



# SPP WEST RC PERFORMANCE METRICS

Q4-2020

*Helping our members work together to keep  
the lights on... today and in the future.*



SouthwestPowerPool



SPPorg



southwest-power-pool

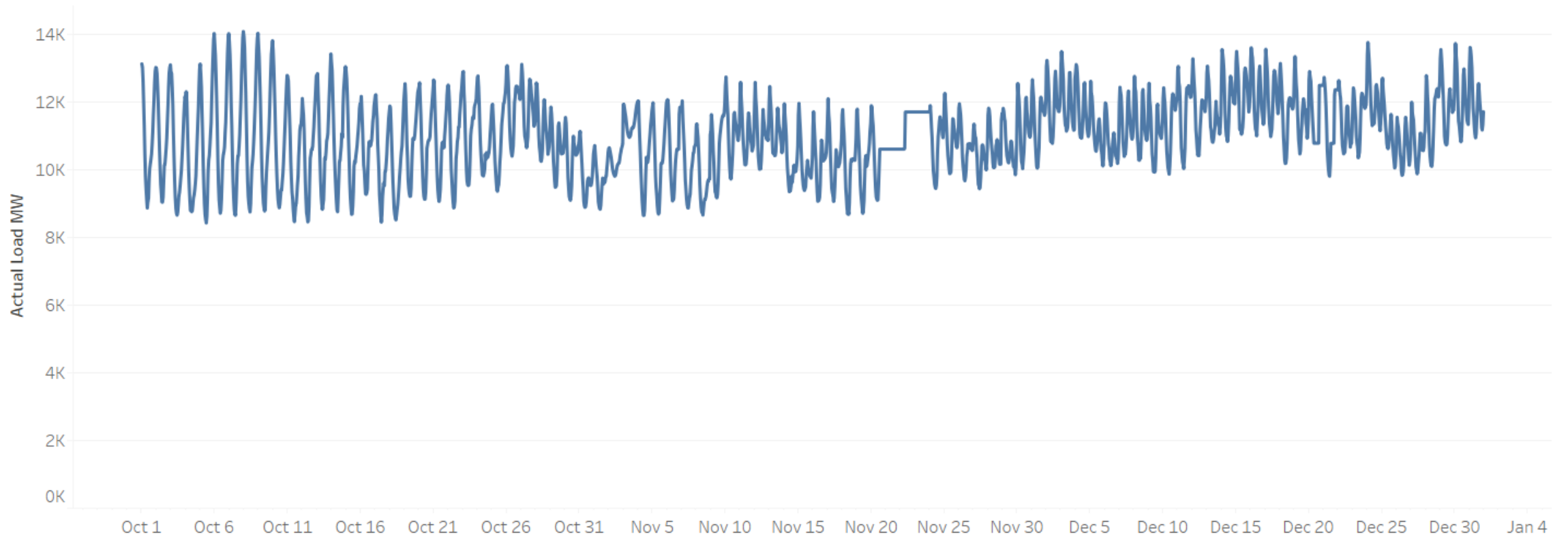
# OVERVIEW

- Load & Forecast
- EMS Performance
- Transmission System Performance
- Outage Coordination

