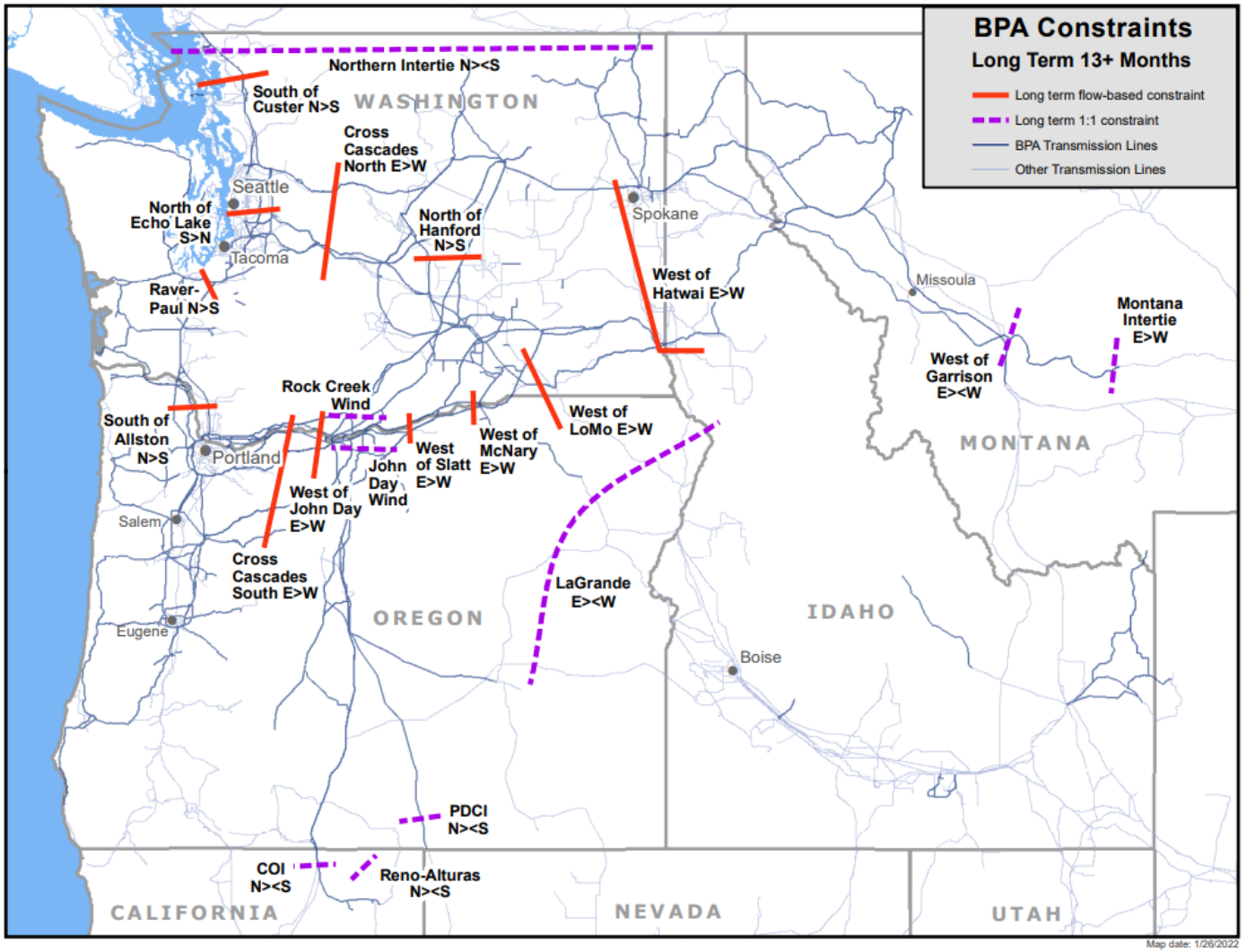
2022 Long-Term Available Transfer Capability (ATC) Update

December 15, 2022

Map of LT ATC Constraints



Scenarios in the 2022 LT ATC Update

2022 ATC Update			
Season	**Stress**	**Wind**	**CER**
January	Upper C	On	On
January	Lower C	On	On
January	Lower Snake	On	On
May	Lower C	Off	On
May	Lower Snake	Off	On
May	Lower C	On	On
May	Lower Snake	On	On
August	Upper C	Off	Off
August	Lower C	Off	Off
August	Lower Snake	Off	Off
August	Upper C	On	Off
August	Lower C	On	Off
August	Lower Snake	On	Off
13 Scenarios			

- Long-Term ATC Base Case
  - Covers the post 13 month time horizon
  - Completed annually to meet BPA's obligation under the Long Term ATC Methodology to perform an annual update

Assumptions in the 2022 ATC Update

- Basecases: 2027 & 2032 January, May, and August
  - Allows for forecasted geographical growth factors
  - Models upcoming coal plant retirements, while accounting for remaining long term firm transmission rights
  - Reflects long term unit outages at Upper Columbia resources

- Peak load cases: reduction in flows to California for scenarios with limited generation
- Off-peak load cases: Merit order dispatch displaces highest cost resources

More Assumptions in the 2022 LT ATC Update

- Historical analysis of Path 14 (Idaho-NW) supported change in assumptions. (Positive is East to West, import to NW)

	Jan	May	Aug
Previous	-690	-460	-460
2022 Update	760	-713	567

- New 80 MW solar generation near Moxee substation
- Schultz-Wautoma 500 kV series capacitor in-service 2027 & 2032
- No changes to Path TTCs
- Retirement of Paul-Allston N>S path

More Assumptions in the 2022 LT ATC Update

- 756 MW of new long-term firm and 583 MW of redirected transmission commitments made since the 2021 ATC Update
- 325 MW of new Bridge CF from 2022 TSEP
- Regional (Area 40) load growth between 2021 & 2022 updates:
  - ~1000 MW peak growth in 5 & 10 year summer cases
  - ~400 MW peak growth in 5 &10 year winter cases

Results & Observations

North>South Paths:

BC Border: South of Custer

No significant change in ATC. Rights from BC were consistent.

