2018 Long Term ATC Base Case Release

October 5, 2016

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2018 LT ATC Base Case

- The annual Long Term ATC Base Case
  - Applies to the post 14 month time horizon; and
  - Completed to meet BPA's obligation under the Long Term ATC Methodology to perform an annual ATC/AFC update.
- This year's update also incorporates changes to BPA's ATC methodology
  - Changes were vetted publically between November 2015 and March 2016; and
  - Decision announced in May 2016:
    - Removed Contract Accounting portion of calculation;
    - Replaced ATC Methodology Margin with a new uncertainty margin;
    - Modified several generation and load assumptions; and
    - Increased number of scenarios assessed to calculate Existing Transmission Commitments (ETC).

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ATC Methodology Refresher

- Load Levels – for those load forecasts BPA produces, 1-in-2 non-coincidental peak load forecasts are input to the LT ATC Base Case (no change)
- Non-Federal Resources
  - Wind is modeled in two ways:
    - "Off" and replaced with balancing logic generation for wind delivered on PTP transmission, and replaced with FCRPS for wind serving NT load; and
    - "On" at contract demand, capped at nameplate.
    - The change from previous modeling assumptions is the expansion of the wind "off" scenario to include PTP contracts as well.
  - Non-Wind is modeled at contract demand, capped at lower of nameplate or historical peaks (no change)

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ATC Methodology Refresher

- FCRPS
  - Replace the existing single FCRPS dispatch assumption with three dispatches that separately stress the hydro system at the Upper Columbia projects, Lower Columbia projects, and Lower Snake projects
  - Stress levels set at nameplate capacity reduced for forecasted FCRPS generator outages for all seasons and all stress cases except the Lower Snake project in late summer (August)
  - Lower Snake projects in August will be modeled at the peak ten-year historical outflow with an adjustment to account for spill requirements being removed from the projects

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ATC Methodology Refresher

- Balancing Logic
  - A pro rata reduction of all resources, except the stressed FCRPS zone, will be used to achieve balance.
  - Previous LT ATC Base Cases were balanced using hydro generation.
- Load Growth – the regional average load growth rate will be applied to the Planning Existing Transmission Commitments (ETC) values
  - Rate will be determined by comparing the two-year and five-year WECC Base Cases.
  - Load growth was previously incorporated via the Contract Accounting Methodology, which has been eliminated.
- ETC & Uncertainty Margin
  - 12 cases, rather than previous maximum of 4, will be produced per season.
  - BPA will use the lowest ETC across seasonal cases and use the difference between the highest and lowest ETC values as an uncertainty margin, which completely replaces previously used AMM calculations.

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ATC Methodology Document Walkthrough

- Significantly rewritten Long-Term ATC Methodology document will be posted for comment October 7, 2016
- Due to the volume of changes we will not be providing red lines of the former ATC Methodology documents
- Please send any comments to techforum@bpa.gov inbox by October 21, 2016
- Long-Term ATC Methodology document will be posted at: https://www.bpa.gov/transmission/Doing%20Business/ATCMethodology/Pages/default.aspx

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Meeting BPA's OATT Planning Obligation for NT Resource Forecasts

- BPA has also completed the FY16 annual dialogue cycle for NT resource forecasts for the upcoming 10 year period.
  - As a result, BPA has encumbered capacity for some of the NT forecasted resources via PTDF calculations for the highest impact on each flowgate for all forecasted resources.
  - Forecasted TSRs (FTSRs) will be used to reflect these encumbrances.
  - Resources for which ATC has been encumbered are required to designate as a network resource to enable use of the encumbered capacity.
  - Per OATT, BPA retains redispatch rights to designated network resources.
- Slide 11 (ATC Comparison) reflects implementation of the ATC Methodology update, the 2018 Long Term Base Case results, and the final PTDF encumbrances for the NT planning dialogue.
- This Fall, BPA will begin the FY17 NT dialogue process.

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2016 Forecast Dialogue Encumbrances

Path Name	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
South of Allston	15	15	27	35	46	91	104	107	108	108
WOC North E>W	31	32	40	49	62	137	154	148	152	152
West of LOMO E>W	0	0	0	0	0	76	76	76	76	76
WOC South E>W	0	1	1	0	0	43	47	47	77	77
NOHanford N>S	60	62	107	121	156	354	401	411	419	419
NOJD N>S	21	22	39	49	63	194	215	218	221	221
Paul to Allston	22	22	26	33	41	88	90	93	95	95
Raver to Paul	16	16	28	24	30	67	76	79	82	82
WOMcNary E>W	0	0	0	0	0	101	101	101	101	101
WOSlatt E>W	0	0	0	0	0	20	20	20	20	20
WOJD E>W	0	0	0	0	0	19	19	19	111	111
South of Custer N>S	0	0	0	0	0	0	0	0	0	0
North of Echo Lake S>N	0	0	0	0	0	10	10	10	24	24

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What's Included in the 2018 LT ATC Base Cases?

