

RHWM Process Workshop

BP-18 Rate Period – Draft Final Outputs

Rates Hearing Room

August 9, 2016

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RHWM Process Workshop Agenda

Topic	Presenter
Introductions and Purpose of Workshop	Lindsay Bleifuss
New BPA Customer	Lindsay Bleifuss
Load Forecast Changes in Comment Period	Reed Davis
Updated T1SFCO	Tim Misely Steve Bellcoff
RHWM Augmentation	Peter Stiffler
Next Steps	Lindsay Bleifuss

Kalispel Tribe Utility (KTU)

- Kalispel Tribe of Indians has requested that the Administrator make a determination on the tribe's eligibility to become a BPA preference customer under section 5(b) of the Northwest Power Act.
- KTU shared plans to begin purchasing around 4 aMW of power from BPA beginning Oct. 1, 2017.
- The loads are on tribal property that is currently served by Inland Power and Light and Avista.
- BPA is expected to respond some time in August.
- BPA is including the portion of load coming from Avista as part of the RHWM Augmentation for New Publics.

Load Forecast Update

- All comments in May merited adjustment based on the criteria and will be included.
- Changes made to Total Retail Load as a result:
 - Fiscal Year 2018 3.6 aMW decrease
 - Fiscal year 2019 8.7 aMW decrease
- Anything after the May comment period ended has not been included. Customers will need to comment during the August comment period to requesting changes to their load forecast, for the final RHWM analyses and outputs to be published in September.

Forecast Update Guidelines

Principles guiding changes

- Avoid subjective bias in results
 - Make changes with a clearly identifiable cause and effect.
 - Avoid making changes within the tolerance of model errors, i.e. changes less than 5%.
 - Rely on models and results put together when consequences are not immediately pending.
- Avoid forcing the models to give specific answers
 - Rely on statistics of models
 - Rely on accuracy of models and improve when results are not within accuracy tolerance levels.
 - Avoid updating without sufficient new data
- Incorporate highly probable information
 - Include new loads/projects that have higher than 70% probability of occurring.

Federal Tier 1 System Firm Critical Output Summary

Table 2.12.1
Federal Tier 1 System Firm Critical Output Projection - 2-Year Average
RHWM Process for BP-18 Rate Period

S135-RC-20160803-165201

1.	T1SFCO Projections Energy in aMW	2018	2019	Average
2.	Total Federal System Hydro Generation (<i>TRM Table 3.1</i>)	6,589.6	6,584.8	6,587.2
3.	Total Designated Non-Federally Owned Resources (<i>TRM Table 3.2</i>)	1,148.8	986.0	1,067.4
4.	Total Designated BPA Contract Purchases (<i>TRM Table 3.3</i>)	137.0	137.7	137.4
5.	Total Designated System Obligations (<i>TRM Table 3.4</i>)	-917.2	-907.9	-912.5
6.	Federal Tier 1 System Firm Critical Output (<i>sum of Lines 2-5</i>)	6,958.2	6,800.6	6,879.4

- ❑ Total RHWM is higher by approximately 1 aMW from those presented in the June 30, 2016 RHWM Process meeting due to:
 - Line 5: Reduced Transmission losses (+1 aMW)

T1SFCO Difference

BP-18 RHWM Process versus BP-16 Final RHWM Process

T1SFCO 2-Year Average Comparison (Energy in aMW)	RHWM Process for BP-18 Rate Period (FY 2018-19)	BP-16 Final RHWM Process (FY 2016-17)	Difference 2-Year Average	Component Details
T1SFCO Resource Differences				
1. Total Federal System Hydro Generation (TRM Table 3.1)	6,587	6,702	-115	Hydro generation forecasts were reduced due to the following: <ul style="list-style-type: none"> • Lower outflows from Canadian projects, more Grand Coulee pumping and the removal of the max transport no spill assumption in the second year of study; and changes in the Grand Coulee inflows that drafted deeper in November through February resulting in head losses (-101 aMW) • Removal of the Idaho Falls Bulb turbines generation (-14 aMW)
2. Total Designated Non Federally Owned Resources (TRM Table 3.2)	1,067	1,050	18	Non Federally owned resource changes: <ul style="list-style-type: none"> • Columbia Generating Station (+23 aMW) • GP-Paper (Wauna) contract acquisition expired 4/5/2016 (-5 aMW)
3. Total Designated BPA Contract Purchases (TRM Table 3.3)	137	177	-40	Contract purchase changes: <ul style="list-style-type: none"> • BPA/RVSD contract expired 4/30/2016 (-8 aMW) • BPA/BCHA Libby Coordination Agreement (LCA) settled financially (-32 aMW)
T1SFCO Load/Obligation Differences				
4. Total Designated System Obligations (TRM Table 3.4)	-913	-1,005	92	Contract purchase changes: <ul style="list-style-type: none"> • BPA/USBR Obligations (+4 aMW) • BPA/BCHA Canadian Entitlement Return (-4 aMW) • BPA/AVWP WNP3 Settlement (+3 aMW) • BPA/PSE WNP3 Settlement contract expires 6/30/2017 (-42 aMW) • BPA/RVSD contract expired 4/30/2016 (-1 aMW) • BPA/BHEC Legacy contract expires 6/30/2016 (-8 aMW) • Transmission loss calculation w/updated resources and contracts (-12 aMW) • BPA/BCHA Libby Coordination Agreement (LCA) settled financially (-32 aMW)
5. Federal Tier 1 System Firm Critical Output (2-year average)	6,879	6,924	-45	

