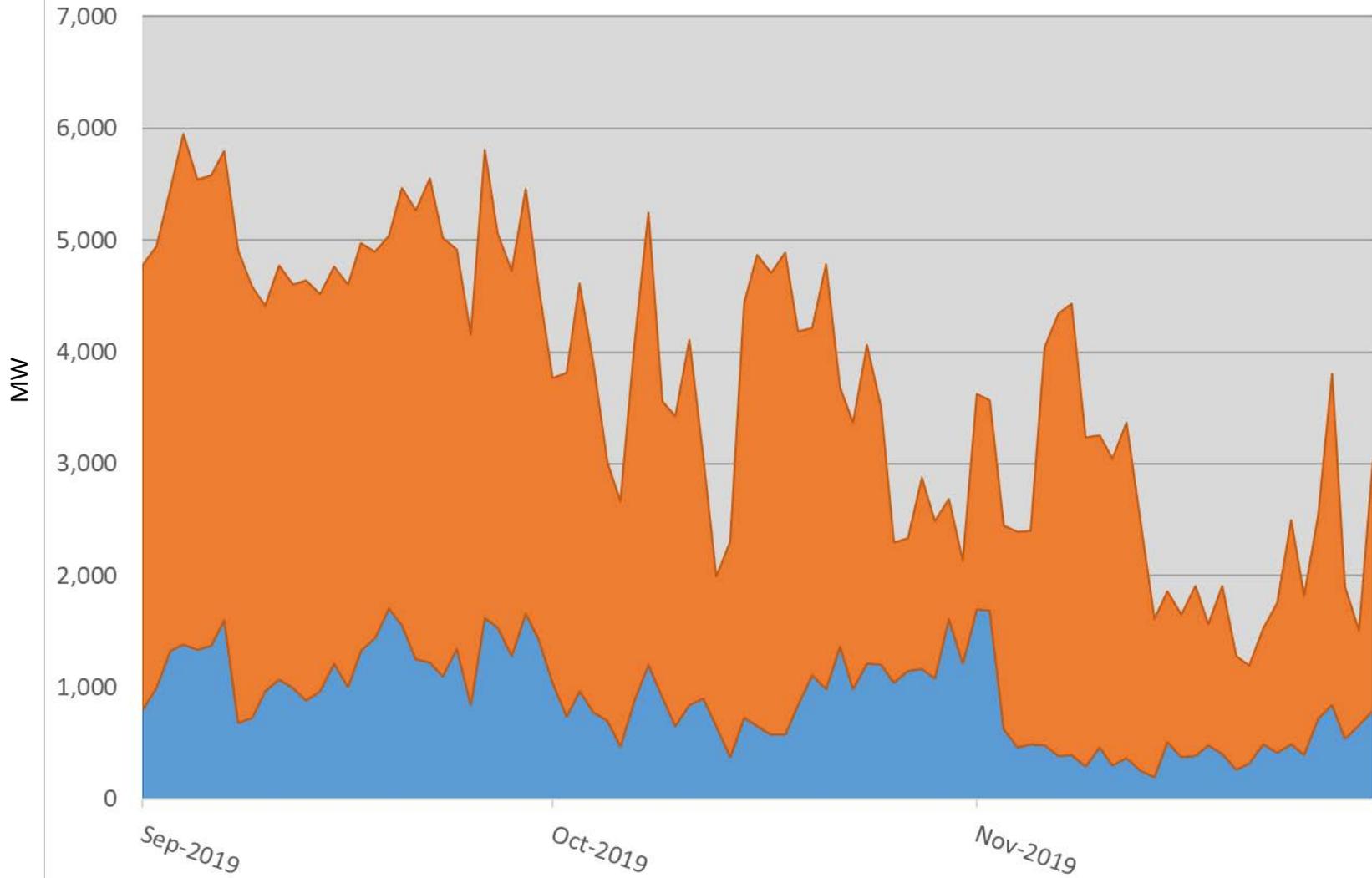
## Systemwide Non-Firm - Usage Analysis - Annual

ORIGINAL REDIRECT RESALE



## Systemwide Non-Firm - Usage Analysis – Three Month

ORIGINAL REDIRECT RESALE



# EVALUATION METHODOLOGY

## Information Availability

- Reports and raw data will be generated per the Hourly Firm Monitoring and Evaluation Plan
- Post the updated and generated reports on a quarterly basis on BPA's external website
- Estimated availability – January 2020  
<https://www.bpa.gov/transmission/Reports/Pages/Data-Monitoring-and-Repository.aspx>