- 2017 ATC Update
  - Base cases: 2017 May, June, August and January.
  - Wind (80% of contract demand for PTP; On/Off scenario for designated NT wind)
  - Canadian Entitlement On/Off
  - Scenarios: Total of 14 cases
  - Infrastructure changes
    - Big Eddy – Knight and Central Ferry – Lower Monumental included in 2017 ATC Update (including a significant amount of TSRs enabled by those additions)
- 2018 ATC Update
  - Base cases: 2018 May, June, August and January.
  - Wind (full contract demand/designation): On/Off
  - Canadian Entitlement: On/Off
  - Scenarios: Total of 42 cases
  - No new major infrastructure additions
  - Includes updated TTC for North of John Day to 8400 MW
  - High FCRPS dispatch scenario at Upper Columbia, Lower Columbia, Lower Snake resources

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What's Included in the Final 2018 ATC Values?

- Regional Load Growth
  - 950 MW load reduction in January cases
  - 385 MW load reduction in August cases (similar in May & June)
  - 170 MW load reduction modeled at Intalco in all seasons
- Minimal Long Term Sales added to Planning cases
- Changes in contract modeling resulted in lowering the COI flows by 400 MW in May, June, and August cases
- Encumbrances for NT resource forecasts

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CURRENT ATC - Effective 10/03/2016 Path Name	TBL TTC (MW)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ATC for South of Allston	2001	51	0	0	0	0	0	0	0	0	0
ATC for WOC North E>W	10250	0	0	0	0	0	0	0	0	0	0
ATC for West of LOMO E>W	4200	1736	1699	1658	1614	1573	1532	1415	1372	1329	1285
ATC for WOC South E>W	7500	605	489	372	256	136	0	0	0	0	0
ATC for NOHanford N>S	4450	1221	1159	1090	1018	956	884	680	608	572	538
ATC for NOJD N>S	7800	1715	1615	1499	1387	1278	1165	949	832	732	630
ATC for Paul to Allston	2400	1030	997	969	941	908	877	814	790	764	739
ATC for Raver to Paul	1450	157	129	109	79	61	37	0	0	0	0
ATC for WOMcNary E>W	4500	1231	1182	1130	1077	1024	869	815	759	702	644
ATC for WOSlatt E>W	4200	211	145	79	11	0	0	0	0	0	0
ATC for WOJD E>W	4300	614	560	504	448	391	305	246	186	42	0
ATC for South of Custer N>S	1850	635	618	601	582	564	546	528	509	490	470
ATC for North of Echo Lake S>N	2800	0	0	0	0	0	0	0	0	0	0

FINAL 2018 BASE CASE NUMBERS Path Name	TBL TTC (MW)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ATC for South of Allston	2001	0	0	0	0	0	0	0	0	0	0
ATC for WOC North E>W	10250	572	421	260	96	0	0	0	0	0	0
ATC for West of LOMO E>W	4200	841	817	788	756	729	701	596	567	538	508
ATC for WOC South E>W	7500	1029	934	836	739	639	493	386	280	142	33
ATC for NOHanford N>S	4450	390	361	359	319	300	261	58	7	0	0
ATC for NOJD N>S	8400	485	419	361	284	214	138	0	0	0	0
ATC for Paul to Allston	2400	790	770	760	745	726	706	647	623	619	604
ATC for Raver to Paul	1450	0	0	0	0	0	0	0	0	0	0
ATC for WOMcNary E>W	4500	738	707	673	640	607	472	437	402	366	329
ATC for WOSlatt E>W	4200	92	55	16	0	0	0	0	0	0	0
ATC for WOJD E>W	4300	1520	1490	1456	1424	1390	1328	1294	1259	1141	1105
ATC for South of Custer N>S	1850	676	674	672	669	667	664	662	660	658	656
ATC for North of Echo Lake S>N	2800	278	238	197	156	113	71	27	0	0	0

DIFFERENCE (BASE CASE minus CURRENT ATC) Path Name		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ATC for South of Allston		(51)	0	0	0	0	0	0	0	0	0
ATC for WOC North E>W		572	421	260	96	0	0	0	0	0	0
ATC for West of LOMO E>W		(895)	(882)	(870)	(858)	(844)	(831)	(819)	(805)	(791)	(777)
ATC for WOC South E>W		424	445	464	483	503	493	386	280	142	33
ATC for NOHanford N>S		(1031)	(998)	(931)	(899)	(856)	(823)	(680)	(608)	(572)	(538)
ATC for NOJD N>S		(1230)	(1196)	(1138)	(1103)	(1064)	(1027)	(949)	(832)	(732)	(630)
ATC for Paul to Allston		(240)	(227)	(209)	(196)	(182)	(171)	(167)	(167)	(145)	(135)
ATC for Raver to Paul		(157)	(129)	(109)	(79)	(61)	(37)	0	0	0	0
ATC for WOMcNary E>W		(493)	(475)	(457)	(437)	(417)	(397)	(378)	(357)	(336)	(315)
ATC for WOSlatt E>W		(119)	(90)	(63)	(11)	0	0	0	0	0	0
ATC for WOJD E>W		906	930	952	976	999	1023	1048	1073	1099	1105
ATC for South of Custer N>S		41	56	71	87	103	118	134	151	168	186
ATC for North of Echo Lake S>N		278	238	197	156	113	71	27	0	0	0

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Next Steps

- Release and post 2018 Long Term ATC Base Case October 7, 2016
- Post Long-Term ATC Methodology document for comment October 7, 2016 – October 21, 2016
- Any questions, please contact the BPA Transmission Services Reservation Desk at tblresdesk@bpa.gov or (360) 418-8499

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