I-5 Corridor: Raver - Paul, South of Allston

Resulting in decrease in ATC:

- Adjustment of Idaho-NW flows in the summer to an import drove these changes.
  - For wind on scenarios, this change resulted in a higher offset of generation south of these paths.
  - For wind off scenarios, exports to California were higher than last year, driving overall N>S flows higher.

Results & Observations

North>South Paths:

Central WA: North of Hanford

Resulting in decrease in ATC:

- Adjustment of Idaho-NW flows in the summer to an import resulted in higher exports to California, south of this path.

More Results & Observations

Oregon/Washington East>West Paths:

West of McNary, West of Slatt, and West of John Day

Resulting in decrease in ATC:

- Adjustment of Idaho-NW flows in the summer/winter to an import resulted in higher E>W flows across these paths.
- Some power coming from east of the paths will cross them in order to reach California interties or west coast load centers.

More Results & Observations

Oregon/Washington East>West Paths:

West of Lower Monumental

Resulting in increase in ATC:

- Increased exports to Idaho offload flows on the path in spring condition.

West of Hatwai

Resulting in variations in ATC:

- Base ETCs decreased by ~100 MW in 10 year case as compared to last year, while 5 year ETCs showed negligible increase.
- This impacted rate of growth across full 10 year outlook.

More Results & Observations

Winter Paths:

Cross Cascades North E>W

Resulting in variations in ATC:

- Growth rate is impacted by 5 vs. 10 year load forecasts
  - Decreased Seattle area load in 5 year cases, increased Seattle area load in 10 year cases.
  - ETCs decreased in 5 year case as compared to last year, while 10 year ETCs increased.

More Results & Observations

Winter Paths:

Cross Cascades South E>W

Resulting in decreased ATC:

- Adjustment of Idaho-NW flows in the summer/winter to an import resulted in higher E>W flows across these paths.
- Some power coming from east of the paths will cross them in order to reach California interties or west coast load centers.

North of Echo Lake S>N

Resulting in increased ATC:

- Adjustment of Idaho-NW flows in the winter to an import resulted in higher N>S exports to California, effectively resulting in counterflow.

New Long-Term ATC Values

ATC For Posting Following Release of 2022 ATC Update										
Path Name	**TTC**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
South of Allston N>S -- BPA	2,115	232	216	201	185	169	154	139	123	108
Cross Cascades North E>W	10,250	768	766	766	766	766	757	748	739	729
West of Lower Monumental E>W	4,200	380	385	389	388	392	396	346	279	283
Cross Cascades South E>W	7,500	440	427	413	400	387	366	334	314	294
North of Hanford N>S	4,450	582	625	751	793	833	878	922	963	1,001
Raver-Paul N>S	1,450	30	22	15	3	0	0	0	0	0
West of McNary E>W	5,230	1,840	1,866	1,909	1,956	1,981	2,005	2,026	2,026	2,050
West of Slatt E>W	4,670	1,213	1,167	1,172	1,137	1,101	1,065	1,011	974	936
West of John Day E>W	4,530	423	302	256	198	143	90	20	0	0
South of Custer N>S	900	0	0	0	0	0	0	0	0	0
North of Echo Lake S>N	2,800	316	315	315	315	315	315	315	315	315
West of Hatwai E>W	3,650	51	89	120	150	180	210	240	33	62

Long-Term ATC Deltas

Change in ATC For Posting Following Release of 2022 ATC Update										
Path Name	**TTC**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
South of Allston N>S -- BPA	2,115	(179)	(184)	(187)	(196)	(204)	(212)	(219)	(227)	(234)
Cross Cascades North E>W	10,250	472	413	334	250	167	76	(15)	(105)	(195)
West of Lower Monumental E>W	4,200	70	74	78	81	82	84	32	89	91
Cross Cascades South E>W	7,500	(296)	(266)	(260)	(254)	(253)	(261)	(268)	(275)	(282)
North of Hanford N>S	4,450	(248)	(226)	(203)	(180)	(158)	(136)	(113)	(91)	(71)
Raver-Paul N>S	1,450	(45)	(51)	(55)	(59)	(63)	(67)	(71)	(75)	(78)
West of McNary E>W	5,230	(389)	(372)	(340)	(308)	(276)	(241)	(182)	(171)	(136)
West of Slatt E>W	4,670	(20)	(82)	(79)	(114)	(136)	(160)	(202)	(209)	(235)
West of John Day E>W	4,530	13	(2)	(34)	(67)	(99)	(129)	(160)	(192)	(225)
South of Custer N>S	900	(8)	(5)	(2)	2	5	8	11	14	17
North of Echo Lake S>N	2,800	385	384	345	306	267	227	187	147	108
West of Hatwai E>W	3,650	(71)	(40)	(17)	5	27	49	71	92	113

Immediate Next Steps

- 2022 ATC Update results will be released and applied to all pending long term transmission service requests (TSRs), as described in the *ATC Methodologies for the Planning Time Period, V18* document.
- Postings on the external site will be updated over the next month: https://www.bpa.gov/energy-and-services/transmission/transmission-availability
  - ATC and AFC Firm Inventory
  - AFC/ATC Less Pending Queued Request Inventory
  - Long-Term Pending Queue
- Long-Term Transmission Inventory and Redirect Maps are also available for assessing potential impacts of Transmission Service Requests.