# De Minimis Update

- Follow-up to 11/14 customer conference call
- BPA will communicate progress on this topic using the Step 1-6 step process
- Step 1 was completed during the 11/12/19 ATC 101 customer workshop
- BPA wants to provide customers with the opportunity to provide feedback on how we are characterizing the issue
  - Step 2 – Description of the Issue
    - BPA needs to determine if the benefit of a *de minimis* test should be applied to the net impact of redirect requests in the short-term horizon.

# Hourly Firm Timing Change

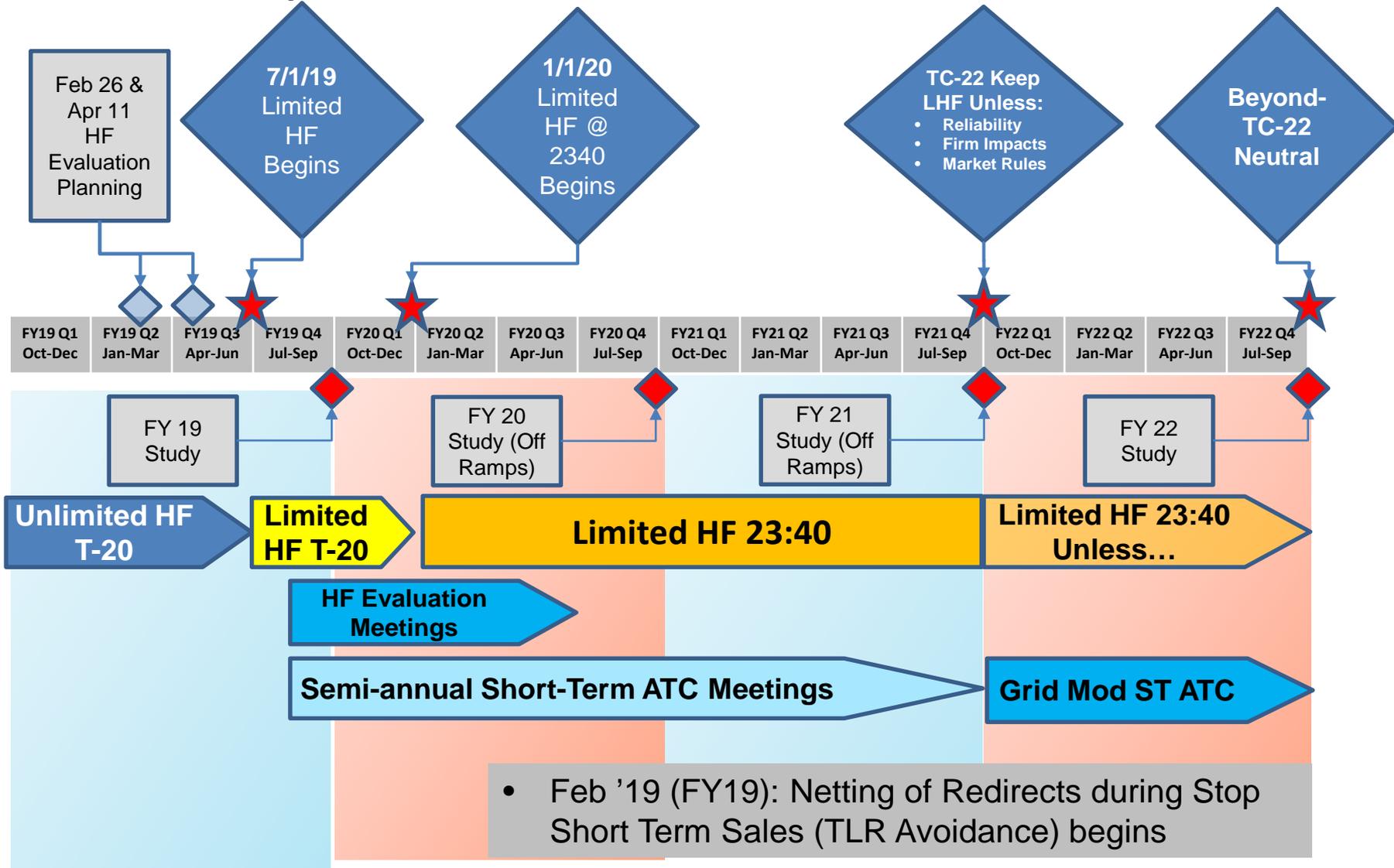
- Hourly firm reservations will not be available in real-time starting January 1, 2020
- Hourly firm may only be reserved until the day prior to the operating day at 23:40
- These changes are being implemented per the terms of the TC-20 Settlement
- Changes apply to both NT and PTP hourly firm service
- Only non-firm hourly NT and PTP and secondary redirect service will be available on the real-time day
- There is no change to the start of the hourly firm reservation window (ie, 9am on the WECC preschedule day)