# LOAD & FORECAST

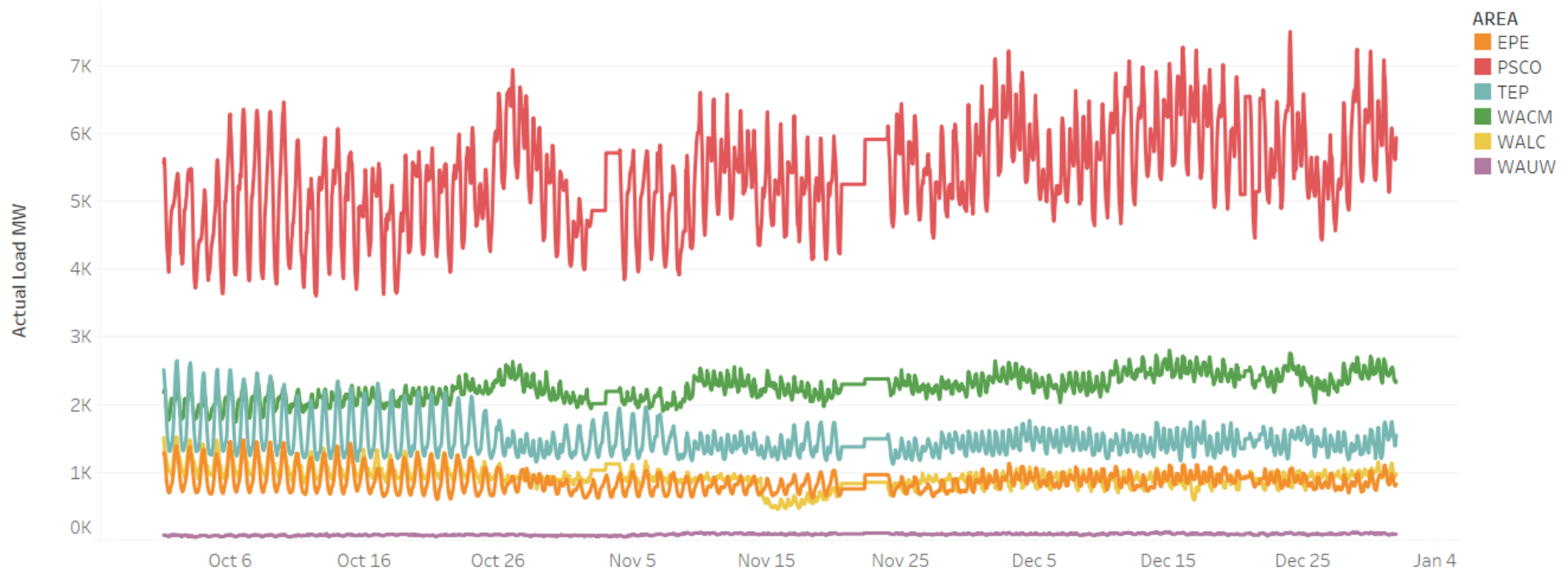
# SPP WEST RC LOAD

SPP WEST LOAD



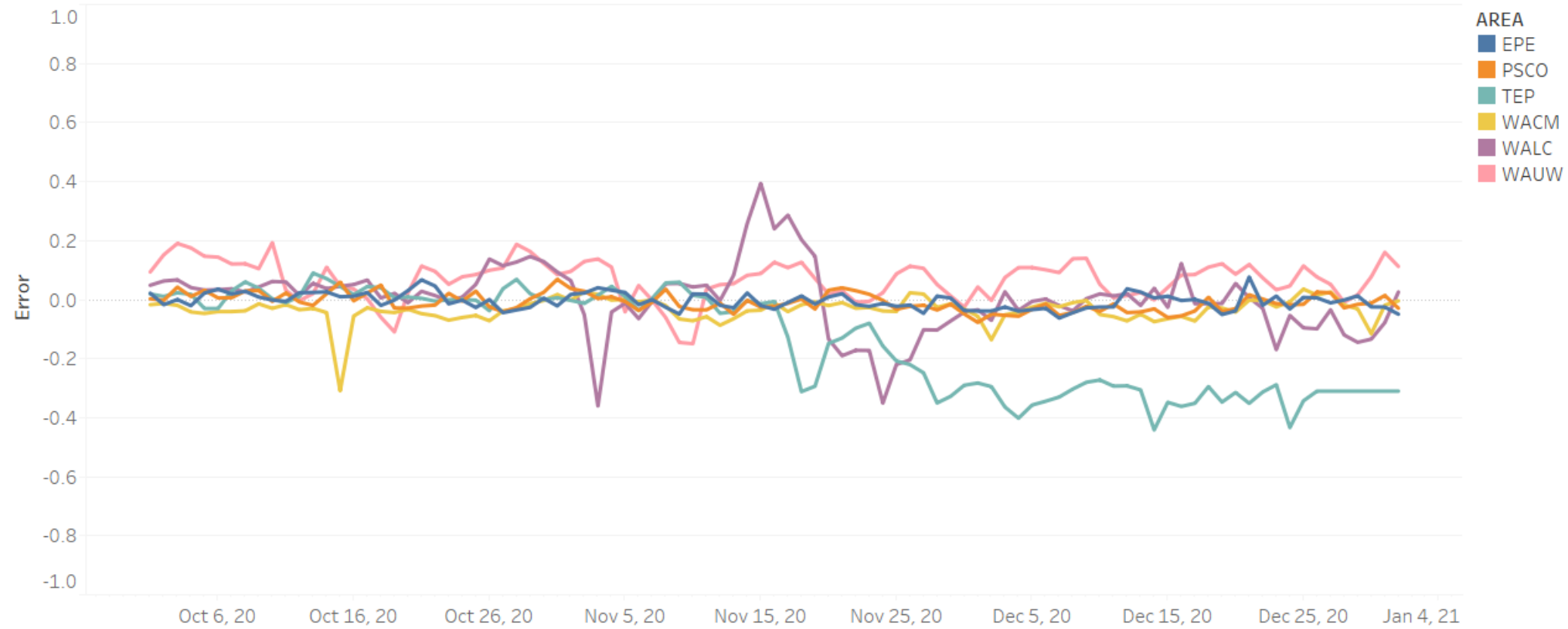
# AREA LOAD

AREA LOAD



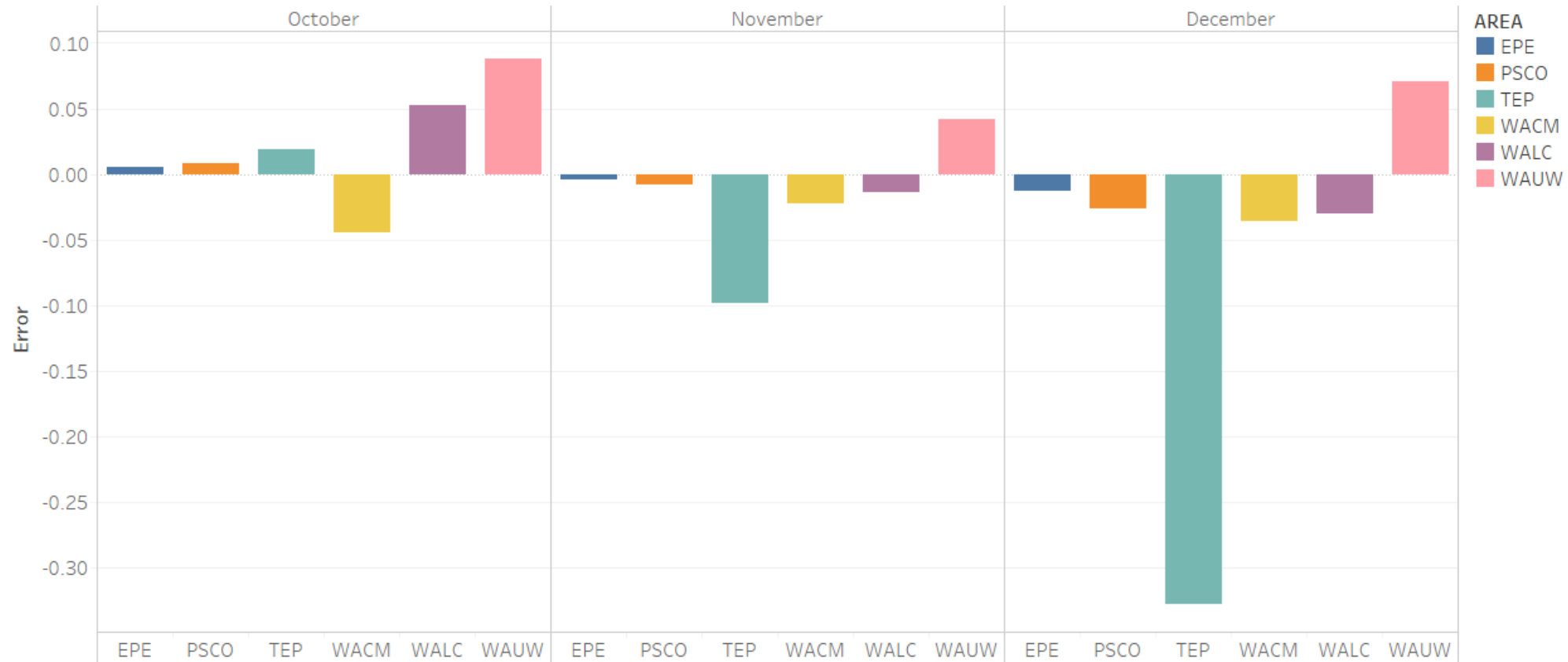
# AREA DAY AHEAD DAILY ERROR AVERAGE

Area Day Ahead Load Forecast Errors - Daily Average



# AREA DAY AHEAD MONTHLY ERROR AVERAGE

Area Day Ahead Load Forecast Errors - Monthly Average



# EMS PERFORMANCE



# EMS SCHEDULED APPLICATIONS & COMMON STATS

- RTNET provides state estimation
  - Runs every 2-minutes
  - Solution iterations
  - Measurement residuals
- RTCA provides contingency analysis
  - Runs every 4-minutes
  - Valid solutions within 10-minutes
  - Unsolved contingencies

# RTNET PERFORMANCE 2020

- Goal is: 4.5

Month	Average
1	7.16
2	5.8
3	5.48
4	6.33
5	6.7
6	6.41
7	6.59
8	5.63
9	5.09
10	4.25
11	4.61
12	4.01

# RTCA PERFORMANCE – SPP WESTERN INTERCONNECTION RTCA

Month	10-min Population	30-min Population	RTCA Duration>10-min	RTCA Duration>30-min	10-min %	30-min %
October	4464	1488	10	0	99.78%	100.00%
November	4326	1442	12	0	99.72%	100.00%
December	4464	1488	7	0	99.84%	100.00%
<b>QTR Totals</b>	<b>13254</b>	<b>4418</b>	<b>29</b>	<b>0</b>	<b>99.78%</b>	<b>100.00%</b>

- No RTCA unavailability event lasted longer than 30mins
- No abnormal RTA to report

