Department of Energy

Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

FREEDOM OF INFORMATION ACT PROGRAM

May 1, 2023

In reply refer to: FOIA #BPA-2022-00699-F

SENT VIA EMAIL ONLY TO: [redacted]

Norm Smith
[redacted]

Dear Mr. Smith,

This communication is the Bonneville Power Administration's (BPA) final response to your request for agency records made under the Freedom of Information Act, 5 U.S.C. § 552 (FOIA). BPA received your records request on April 6, 2022, and formally acknowledged your request on April 8, 2022.

Request
"Communications from June 2021, up to the present between BPA and Pend Oreille PUD (PUD) relating to power requested by Allrise or Merkle Standard; for either restarting the Ponderay Newsprint Mill, or cryptomining operations. Specifically including communications between the PUD and Mr. Jeff Cook, VP for Transmission Planning and Asset Management; as described in the attached Press Release from the PUD."

Clarification
On April 7, 2022, you clarified your request via email with the agency, in that that you seek **all** "…communications from June 2021, up to the present between BPA and Pend Oreille PUD (PUD) relating to power requested by Allrise or Merkle Standard; for either restarting the Ponderay Newsprint Mill, or cryptomining operations…" and **not** just those between Jeff Cook and the PUD.

Response
BPA has searched for and gathered 1,396 records responsive to your request from the agency's email system. The records accompany this communication, with the following redactions applied:

- 7 redactions applied under 5 U.S.C. § 552(b)(5) (Exemption 4); and
- 112 redactions applied under 5 U.S.C. § 552(b)(6) (Exemption 6).

You'll find a detailed explanation of the applied exemptions below.

Explanation of Exemptions
The FOIA generally requires the release of all agency records upon request. However, the FOIA permits or requires withholding certain limited information that falls under one or more of nine statutory exemptions (5 U.S.C. §§ 552(b)(1-9)). Further, section (b) of the FOIA, which contains the FOIA's nine statutory exemptions, also directs agencies to publicly release any reasonably segregable, non-exempt information that is contained in those records.

<u>Exemption 4</u>
Exemption 4 protects "trade secrets and commercial or financial information obtained from a person [that is] privileged or confidential." (5 U.S.C. § 552(b)(4)). Information is considered commercial or financial in nature if it relates to business or trade. This exemption is intended to protect the interests of both the agency and third party submitters of information. Prior to publicly releasing agency records, BPA was required by Exemption 4 to solicit objections to a public release of any third party's confidential commercial information contained in the set of responsive records. BPA provided Public Utility District No. 1 of Pend Oreille County, Ponderay Renewable Fiber, and Maintenance & Test Engineering, LLC, with an opportunity to formally object to the public release of their respective information contained in the responsive records. BPA received objections and has accepted those objections, either in whole or in part, based on guidance available from the U.S. Department of Justice. The agency is withholding submitter critical infrastructure information from public release. The FOIA does not permit a discretionary release of information otherwise protected by Exemption 4.

<u>Exemption 6</u>
Exemption 6 serves to protect Personally Identifiable Information (PII) contained in agency records when no overriding public interest in the information exists. BPA does not find an overriding public interest in a release of the information redacted under Exemption 6 — specifically, individuals' signatures, cell phone numbers, and meeting invite passcode numbers. BPA cannot waive these PII redactions, as the protections afforded by Exemption 6 belong to individuals and not to the agency.

Lastly, as required by 5 U.S.C. § 552(a)(8)(A), information has been withheld only in instances where (1) disclosure is prohibited by statute, or (2) BPA foresees that disclosure would harm an interest protected by the exemption cited for the record. When full disclosure of a record is not possible, the FOIA statute further requires that BPA take reasonable steps to segregate and release nonexempt information. The agency has determined that in certain instances partial disclosure is possible, and has accordingly segregated the records into exempt and non-exempt portions.

Certification
Pursuant to 10 C.F.R. § 1004.7(b)(2), I am the individual responsible for the records search, the redactions applied thereto, and the records release described above.

Appeal
The records release certified above is final. Pursuant to 10 C.F.R. § 1004.8, you may appeal the adequacy of the records search, and the completeness of this final release, within 90 calendar days from the date of this communication. Appeals should be addressed to:

Director, Office of Hearings and Appeals
HG-1, L'Enfant Plaza
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585-1615

The written appeal, including the envelope, must clearly indicate that a FOIA appeal is being made. You may also submit your appeal by e-mail to OHA.filings@hq.doe.gov, including the phrase "Freedom of Information Appeal" in the subject line. (The Office of Hearings and Appeals prefers to receive appeals by email.) The appeal must contain all the elements required by 10 C.F.R. § 1004.8, including a copy of the determination letter. Thereafter, judicial review will be available to you in the Federal District Court either (1) in the district where you reside, (2) where you have your principal place of business, (3) where DOE's records are situated, or (4) in the District of Columbia.

Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows:

Office of Government Information Services
National Archives and Records Administration
8601 Adelphi Road-OGIS
College Park, Maryland 20740-6001
E-mail: ogis@nara.gov
Phone: 202-741-5770
Toll-free: 1-877-684-6448
Fax: 202-741-5769

Questions about this communication or the status of your FOIA request may be directed to James King, FOIA Public Liaison, at jjking@bpa.gov or 503-230-7621. Questions may also be directed to E. Thanh Knudson, Case Coordinator (ACS Staffing Group), at etknudson@bpa.gov or 503-230-5221.