RHWM Augmentation

BESID	Preference Customer	CHWM 2016	Portion of CHWM which was additional through BP-16	TRL 2019	Additional CHWM 2018	Total Additional	2018 CHWM
10426	U.S. DOE Richland Operations Office	26.683	6.395	31.763	5.080	11.475	31.763
10482	Umpqua Indian Utility Cooperative	4.175	1.375	2.711	0.000	1.375	4.175
10502	Yakama Power	11.807	5.490	9.762	0.000	5.490	11.807
12026	Jefferson County PUD #1	45.847				45.847	45.847
10999	Kalispel Tribe Utility	2.894*			1.24	1.240	4.134

T1SFCO	6879.419
RHWM Augmentation	<u>65.427</u>
RT1SC	6,944.846

*Kalispel Tribe Utility's initial CHWM

Next Steps

Action	FY16 Timing
<i>FORMAL PROCESS BEGINS</i>	
Public workshop - Present draft final RHWM process outputs (T1SFCO, RHWM, and Above-RHWM Loads)	August 9 (Tuesday)
Draft final RHWM process outputs published	August 9 (Tuesday)
Public comment period will be run for 10 business days following the public workshop (on BPA comment page)	August 10 (Wednesday)-August 23 (Tuesday)
Deadline for written preservation of right to dispute (3 days after August 9th workshop)*	August 12 (Friday)
Republish RHWM process outputs (if changes made due to public comments)	September 6 (Tuesday)
Deadline for dispute notice	September 16 (Friday)
Publish final RHWM process outputs**	September 30 (Friday)

*To preserve the right to dispute resolution, parties must provide written notice. Notice must be sent to Lindsay Bleifuss at lbleifuss@bpa.gov, and describe the issue for review.

**Final RHWM outputs will be published on September 30th assuming there is no dispute.

Next Steps

- Public comment period August 10 - 23, 2016. Please submit comments (including load forecast change requests) on BPA's public comment page:
<https://www.bpa.gov/applications/publiccomments/OpenCommentListing.aspx>
- Please review the RHWM draft final outputs that are posted on the RHWM website:
<https://www.bpa.gov/Finance/RateCases/BP-18/Pages/Rate-Period-High-Water-Mark-Process.aspx>

Questions?

Appendix

Federal System Hydro Generation

Used in T1SFCO Calculation

Federal System Hydro Generation for use in the T1SFCO Calculation
RHWM Process for BP-18 Rate Period
TRM Table 3.1
 S135-RC-20160803-165201

1.	Regulated Hydro	2018	2019	Average
2.	Albeni Falls	22.3	21.9	22.1
3.	Bonneville	390.7	390.7	390.7
4.	Chief Joseph	1,100.1	1,100.1	1,100.1
5.	Dworshak	141.6	137.0	139.3
6.	Grand Coulee	1,907.1	1,907.1	1,907.1
7.	Hungry Horse	81.4	81.4	81.4
8.	Ice Harbor	109.1	109.1	109.1
9.	John Day	784.7	784.7	784.7
10.	Libby	186.8	186.8	186.8
11.	Little Goose	156.4	156.4	156.4
12.	Lower Granite	146.2	146.3	146.3
13.	Lower Monumental	146.4	146.4	146.4
14.	McNary	478.2	478.2	478.2
15.	The Dalles	599.3	599.3	599.3

Federal System Hydro Generation

Used in T1SFCO Calculation *(continued)*

Federal System Hydro Generation for use in the T1SFCO Calculation
 RHW Process for BP-18 Rate Period
 TRM Table 3.1
 S135-RC-20160803-165201