# TRANSMISSION SYSTEM PERFORMANCE

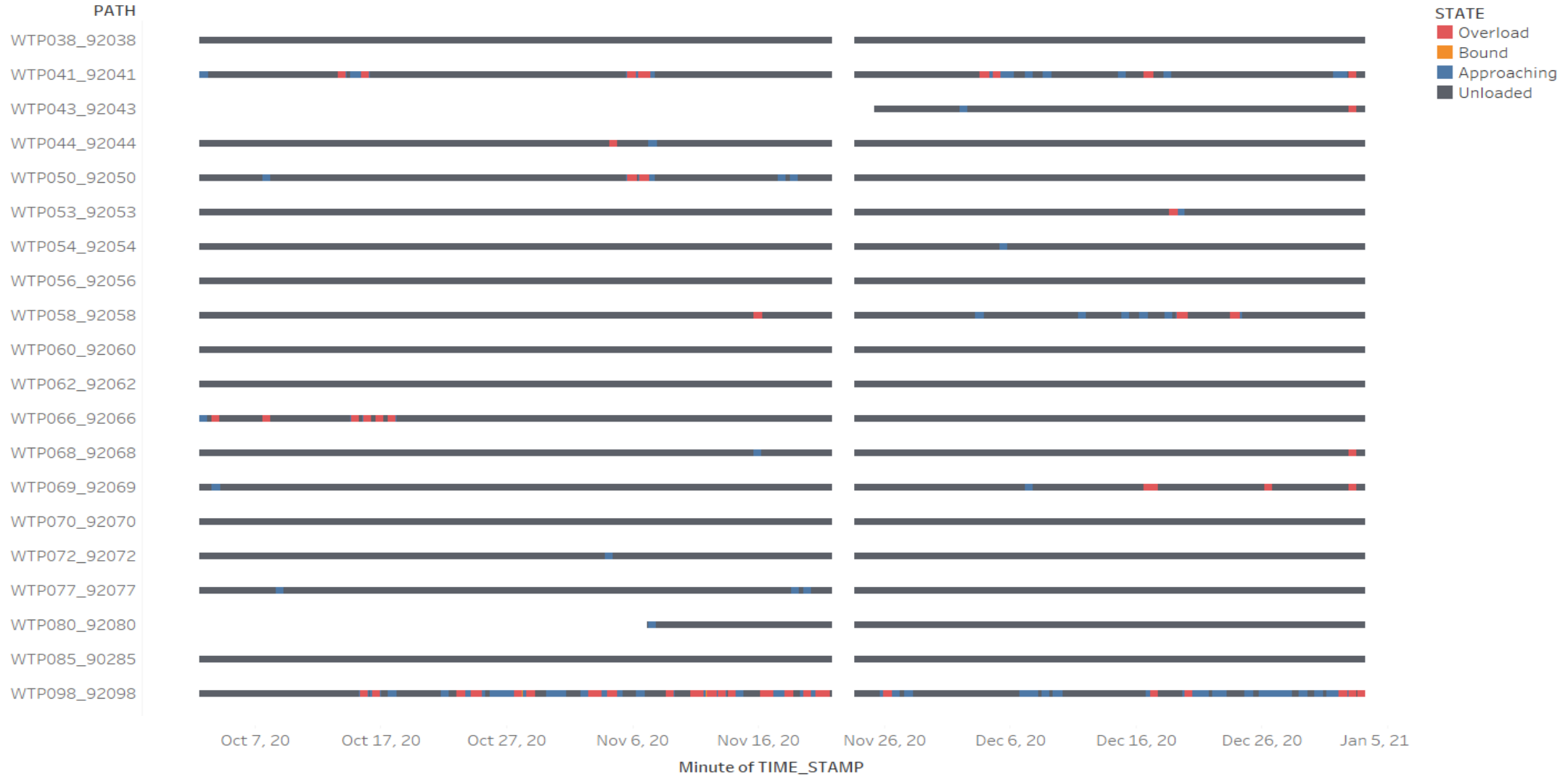
# CONSTRAINT LOADING

## Path Loading



# CONSTRAINT LOADING CON'T

## Path Loading



# CONSTRAINT LOADING CON'T

## Path Loading



# SOL PERFORMANCE

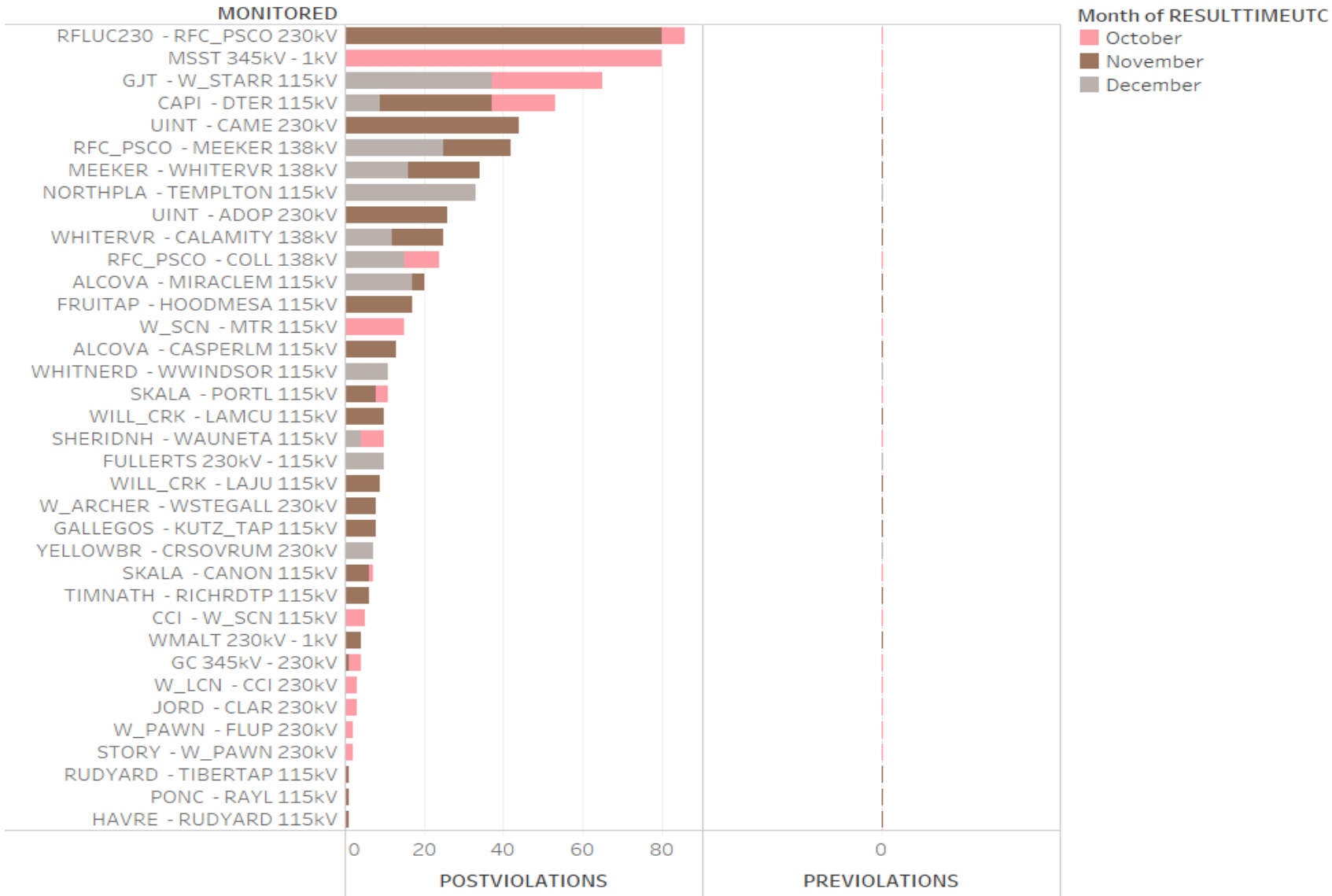
Constraint	TOP	Monitored Element	Contingent Element	SOL exceedance (mins)
WTP098_92098	TGT	STORY 345/230 kV	LAR_RIVR - AULT 345 kV	835
WTP050_92050	PSCO	CAME - UINT 230 kV	RFC - GJTLAP 345 kV	473
WTP041_92041	TGT	MEEKER - RFC_PSCO 138 kV	CRGCU - MEEKER 345 kV	328
WTP069_92069	TGT	GJTLAP - Starr Nelson 115 kV	GJTLAP - Montrose 345 kV	257
WTP008_92008	TGT	Meeker - White River 138kV	Craig - Bonanza 345kV	191
WTP066_92066	WACM	Montrose 115/345 kV	GJTLAP - MTR 345 kV	141
WTP058_92058	PSCO	LEET - MONR 230 kV	ARAP - SANTAFE 230 kV	135
WTP139_92139	WACM	FULLERTS 230/115 kV	CTTNWD - BRIARGAT 115 kV	100
WTP053_92053	PNM/EPE	BELEPG - BERNARDO 115 kV	MACHSPG - LUNA 345 kV	81
WTP025_92025	WACM	LAR_RIVR - WSTEGALL 230 kV	LAR_RIVR - W_KEOTA 345 kV	59
WTP016_92016	PSCO	CAPI - DTER 115 kV	W_CHER - W_ARGO 115 kV	47
WTP126_92126	PSCO	RFLUC230 - RFC_PSCO 230 kV	CRGCU - MEEKER 345 kV	27
WTP044_92044	WACM	ALCOVA - MIRACLEM 115 kV	ALCOVA - MIRACLEM 115 kV	21
WTP099_92099	WACM	ALCOVA - MIRACLEM 115 kV	DAVEJOHN - LAR_RIVR 230 kV	6
WTP072_92072	WACM	ROUNDTOP - POLECK 115 kV	WSTEGALL - W_ARCHER 230 kV	1