Sincerely,

Candice D. Palen
Freedom of Information/Privacy Act Officer
Attachments / Enclosures: Agency records responsive to FOIA request BPA-2022-00699-F accompany this communication.

From: Cicarelli,Andres A (BPA) - KSL-BELL-1

Sent: Thu Jun 17 10:30:49 2021

To: April Owen

Cc: Diana Jackson; Harris,Adelle L (TFE)(BPA) - TSES-TPP-2; Normandeau,Mike (BPA) - PSE-RONAN; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB

Subject: Pend Oreille FY21 Q3 Review 2021-6-16 (Exc Newsprint Load).xlsx

Importance: Normal

Attachments: Pend Oreille FY21 Q3 Review 2021-6-16 (Exc Newsprint Load).xlsx

Hi April,

Attached is the 3rd quarter forecast review for FY2021. Note that it is missing a month for a full quarter, but due to contract requirements, Pend Oreille's forecast needs to be completed by late June-early July.

The energy forecast is tracking fairly well on a year to date and monthly basis when compared to weather adjusted (where applicable) actual amounts.

The peak forecast isn't tracking as well as I would like with large discrepancies between forecast and actual amounts. However, those differences usually occur when there is a large deviation in HDD from the normal HDD used in the model. Note that actual amounts are not weather normalized. Since the differences in peak amounts tend to correspond with HDD differences, I think at least part of the discrepancies can be explained by weather events. Any thoughts on anything else which may have caused the peak discrepancies?

Because the energy forecast is tracking fairly well, and the peak forecast discrepancies be can at least partially explained, I am inclined to use the existing forecast for the upcoming Slice/Block contract process. Any thoughts on this?

The energy and peak forecast amounts are shown below relative to historical values.

Talk to you later,

Andres

Work Sheet Name	Data Update	Published
Actual Year To Date Load (aMW)	38.34	38.34
Actual Year To Date Weather Normalized Load (aMW)	39.00	39.00

FY 2021 3rd Quarter Forecast Tracking Results	Updated Forecast (aMW)	Published Forecast (aMW)
Forecast Year To Date aMW Load	38.43	38.43
Forecast Minus Wthr Normalized Actual Year To Date % Difference	-1.5%	-1.5%
Forecast Minus Wthr Normalized Actual Year To Date aMW Difference	-0.57	-0.57