# Hourly Firm Change Details

- 22:40 on 12/31/19 will be the last opportunity to reserve hourly firm service for the same day (ie, for start of service 23:00 on 12/31/19)
- At 22:45 on 12/31/19, the new timing rules will be implemented. At that point, hourly firm requests that are queued on the same date as the start date will be set INVALID
- For example:
  - Allowed: Request queued at 23:40 on 12/31/19 for start of service 00:00 on 01/01/20 (or starting any hour on 01/01/20)
  - Disallowed: Request queued at 00:01 on 01/01/20 for start of service next hour (or any hour that same day)

# NEXT STEPS

# Hourly Firm & Short-Term ATC Timeline



# Proposed Timeline & Next Steps

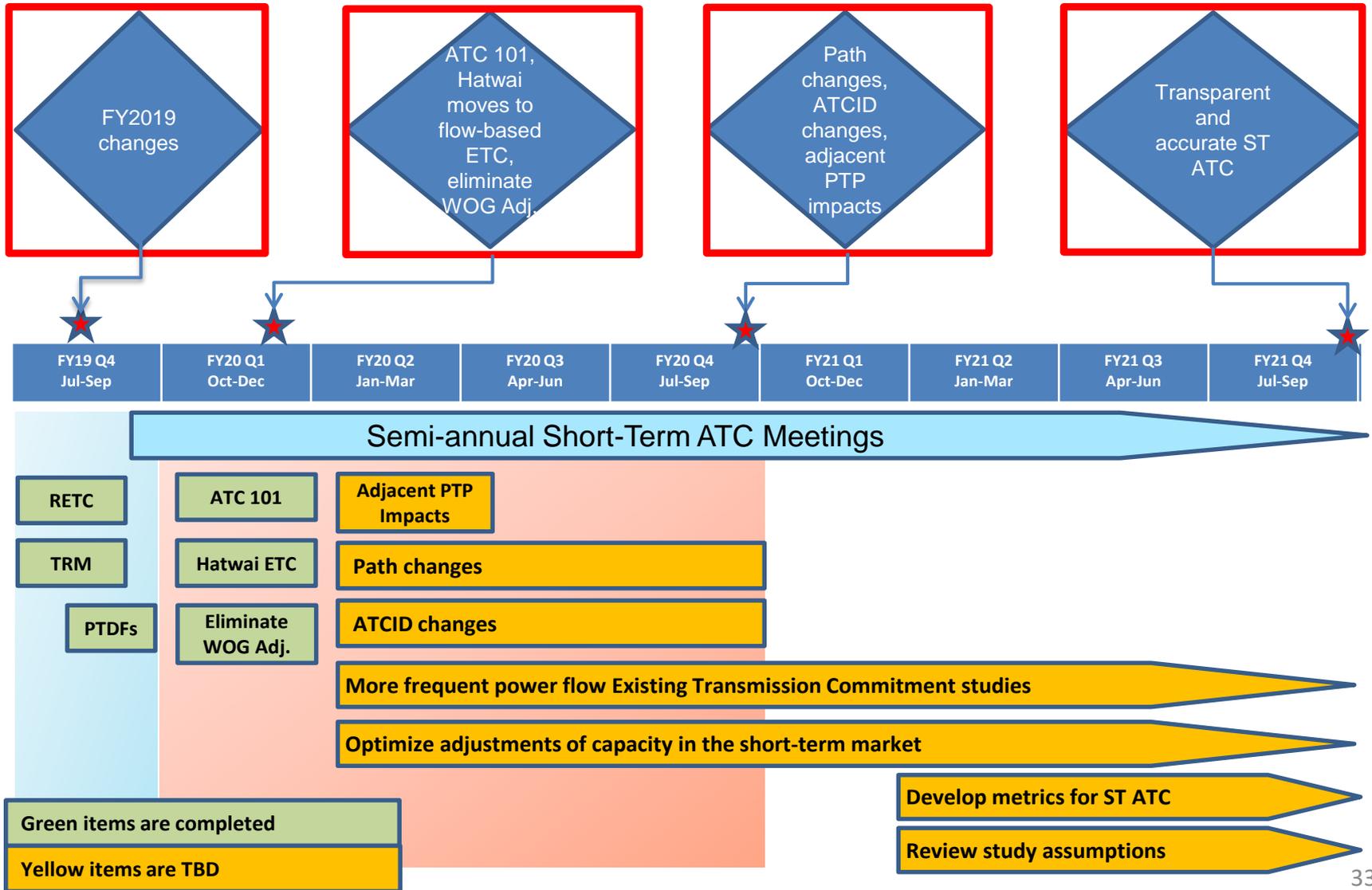
1. 23:40 limit begins 12/31/19 for flow date 1-1-2020
2. Request Transmission Service BP effective December 31<sup>st</sup>, 2019
3. Quarterly Monitoring and Evaluation Plan Updates - Tentative dates:
  - March 2020
  - June 2020
4. Comments on the Hourly Firm information discussed today are due January 3<sup>rd</sup>, 2020
5. BPA asks that customers provide feedback on the description of the *de minimis* issue by January 3<sup>rd</sup>. As BPA works through the steps, updates will be provided at the TC-20 Customer Update Workshops.