\* Post-contingent mitigation in place



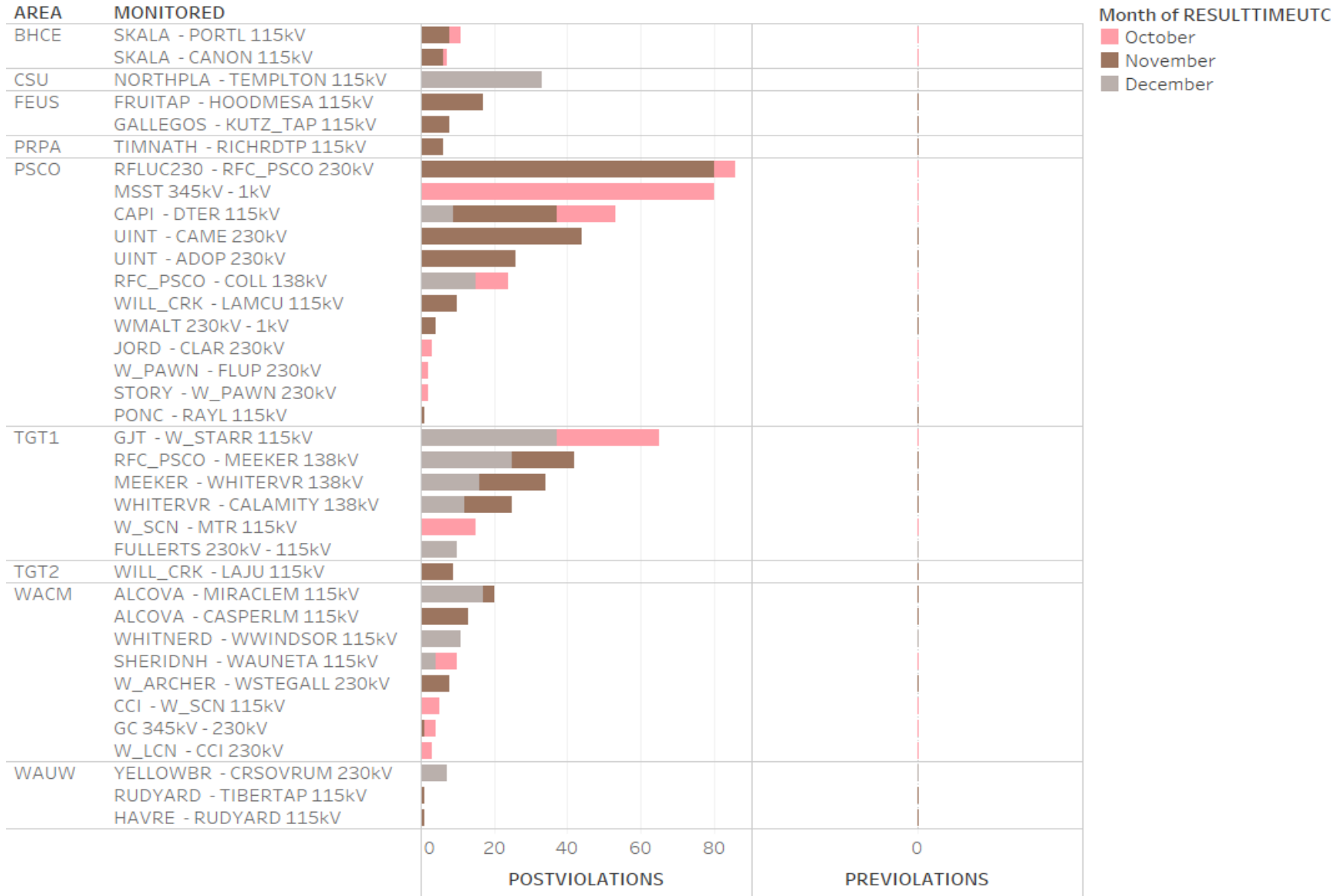
# RTCA CONSTRAINTS SUMMARY

Monitored Element Violations (Post and Pre Contingent by Month)