Detail Data Fiscal Year	2021

Detail Data
- aMW Forecast
- CP Forecast
- Load Factor Forecast

Mthly % Dif. Parameter
- Published Forecast
- Updated Forecast

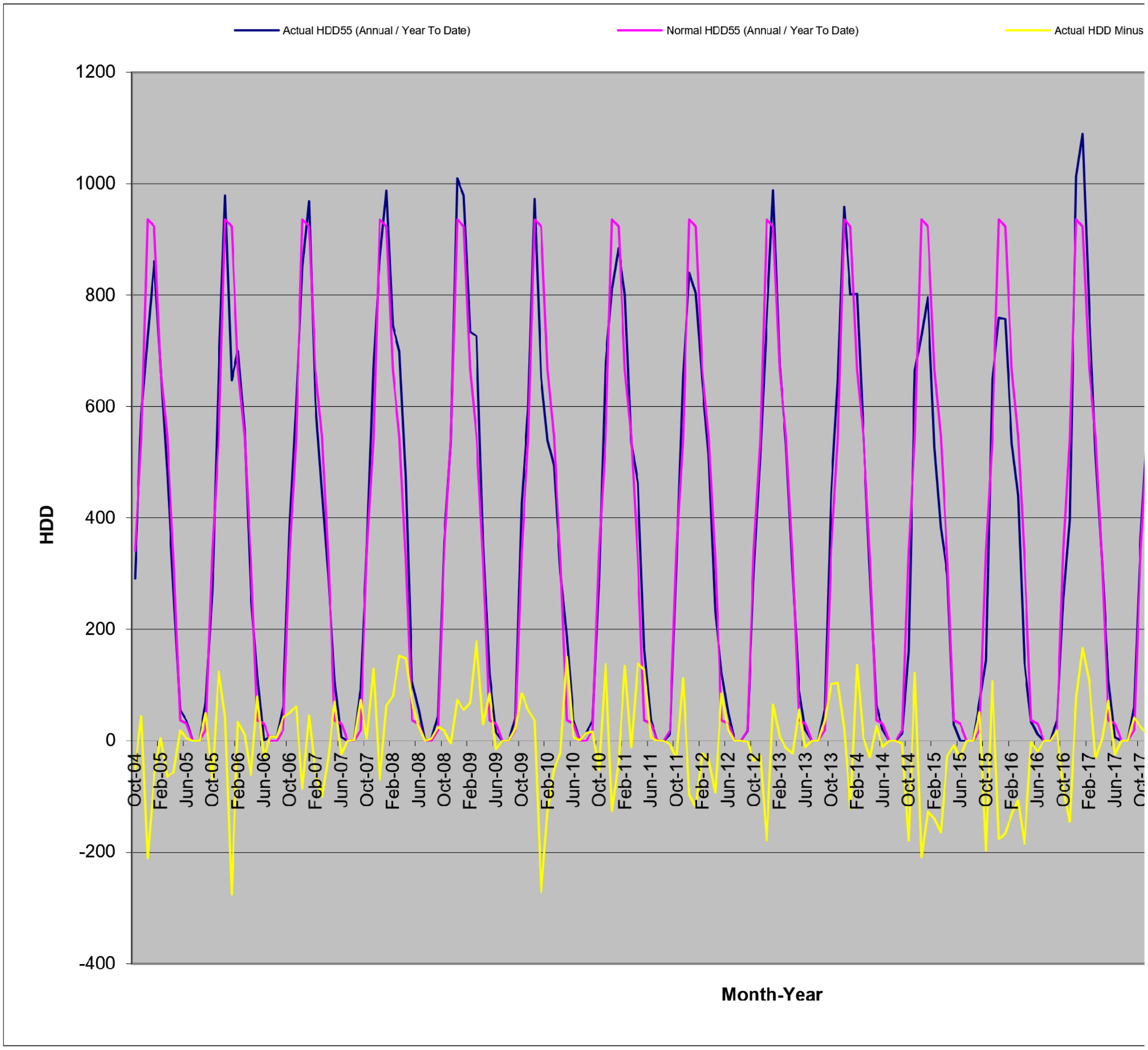
=Year To Date

* Weather Normalization from October Through March Only

Monthly Detail					
Mth-Yr	Updated aMW Forecast	Published aMW Forecast	aMW Actual	* Actual Weather Normalized Load (aMW)	Published Minus Wthr Normalized Actual Monthly % Difference
Oct-20	29.55	29.55	30.54	30.14	-2.00%
Nov-20	41.63	41.63	40.86	39.22	5.79%
Dec-20	49.69	49.69	46.33	49.97	-0.58%
Jan-21	47.89	47.89	46.77	51.70	-7.94%
Feb-21	43.80	43.80	49.15	46.66	-6.53%
Mar-21	37.41	37.41	37.67	38.54	-3.03%
Apr-21	31.93	31.93	30.69	30.69	3.89%
May-21	25.93	25.93	25.56	25.56	1.43%
Jun-21	24.16	24.16	Unavailable	Unavailable	Unavailable
Jul-21	24.03	24.03	Unavailable	Unavailable	Unavailable
Aug-21	23.65	23.65	Unavailable	Unavailable	Unavailable
Sep-21	24.90	24.90	Unavailable	Unavailable	Unavailable
Annual	33.67	33.67	38.34	39.00	

=Previous Forecast | =Year To Date | Weather Station: Deer Park (KDEW)

FY	Hrs/Yr	Number Of Months Of Actual Data	Updated Forecast (aMW)	Published Forecast (aMW)	Difference (aMW)	Actual (aMW)	Actual HDD55 (Annual / Year To Date)	Normal HDD55 (Annual / Year To Date)
2005	8760	12		Unavailable		112.00	4045.1	4367.0
2006	8760	12		Unavailable		111.43	4278.9	4367.0
2007	8760	12		Unavailable		107.90	4373.5	4367.0
2008	8784	12		Unavailable		113.42	5000.9	4367.0
2009	8760	12		Unavailable		110.58	4876.1	4367.0
2010	8760	12		Unavailable		113.00	4261.3	4367.0
2011	8760	12		112.85		113.11	4677.1	4367.0
2012	8784	12		115.47		114.69	4189.0	4367.0
2013	8760	12		113.68		115.90	4243.4	4367.0
2014	8760	12		115.93		110.50	4595.8	4367.0
2015	8760	12		116.34		92.90	3656.2	4367.0
2016	8784	12		92.34		109.08	3508.0	4367.0
2017	8760	12		86.00		115.47	4543.1	4367.0
2018	8760	12		112.28		116.25	4271.1	4367.0
2019	8760	12		112.51		113.73	4596.8	4367.0
2020	8784	12	33.33	108.63	-75.30	79.06	4237.1	4367.0
2021	8760	8	33.67	33.67	0.00	38.34	4021.0	4317.0
2022	8760	0	34.00	34.00	0.00	Unavailable	0.0	0.0
2023	8760	0	34.33	34.33	0.00	Unavailable	0.0	0.0
2024	8784	0	34.66	34.66	0.00	Unavailable	0.0	0.0
2025	8760	0	35.00	35.00	0.00	Unavailable	0.0	0.0
2026	8760	0	35.33	35.33	0.00	Unavailable	0.0	0.0
2027	8760	0	35.67	35.67	0.00	Unavailable	0.0	0.0
2028	8784	0	35.99	35.99	0.00	Unavailable	0.0	0.0
2029	8760	0	36.34	36.34	0.00	Unavailable	0.0	0.0
2030	8760	0	36.67	36.67	0.00	Unavailable	0.0	0.0
Compound Growth Rate			0.96%	-10.29%				



			Weather Station: Deer Park (KDEW)		
Monthly Hrs	Fiscal Year	Month	**Actual HDD55 (Annual / Year To Date)**	**Normal HDD55 (Annual / Year To Date)**	**Actual HDD Minus Normal HDD**
745	2005	10	290.95	341	-50.1
720	2005	11	586.292	542	44.3
744	2005	12	725	936	-211.0
744	2005	1	860.667	923	-62.3
672	2005	2	671.167	666	5.2
744	2005	3	482.375	547	-64.6