# **Short-Term Available Transfer Capability (ST ATC) Project Update**

# Agenda

1. ST ATC Project Timeline
2. ATC Calculation
3. Latest Completed ST ATC Improvements
4. Proposed ST ATC Improvements
5. Questions from 11/12 Customer Meeting
6. Wrap up

# Short-Term ATC Project Timeline



# ATC Calculation

**The ATC Calculation** (from MOD-029-2a) is:

When calculating firm ATC for an ATC Path for a specified period, the Transmission Service Provider shall use the following algorithm:

$$\text{ATC} = \text{TTC} - \text{ETC} - \text{CBM} - \text{TRM} + \text{Postbacks} + \text{Counterflows}$$

**Where:**

**ATC** is the firm Available Transfer Capability for the ATC Path for that period.

**TTC** is the Total Transfer Capability of the ATC Path for that period.

**ETC** is the sum of existing firm commitments for the ATC Path during that period.

**CBM** is the Capacity Benefit Margin for the ATC Path during that period.

**TRM** is the Transmission Reliability Margin for the ATC Path during that period.

**Postbacks** are changes to firm Available Transfer Capability due to a change in the use of Transmission Service for that period, as defined in Business Practices.

**Counterflows** are adjustments to firm Available Transfer Capability as determined by the Transmission Service Provider and specified in their ATCID.

# Latest Completed ST ATC Improvements

1. West of Hatwai was transitioned from a 1:1 constraint to a flow-based constraint (implemented on 11/13)
  - a. Flow-based methodology applies to the calculation of Existing Transmission Commitments (ETC), evaluation of new Transmission Service Requests and curtailments
2. BPA eliminated an ETC adjustment across West of Garrison W>E path for the 0 to 13 month time frame (implemented on 11/13)
  - a. This adjustment had been in place to account for parallel path flow on the path
  - b. BPA re-evaluated this adjustment and determined it was no longer needed

# Proposed ST ATC Improvements

- A. BPA has identified several additional ST ATC methodology improvements that staff will be working on for the 0 – 13 month NERC horizon
- B. These improvements include:
  1. Investigate whether the North of John Day path should be eliminated in the 0 – 13 month NERC horizon
  2. Investigate the controls needed in the Satsop 230 kV substation area in the 0 – 13 month NERC horizon
  3. Continue work on ATC Implementation Document (ATCID) changes to ensure that ATCID language properly reflects BPA's ST ATC methodology and aligns with Attachment C of BPA's Open Access Transmission Tariff (OATT)