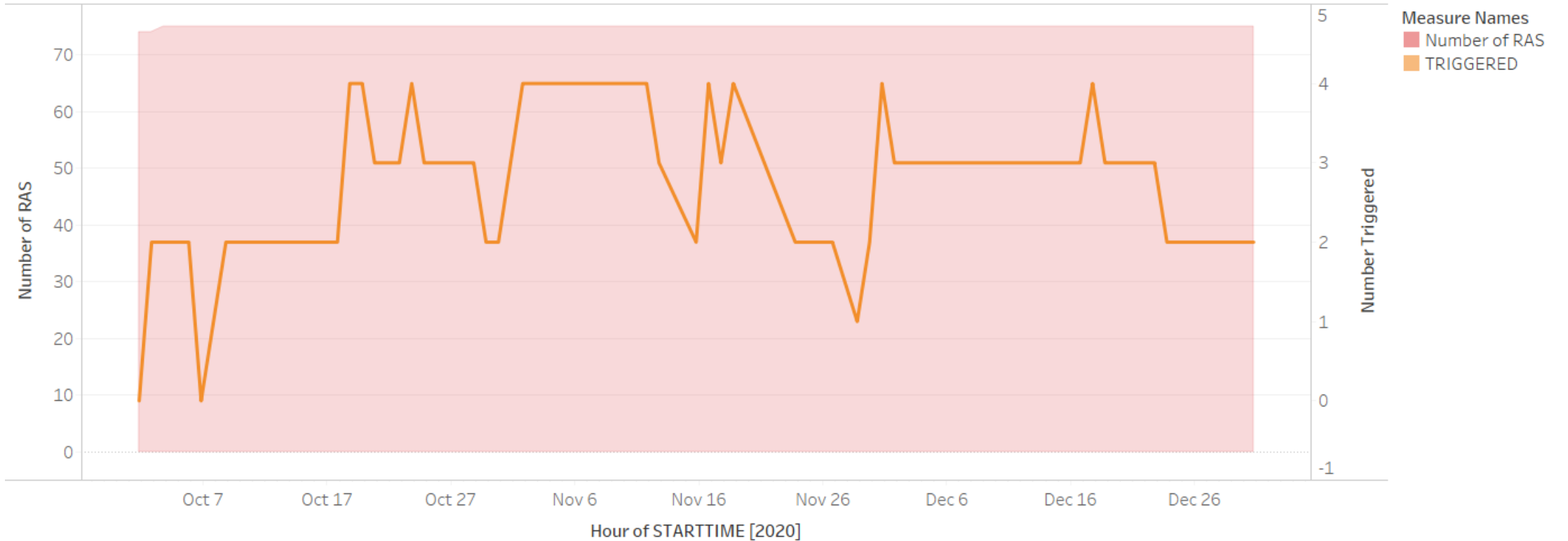
# RTCA CONSTRAINTS SUMMARY BY AREA

Monitored Element Violations (Post and Pre Contingent by Month)