719	2005	4	268.792	325	-56.2
744	2005	5	55.208	37	18.2
720	2005	6	36.042	31	5.0
744	2005	7	0	0	0.0
744	2005	8	0.042	0	0.0
720	2005	9	68.608	19	49.6
745	2006	10	271.167	341	-69.8
720	2006	11	666.542	542	124.5
744	2006	12	978.68	936	42.7
744	2006	1	647.371	923	-275.6
672	2006	2	700.392	666	34.4
744	2006	3	559.042	547	12.0
719	2006	4	263.066	325	-61.9
744	2006	5	116.335	37	79.3
720	2006	6	0.917	31	-30.1
744	2006	7	7.375	0	7.4
744	2006	8	6.792	0	6.8
720	2006	9	61.182	19	42.2
745	2007	10	391.137	341	50.1
720	2007	11	604.028	542	62.0
744	2007	12	850.721	936	-85.3
744	2007	1	968.81	923	45.8
672	2007	2	609.333	666	-56.7
743	2007	3	446.589	547	-100.4
720	2007	4	294.833	325	-30.2
744	2007	5	107.375	37	70.4
720	2007	6	7.167	31	-23.8
744	2007	7	0	0	0.0
744	2007	8	1.042	0	1.0
720	2007	9	92.417	19	73.4
744	2008	10	345.474	341	4.5
721	2008	11	671.875	542	129.9
744	2008	12	865.833	936	-70.2
744	2008	1	987.071	923	64.1
696	2008	2	745.468	666	79.5
743	2008	3	699.812	547	152.8
720	2008	4	473.208	325	148.2
744	2008	5	106.446	37	69.4
720	2008	6	57.542	31	26.5
744	2008	7	0	0	0.0
744	2008	8	4.75	0	4.8
720	2008	9	43.417	19	24.4
744	2009	10	359.225	341	18.2
721	2009	11	537.255	542	-4.7
744	2009	12	1009.173	936	73.2
744	2009	1	978.309	923	55.3
672	2009	2	734.186	666	68.2
743	2009	3	726.368	547	179.4
720	2009	4	354.187	325	29.2
744	2009	5	121.481	37	84.5
720	2009	6	15.542	31	-15.5
744	2009	7	0	0	0.0

744	2009	8	0.667	0	0.7
720	2009	9	39.725	19	20.7
744	2010	10	426.492	341	85.5
721	2010	11	596.964	542	55.0
744	2010	12	972.658	936	36.7
744	2010	1	651.587	923	-271.4
672	2010	2	539.167	666	-126.8
743	2010	3	495.814	547	-51.2
720	2010	4	302.63	325	-22.4
744	2010	5	188.042	37	151.0
720	2010	6	37.5	31	6.5
744	2010	7	1.375	0	1.4
744	2010	8	13.693	0	13.7
720	2010	9	35.417	19	16.4
744	2011	10	289	341	-52.1
721	2011	11	680	542	137.7
744	2011	12	810	936	-126.1
744	2011	1	884	923	-38.6
672	2011	2	801	666	134.8
743	2011	3	535	547	-11.7
720	2011	4	463	325	138.3
744	2011	5	165	37	127.5
720	2011	6	38	31	6.5
744	2011	7	0	0	0.4
744	2011	8	0	0	0.0
720	2011	9	12.333	19	-6.7
744	2012	10	310.795	341	-30.2
721	2012	11	654.542	542	112.5
744	2012	12	839.571	936	-96.4
744	2012	1	803.708	923	-119.3
696	2012	2	643.986	666	-22.0
743	2012	3	513.371	547	-33.6
720	2012	4	231.932	325	-93.1
744	2012	5	122.282	37	85.3
720	2012	6	51.197	31	20.2
744	2012	7	0	0	0.0
744	2012	8	0	0	0.0
720	2012	9	17.616	19	-1.4
744	2013	10	304.931	341	-36.1
721	2013	11	515.792	542	-26.2
744	2013	12	756.436	936	-179.6
744	2013	1	988.458	923	65.5
672	2013	2	673.81	666	7.8
743	2013	3	534.259	547	-12.7
720	2013	4	302.175	325	-22.8
744	2013	5	92.417	37	55.4
720	2013	6	19.582	31	-11.4
744	2013	7	0	0	0.0
744	2013	8	0	0	0.0
720	2013	9	55.542	19	36.5
744	2014	10	443.15	341	102.2
721	2014	11	645.947	542	103.9