## Proposed ST ATC Improvements (cont.)

**Improvement #1:** Investigate whether the North of John Day path should be eliminated in the 0 – 13 month NERC horizon

1. Eliminating the path would allow staff to focus on other study priorities
2. Staff has begun analysis on whether this path can be eliminated without impacting system reliability
3. Customer impacts, if path is eliminated
  - a. Path will no longer be posted in OASIS or referenced in BPA's ST ATC documentation
  - b. BPA will no longer calculate ST ATC for North of John Day
  - c. Transmission Service Requests will not require ST ATC across this path
  - d. BPA will not monitor the path for curtailments
4. Work is projected to be completed in FY2020

## Proposed ST ATC Improvements (cont.)

**Improvement #2:** Investigate the controls needed in the Satsop 230 kV substation area in the 0 – 13 month NERC horizon

1. Southwest Washington Coast load area is served by a 115 kV network that is interconnected to a 230 kV system with a large independent generator (Grays Harbor Energy)
  - a. Under certain outage conditions, flows on Grays Harbor PUD's underlying transmission system increase
  - b. In order to avoid overloads of the 115 kV lines out of Aberdeen, generation must be limited at the Satsop 230 kV substation
2. Staff has begun analysis on what type of controls are appropriate in this area:
  - a. Adding a path
  - b. Adding capability for congestion management only

## Proposed ST ATC Improvements (cont.)

**Improvement #2:** Investigate the controls needed in the Satsop 230 kV substation area in the 0 – 13 month NERC horizon (cont.)

3. Customer impacts will depend on which option is chosen
  - a. If BPA creates a new path:
    - i. BPA will calculate and post ST ATC for this area and customers will begin to see the new path posted in OASIS and referenced in BPA's ST ATC documentation
    - ii. BPA will evaluate new Transmission Service Requests for ST ATC across this path
    - iii. BPA will issue curtailments on the path
  - b. If BPA adds capability for congestion management only, customers will just see curtailments if overloads are being experienced
4. Work is projected to be completed in FY2020

## Proposed ST ATC Improvements (cont.)

**Improvement #3:** Continue work on ATC Implementation Document (ATCID) changes to ensure that ATCID language properly reflects BPA's ST ATC methodology and aligns with Attachment C of BPA's OATT

1. BPA will be continuing to clarify and/or correct the language in its ATCID
  - a. BPA's goal is an accurate and clear ATCID that reflects BPA's current ST ATC methodology
  - b. No ST ATC methodology changes will occur as a result of this effort

## Proposed ST ATC Improvements (cont.)

**Improvement #3:** Continue work on ATC Implementation Document (ATCID) changes to ensure that ATCID language properly reflects BPA's ST ATC methodology and aligns with Attachment C of BPA's OATT (cont.)

### 2. Customer impacts

- a. Customers will see updates to the ATCID as inaccurate and unclear language is identified (all changes will be documented in the version history of the ATCID)
- b. BPA will continue to use Tech Forum notices to alert customers to the ATCID updates
- c. Customers can expect to see several updates to the ATCID in FY2020

## Proposed ST ATC Improvements (cont.)

**Improvement #3:** Continue work on ATC Implementation Document (ATCID) changes to ensure that ATCID language properly reflects BPA's ST ATC methodology and aligns with Attachment C of BPA's OATT (cont.)

3. BPA will make the following changes to its ATCID, V53, in December 2019:
  - a. In the “Determining Base ETC<sub>Fi</sub> for Heavy Load Base Cases” section, BPA will be deleting lines 938 – 948
    - i. These lines contain outdated information on how BPA models the rights of its adjacent Transmission Service Providers (TSPs) in the ETC cases (BPA is using the loads in the WECC seasonal cases to account for the rights of adjacent TSPs)
  - b. Lines 745 – 751 will be revised to clarify that BPA does not update WECC base cases with newly-energized generation and transmission
    - i. BPA is using data provided in the seasonal WECC base case

# ATC 101 Follow up

1. BPA has compiled the questions that came out of the November 12, 2019 customer meeting
2. We are working on collecting the information internally to address the questions
3. Follow up and approach timeline forthcoming.

## Wrap-up

1. BPA will continue to work on the proposed ST ATC changes and will let customers know when additional details and exact implementation dates are available
2. By Jan. 3, please provide feedback on the ST ATC proposed improvements via [techforum@bpa.gov](mailto:techforum@bpa.gov) (with copy to your account executive).
3. BPA is interested in any other suggestions customers have for improving ST ATC, in addition to comments on the suggested improvements