16.	Independent Hydro	2018	2019	Average
17.	Anderson Ranch	12.2	12.2	12.2
18.	Big Cliff	9.7	9.7	9.7
19.	Black Canyon	6.2	6.2	6.2
20.	Boise River Diversion	1.2	1.2	1.2
21.	Chandler	6.1	6.1	6.1
22.	Cougar	19.0	19.0	19.0
23.	Cowlitz Falls	26.5	26.5	26.5
24.	Detroit	33.8	33.8	33.8
25.	Dexter	9.4	9.4	9.4
26.	Foster	12.2	12.2	12.2
27.	Green Peter	26.9	26.9	26.9
28.	Green Springs - USBR	7.3	7.3	7.3
29.	Hills Creek	17.9	17.9	17.9
30.	<i>Idaho Falls - City Plant (expires 9/30/2016)</i>	0.0	0.0	0.0
31.	<i>Idaho Falls - Lower Plants #1 & #2 (expires 9/30/2016)</i>	0.0	0.0	0.0
32.	<i>Idaho Falls - Upper Plant (expires 9/30/2016)</i>	0.0	0.0	0.0
33.	Lookout Point	35.8	35.8	35.8
34.	Lost Creek	30.1	30.1	30.1
35.	Minidoka	10.7	10.7	10.7
36.	Palisades	67.4	67.4	67.4
37.	Roza	6.9	6.9	6.9
38.	Total Tier 1 Federal System Hydro Generation	6,589.6	6,584.8	6,587.2

Designated Non-Federally Owned Resources

Used in T1SFCO Calculation

Designated Non-Federally Owned Resources for use in the T1SFCO Calculation
RHWM Process for BP-18 Rate Period
TRM Table 3.2
 S135-RC-20160803-165201

1.	Project	2018	2019	Average
2.	Ashland Solar Project	0.0	0.0	0.0
3.	Columbia Generating Station	1,100.0	937.3	1,018.6
4.	Condon Wind Project	11.7	11.7	11.7
5.	Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6
6.	Foote Creek 1	3.6	3.6	3.6
7.	Foote Creek 2	0.0	0.0	0.0
8.	Foote Creek 4	4.0	4.0	4.0
9.	<i>Fourmile Hill Geothermal (Not included)</i>	0.0	0.0	0.0
10.	<i>Georgia-Pacific Paper (Wauna) (Acquisition Expired 4/5/2016)</i>	0.0	0.0	0.0
11.	Klondike I	5.7	5.7	5.7
12.	Stateline Wind Project	21.2	21.2	21.2
13.	White Bluffs Solar	0.0	0.0	0.0
14.	Total Designated Non-Federally Owned Resources	1,148.8	986.0	1,067.4

Designated BPA Contract Purchases

Used in T1SFCO Calculation

Designated BPA Contract Purchases for use in the T1SFCO Calculation
Preliminary RHWM Process for BP-18 Rate Period
TRM Table 3.3
 S135-RC-20160803-165201

1.	Contract Purchases	Contract #	2018	2019	Average
2.	Priest Rapids CER for Canada	97PB-10099	29.2	28.8	29.0
3.	Rock Island #1 CER for Canada	97PB-10102	17.7	18.3	18.0
4.	Rock Reach CER for Canada	97PB-10103	37.1	37.6	37.3
5.	Wanapum CER for Canada	97PB-10100	28.2	28.4	28.3
6.	Wells CER for Canada	97PB-10101	23.9	23.6	23.7
7.	BCHP to BPA PwrS	99PB-22685	1.0	1.0	1.0
8.	BCHP to BPA LCA (<i>settled financially</i>)	99PB-22685	0.0	0.0	0.0
9.	PASA to BPA Pk Repl (<i>expired 4/30/2015</i>)	94BP-93658	0.0	0.0	0.0
10.	PASA to BPA S/N/X (<i>expired 4/30/2015</i>)	94BP-93658	0.0	0.0	0.0
11.	PASA to BPA Xchg Nrg (<i>expired 4/30/2015</i>)	94BP-93658	0.0	0.0	0.0
12.	RVSD to BPA Pk Repl (<i>expired 4/30/2016</i>)	94BP-93958	0.0	0.0	0.0
13.	RVSD to BPA Seas Xchg (<i>expired 4/30/2016</i>)	94BP-93958	0.0	0.0	0.0
14.	RVSD to BPA Xchg Nrg (<i>expired 4/30/2016</i>)	94BP-93958	0.0	0.0	0.0
15.	PPL to BPA SNX (Spring Return) (<i>expired 6/1/2014</i>)	94BP-94332	0.0	0.0	0.0
16.	PPL to BPA SPX (Summer Return) (<i>expired 6/1/2014</i>)	94BP-94332	0.0	0.0	0.0
17.	Total Designated BPA Contract Purchases		137.0	137.7	137.4