744	2014	12	958.687	936	22.7
744	2014	1	801.121	923	-121.9
672	2014	2	801.929	666	135.9
743	2014	3	552.681	547	5.7
720	2014	4	295.625	325	-29.4
744	2014	5	63.317	37	26.3
720	2014	6	19.917	31	-11.1
744	2014	7	0	0	0.0
744	2014	8	0	0	0.0
720	2014	9	13.417	19	-5.6
744	2015	10	161.708	341	-179.3
721	2015	11	664.382	542	122.4
744	2015	12	726.819	936	-209.2
744	2015	1	796.146	923	-126.9
672	2015	2	526.75	666	-139.3
743	2015	3	383.053	547	-163.9
720	2015	4	298.559	325	-26.4
744	2015	5	28.583	37	-8.4
720	2015	6	0	31	-31.0
744	2015	7	0	0	0.0
744	2015	8	0	0	0.0
720	2015	9	70.221	19	51.2
744	2016	10	144.083	341	-196.9
721	2016	11	648.682	542	106.7
744	2016	12	759.434	936	-176.6
744	2016	1	757.166	923	-165.8
696	2016	2	534.316	666	-131.7
743	2016	3	440.373	547	-106.6
720	2016	4	140.181	325	-184.8
744	2016	5	34.5	37	-2.5
720	2016	6	12.042	31	-19.0
744	2016	7	0	0	0.0
744	2016	8	0	0	0.0
720	2016	9	37.212	19	18.2
744	2017	10	253.958	341	-87.0
721	2017	11	396.042	542	-146.0
744	2017	12	1012.763	936	76.8
744	2017	1	1089.339	923	166.3
672	2017	2	772.702	666	106.7
743	2017	3	515.437	547	-31.6
720	2017	4	327.075	325	2.1
744	2017	5	108.625	37	71.6
720	2017	6	6.625	31	-24.4
744	2017	7	0	0	0.0
744	2017	8	0	0	0.0
720	2017	9	60.572	19	41.6
744	2018	10	365.677	341	24.7
721	2018	11	554.072	542	12.1
744	2018	12	924.583	936	-11.4
744	2018	1	708.226	923	-214.8
672	2018	2	772.583	666	106.6
743	2018	3	545.379	547	-1.6

720	2018	4	312.871	325	-12.1
744	2018	5	17.292	37	-19.7
720	2018	6	12.855	31	-18.1
744	2018	7	1.67	0	1.7
744	2018	8	0	0	0.0
720	2018	9	55.88	19	36.9
744	2019	10	351.38	341	10.4
721	2019	11	614.63	542	72.6
744	2019	12	753.63	936	-182.4
744	2019	1	778.96	923	-144.0
672	2019	2	937.83	666	271.8
743	2019	3	687.84	547	140.8
720	2019	4	261.17	325	-63.8
744	2019	5	38.71	37	1.7
720	2019	6	88.04	31	57.0
744	2019	7	0	0	0.0
744	2019	8	0	0	0.0
720	2019	9	84.63	19	65.6
744	2020	10	483.17	341	142.2
721	2020	11	654.79	542	112.8
744	2020	12	698.33	936	-237.7
744	2020	1	717.88	923	-205.1
696	2020	2	673.08	666	7.1
743	2020	3	558.43	547	11.4
720	2020	4	301.21	325	-23.8
744	2020	5	87.29	37	50.3
720	2020	6	31	31	0.0
744	2020	7	0	0	0.0
744	2020	8	0	0	0.0
720	2020	9	31.88	19	12.9
744	2021	10	368.5	341	27.5
721	2021	11	600.17	542	58.2
744	2021	12	772.04	936	-164.0
744	2021	1	708.33	923	-214.7
672	2021	2	736.21	666	70.2
743	2021	3	507.28	547	-39.7
720	2021	4	251.21	325	-73.8
744	2021	5	77.21	37	40.2
720	2021	6		31	0.0
744	2021	7		0	0.0
744	2021	8		0	0.0
720	2021	9		19	0.0
744	2022	10		341	0.0
721	2022	11		542	0.0
744	2022	12		936	0.0
744	2022	1		923	0.0
672	2022	2		666	0.0
743	2022	3		547	0.0
720	2022	4		325	0.0
744	2022	5		37	0.0
720	2022	6		31	0.0
744	2022	7		0	0.0

744	2022	8		0	0.0
720	2022	9		19	0.0
744	2023	10		341	0.0
721	2023	11		542	0.0
744	2023	12		936	0.0
744	2023	1		923	0.0
672	2023	2		666	0.0
743	2023	3		547	0.0
720	2023	4		325	0.0
744	2023	5		37	0.0
720	2023	6		31	0.0
744	2023	7		0	0.0
744	2023	8		0	0.0
720	2023	9		19	0.0
744	2024	10		341	0.0
721	2024	11		542	0.0
744	2024	12		936	0.0
744	2024	1		923	0.0
696	2024	2		666	0.0
743	2024	3		547	0.0
720	2024	4		325	0.0
744	2024	5		37	0.0
720	2024	6		31	0.0
744	2024	7		0	0.0
744	2024	8		0	0.0
720	2024	9		19	0.0
744	2025	10		341	0.0
721	2025	11		542	0.0
744	2025	12		936	0.0
744	2025	1		923	0.0
672	2025	2		666	0.0
743	2025	3		547	0.0
720	2025	4		325	0.0
744	2025	5		37	0.0
720	2025	6		31	0.0
744	2025	7		0	0.0
744	2025	8		0	0.0
720	2025	9		19	0.0
744	2026	10		341	0.0
721	2026	11		542	0.0
744	2026	12		936	0.0
744	2026	1		923	0.0
672	2026	2		666	0.0
743	2026	3		547	0.0
720	2026	4		325	0.0
744	2026	5		37	0.0
720	2026	6		31	0.0
744	2026	7		0	0.0
744	2026	8		0	0.0
720	2026	9		19	0.0
744	2027	10		341	0.0
721	2027	11		542	0.0