# REMEDIAL ACTION SCHEME (RAS)

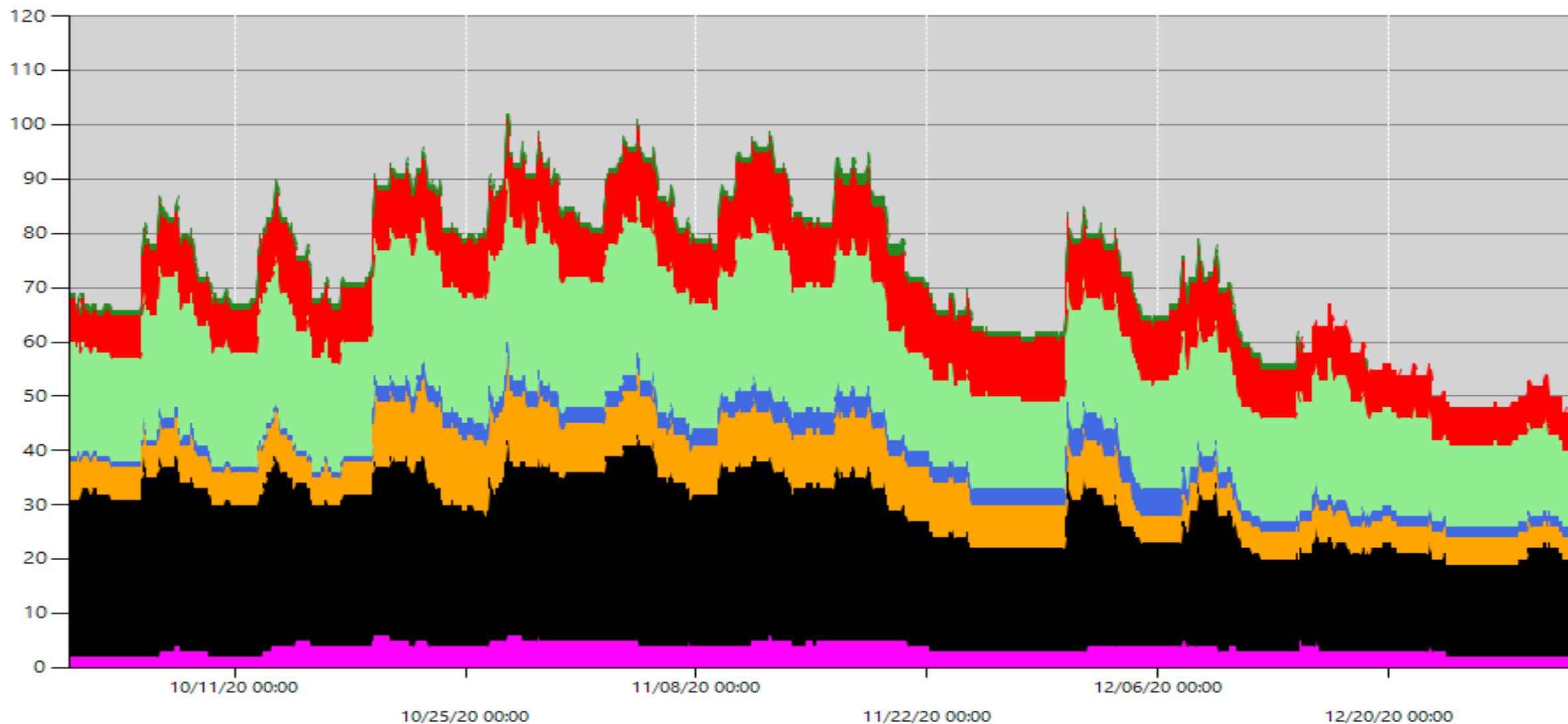
RAS Triggered



# OUTAGE COORDINATION

### Transmission Outages by Voltage Level

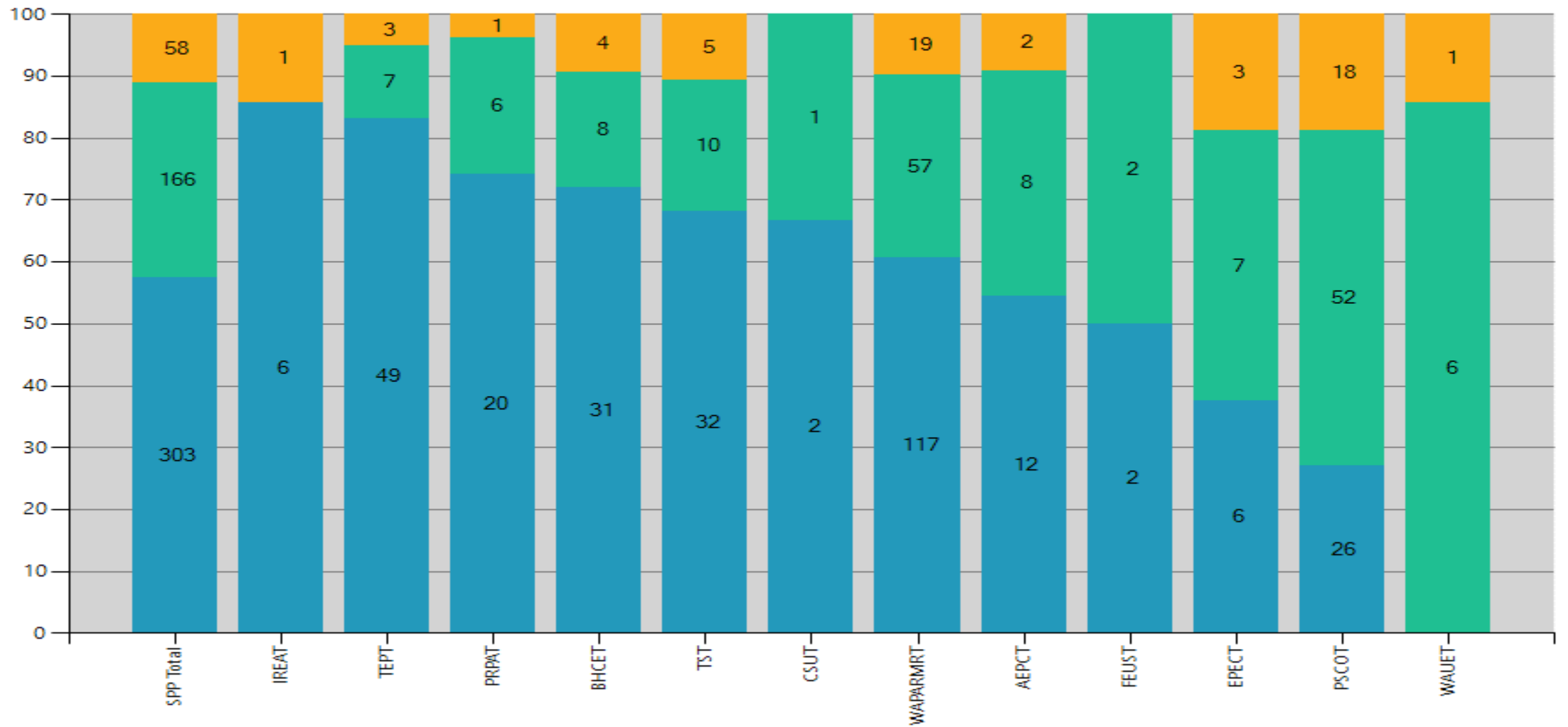
500kV 345kV 230kV 161kV 138kV 115kV 69kV