Designated BPA System Obligations

Used in T1SFCO Calculation

Table 2.12.5
Designated BPA System Obligations for use in the T1SFCO Calculation
Preliminary RHW Process for BP-18 Rate Period
TRM Table 3.4 (Negative numbers indicate obligations)
 S135-RC-20160803-165201

1.	System Obligation	Contract #	2018	2019	Average
2.	BPA to BRCJ Chief Joseph	14-03-17506; 14-03-49151	-8.8	-8.8	-8.8
3.	BPA to BRCB Columbia Basin Project	lbp-4512; 14-03-001-12160	-142.9	-142.9	-142.9
4.	BPA to BRCR Crooked River Project	14-03-73152	-0.7	-0.7	-0.7
5.	BPA to BROP Owyhee Project	EW-78-Y-83-00019	-1.7	-1.7	-1.7
6.	BPA to BRRP Rathdrum Prairie Project	14-03-49151	-0.6	-0.6	-0.6
7.	BPA to BRSID Southern Idaho Projects	EW-78-Y-83-00019	-20.0	-20.0	-20.0
8.	BPA to BRSIN Spokane Indian Develop.	14-03-49151	-0.3	-0.3	-0.3
9.	BPA to BRSV Spokane Valley	14-03-63656	-0.7	-0.7	-0.7
10.	BPA to BRTD The Dallas Reclamation Project	14-03-32210	-2.0	-2.0	-2.0
11.	BPA to BRTV Tualatin Project	14-03-49151	-0.8	-0.8	-0.8
12.	BPA to BRUB Umatilla Basin Project	10GS-75345	-2.4	-2.4	-2.4
13.	BPA to BRYK Yakima Project	DE-MS79-88BP92591	-1.8	-1.8	-1.8
14.	BPA to BCHP LCA (settled financially)	99PB-22685	0.0	0.0	0.0
15.	BPA to BCHA Can Ent	99EO-40003	-468.5	-462.4	-465.5
16.	BPA to BCHA NTSA	12PG-10002	-9.1	-9.1	-9.1
17.	BPA to BHEC 2012PSC (expired 6/30/2017)	97PB-10051	0.0	0.0	0.0

Designated BPA System Obligations

Used in T1SFCO Calculation *(Continued)*

Table 2.12.5
Designated BPA System Obligations for use in the T1SFCO Calculation
Preliminary RHWM Process for BP-18 Rate Period
TRM Table 3.4 *(Negative numbers indicate obligations)*
 S135-RC-20160803-165201

	System Obligation	Contract #	2018	2019	Average
18.	BPA to PASA C/N/X <i>(expired 4/30/2015)</i>	94BP-93658	0.0	0.0	0.0
19.	BPA to PASA S/N/X <i>(expired 4/30/2015)</i>	94BP-93658	0.0	0.0	0.0
20.	BPA to RVSD C/N/X <i>(expired 4/30/2016)</i>	94BP-93958	0.0	0.0	0.0
21.	BPA to RVSD Seas Xchg <i>(expired 4/30/2016)</i>	94BP-93958	0.0	0.0	0.0
22.	Federal Intertie Losses <i>(Calculated: 3.0% of Intertie Sales Table 2.12.5 lines 18-21)</i>	n/a	0.0	0.0	0.0
23.	BPA to AVWP WP3 S <i>(expires 6/30/2019)</i>	85BP-92186	-44.8	-44.8	-44.8
24.	BPA to PPL SNX (Spring Delivery) <i>(expired 6/1/2014)</i>	94BP-94332	0.0	0.0	0.0
25.	BPA to PPL SPX (Summer Delivery) <i>(expired 6/1/2014)</i>	94BP-94332	0.0	0.0	0.0
26.	BPA to PSE WP3 S <i>(expired 6/30/2017)</i>	85BP-92185	0.0	0.0	0.0
27.	BPA to PSE Upper Baker 2	09PB-12126	-1.3	-1.3	-1.3
28.	BPAP to BPAT <i>(Dittmer/Substation Service)</i>	09PB-12128	-9.4	-9.4	-9.4
29.	Federal Power Trans. Losses	n/a	-236.8	-232.7	-234.7
30.	Slice Transmission Loss Returns	n/a	35.5	34.7	35.1
31.	Total Designated System Obligations		-917.2	-907.9	-912.5