744	2027	12		936	0.0
744	2027	1		923	0.0
672	2027	2		666	0.0
743	2027	3		547	0.0
720	2027	4		325	0.0
744	2027	5		37	0.0
720	2027	6		31	0.0
744	2027	7		0	0.0
744	2027	8		0	0.0
720	2027	9		19	0.0
744	2028	10		341	0.0
721	2028	11		542	0.0
744	2028	12		936	0.0
744	2028	1		923	0.0
696	2028	2		666	0.0
743	2028	3		547	0.0
720	2028	4		325	0.0
744	2028	5		37	0.0
720	2028	6		31	0.0
744	2028	7		0	0.0
744	2028	8		0	0.0
720	2028	9		19	0.0
744	2029	10		341	0.0
721	2029	11		542	0.0
744	2029	12		936	0.0
744	2029	1		923	0.0
672	2029	2		666	0.0
743	2029	3		547	0.0
720	2029	4		325	0.0
744	2029	5		37	0.0
720	2029	6		31	0.0
744	2029	7		0	0.0
744	2029	8		0	0.0
720	2029	9		19	0.0
744	2030	10		341	0.0
721	2030	11		542	0.0
744	2030	12		936	0.0
744	2030	1		923	0.0
672	2030	2		666	0.0
743	2030	3		547	0.0
720	2030	4		325	0.0
744	2030	5		37	0.0
720	2030	6		31	0.0
744	2030	7		0	0.0
744	2030	8		0	0.0
720	2030	9		19	0.0
744	2031	10		341	0.0
721	2031	11		542	0.0
744	2031	12		936	0.0
744	2031	1		923	0.0
672	2031	2		666	0.0
743	2031	3		547	0.0

720	2031	4		325	0.0
744	2031	5		37	0.0
720	2031	6		31	0.0
744	2031	7		0	0.0
744	2031	8		0	0.0
720	2031	9		19	0.0
744	2032	10		341	0.0
721	2032	11		542	0.0
744	2032	12		936	0.0
744	2032	1		923	0.0
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743	2032	3		547	0.0
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744	2032	5		37	0.0
720	2032	6		31	0.0
744	2032	7		0	0.0
744	2032	8		0	0.0
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744	2033	10		341	0.0
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744	2033	12		936	0.0
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#N/A	2033	8		0	0.0
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#N/A	2034	10		341	0.0
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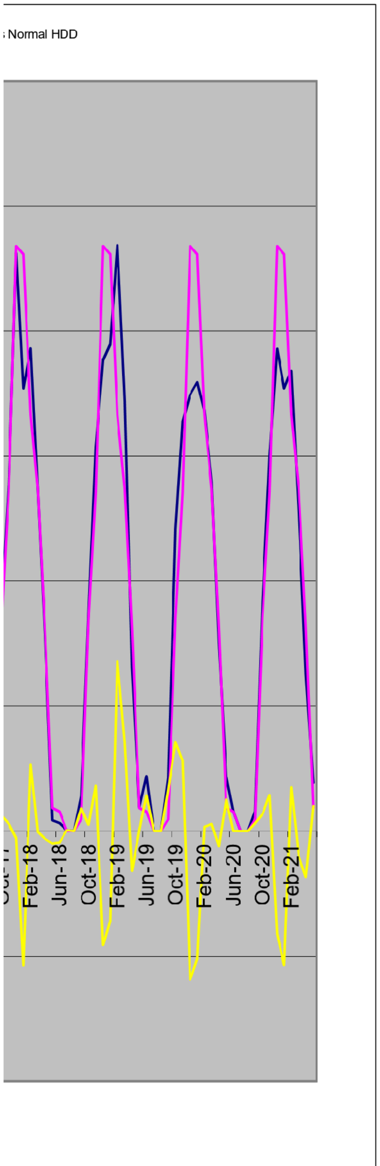
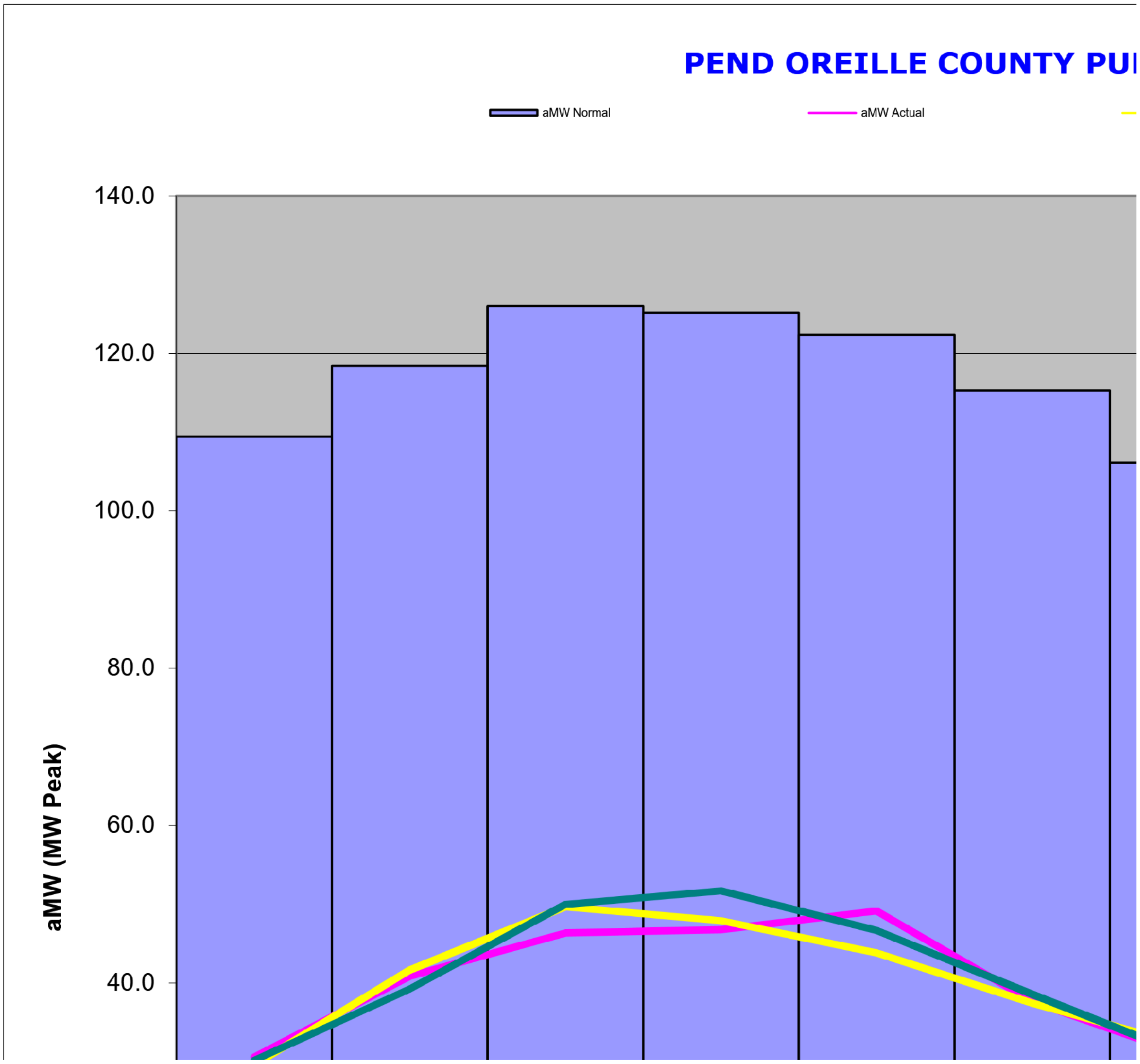
#N/A	2035	10		341	0.0
#N/A	2035	11		542	0.0
#N/A	2035	12		936	0.0
#N/A	2035	1		923	0.0
#N/A	2035	2		666	0.0
#N/A	2035	3		547	0.0
#N/A	2035	4		325	0.0
#N/A	2035	5		37	0.0
#N/A	2035	6		31	0.0
#N/A	2035	7		0	0.0