Outages from 10/1/2020 - 1/1/2021

## Transmission Outage Scorecard

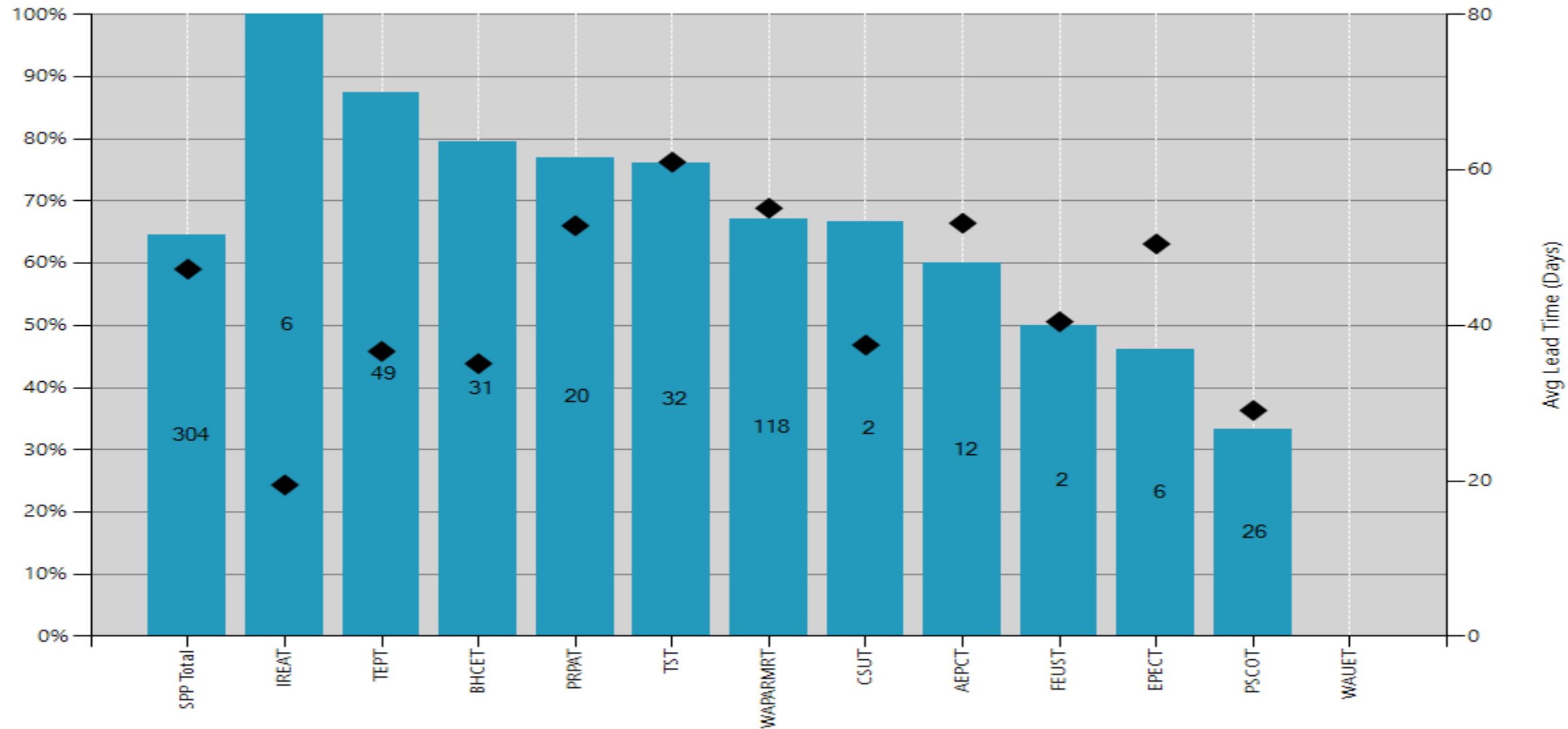
■ Forced
 ■ < 14 Days
 ■ > 14 Days



Outages from 10/1/2020 - 1/1/2021

# Planned Transmission Outages

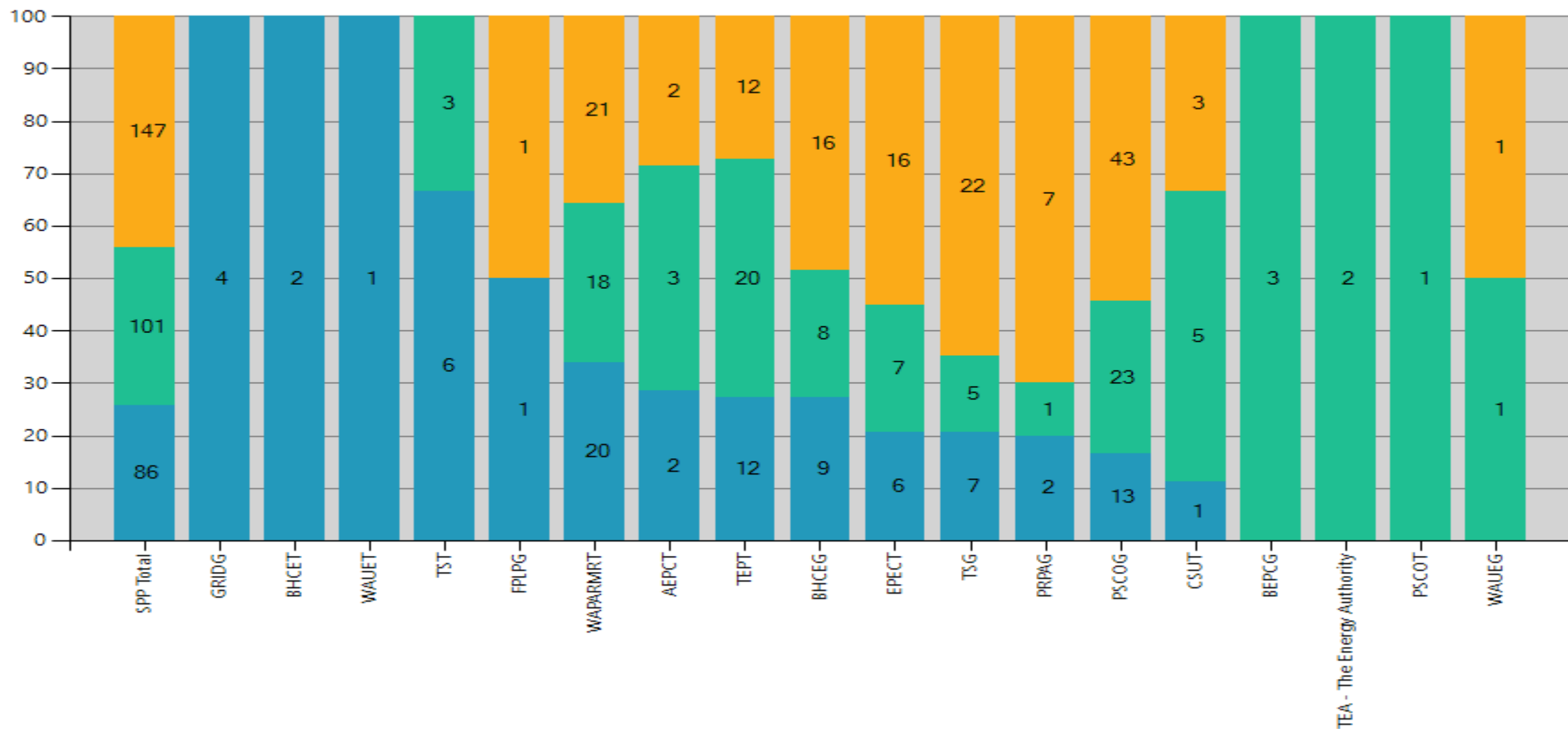
◆ Planned Lead Time    ■ Planned Outages



Outages from 10/1/2020 - 1/1/2021

## Generation Outage Scorecard

■ Forced   
 ■ < 14 Days   
 ■ > 14 Days



Outages from 10/1/2020 - 1/1/2021