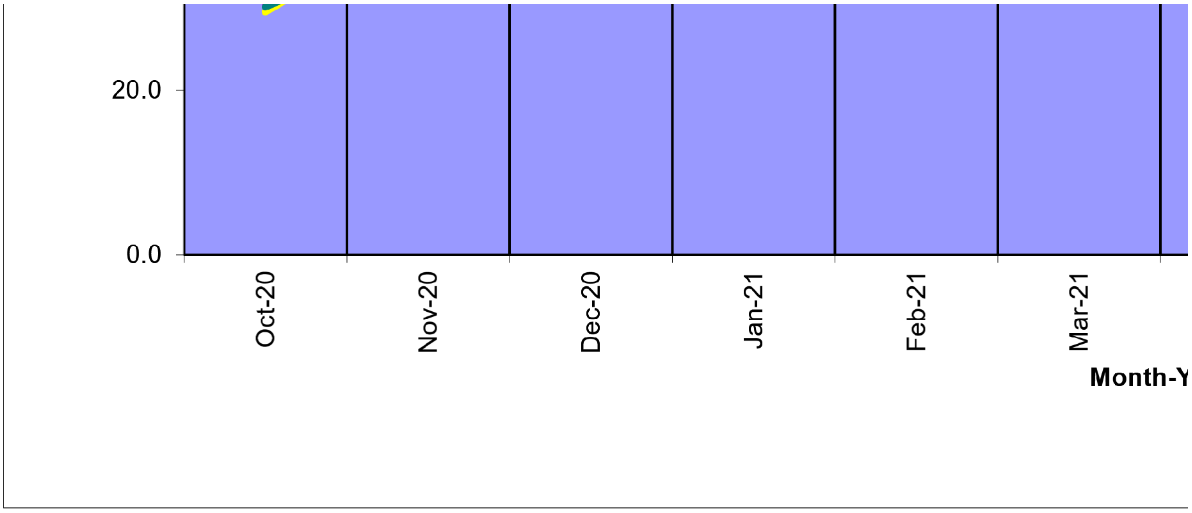
#N/A	2035	8		0	0.0
#N/A	2035	9		19	0.0
#N/A	2036	10		341	0.0
#N/A	2036	11		542	0.0
#N/A	2036	12		936	0.0


Normal HDD
Oct-17
Feb-18
Jun-18
Oct-18
Feb-19
Jun-19
Oct-19
Feb-20
Jun-20
Oct-20
Feb-21

Forecast Fiscal Start Year	Fiscal Plot Start Year	Fiscal Plot Stop Year	Year Type	Load Type	Peak Type	Peak Plot
2021	2021	2021	Fiscal	aMW	CP	Hide

*Historical Load Values Do Not Includ





Monthly Hrs	Fiscal Year	Month	aMW Actual	aMW Normal	aMW Forecast	aMW HWM
	2005	10	105.59	107.66		
	2005	11	120.73	118.19		
	2005	12	122.83	123.66		
	2005	1	128.87	123.33		
	2005	2	121.24	118.70		
	2005	3	118.01	111.81		
	2005	4	111.84	104.30		
	2005	5	103.78	102.80		
	2005	6	103.62	101.68		
	2005	7	104.76	99.54		
	2005	8	94.69	100.08		
	2005	9	108.88	95.63		
	2006	10	111.72	108.49		
	2006	11	122.04	119.02		
	2006	12	131.18	124.53		
	2006	1	122.42	124.10		
	2006	2	123.64	119.57		
	2006	3	121.48	112.58		
	2006	4	108.74	105.17		
	2006	5	110.21	103.70		
	2006	6	104.09	102.57		
	2006	7	97.86	100.35		
	2006	8	102.43	100.94		
	2006	9	81.56	96.47		
	2007	10	107.84	109.30		
	2007	11	120.80	119.87		
	2007	12	119.61	125.32		
	2007	1	123.03	124.96		

	2007	2	115.69	120.52		
	2007	3	114.91	113.56		
	2007	4	93.71	105.84		
	2007	5	107.56	104.44		
	2007	6	100.43	103.35		
	2007	7	106.18	101.20		
	2007	8	103.94	101.78		
	2007	9	80.70	97.31		
	2008	10	111.79	110.28		
	2008	11	118.36	120.62		
	2008	12	132.05	126.15		
	2008	1	130.11	125.79		
	2008	2	126.27	120.73		
	2008	3	100.76	114.41		
	2008	4	107.23	106.74		
	2008	5	102.52	105.32		
	2008	6	106.80	104.35		
	2008	7	108.43	102.02		
744	2008	8	107.31	102.54		
720	2008	9	109.82	98.13		
744	2009	10	113.72	111.08		
721	2009	11	121.09	121.44		
744	2009	12	133.05	127.00		
744	2009	1	132.70	126.61		
672	2009	2	124.59	122.35		
743	2009	3	121.73	115.22		
720	2009	4	106.19	107.58		
744	2009	5	106.52	106.14		
720	2009	6	100.34	105.19		
744	2009	7	84.84	102.84		
744	2009	8	100.19	103.36		
720	2009	9	82.25	98.98		
744	2010	10	114.03	111.89		
721	2010	11	122.44	122.29		
744	2010	12	131.85	127.82		
744	2010	1	123.83	127.43		
672	2010	2	117.04	123.25		
743	2010	3	116.89	116.04		
720	2010	4	111.63	108.42		
744	2010	5	105.90	106.95		
720	2010	6	103.64	106.03		
744	2010	7	104.82	103.65		
744	2010	8	102.00	104.17		
720	2010	9	101.85	99.82		
744	2011	10	108.48	112.71		
721	2011	11	121.70	123.13		
744	2011	12	122.03	128.63		
744	2011	1	126.58	128.24		
672	2011	2	128.87	124.16		
743	2011	3	110.43	116.86		
720	2011	4	114.44	109.27		
744	2011	5	107.48	107.77		

720	2011	6	106.55	106.88			
744	2011	7	102.74	104.47			
744	2011	8	104.84	104.99			
720	2011	9	104.57	100.66			
744	2012	10	113.41	113.52			
721	2012	11	122.09	123.97			
744	2012	12	126.09	129.45			
744	2012	1	127.61	129.06			
696	2012	2	123.63	124.22			
743	2012	3	120.83	117.67			
720	2012	4	115.76	110.11			
744	2012	5	105.42	108.58			
720	2012	6	104.56	107.72			
744	2012	7	108.00	105.28			
744	2012	8	105.15	105.80			
720	2012	9	103.85	101.50			
744	2013	10	114.91	112.26			
721	2013	11	120.51	122.89			
744	2013	12	129.71	129.22			
744	2013	1	131.97	128.28			
672	2013	2	127.07	123.93			
743	2013	3	118.98	117.24			
720	2013	4	111.94	110.25			
744	2013	5	109.64	106.98			
720	2013	6	105.84	105.91			
744	2013	7	104.74	104.39			
744	2013	8	105.34	104.54			
720	2013	9	110.80	100.69			
744	2014	10	113.36	112.85			
721	2014	11	122.32	123.35			
744	2014	12	130.47	129.73			
744	2014	1	127.51	128.86			
672	2014	2	132.51	124.59			
743	2014	3	127.97	117.85			
720	2014	4	102.84	110.88			
744	2014	5	99.25	107.60			
720	2014	6	92.98	106.50			
744	2014	7	93.88	104.97			
744	2014	8	90.45	105.12			
720	2014	9	93.67	99.99			
744	2015	10	97.24	113.26			
721	2015	11	94.57	123.80			
744	2015	12	111.00	130.15			
744	2015	1	101.81	129.27			
672	2015	2	110.03	125.04			
743	2015	3	89.09	118.26			
720	2015	4	81.43	111.31			
744	2015	5	94.70	108.01			
720	2015	6	75.90	106.93			
744	2015	7	91.13	105.38			
744	2015	8	73.84	105.54			
720	2015	9	94.93	100.41			

744	2016	10	99.80	111.07		
721	2016	11	115.63	120.82		
744	2016	12	124.61	126.98		
744	2016	1	121.19	126.61		
696	2016	2	122.07	122.06		
743	2016	3	119.36	115.95		
720	2016	4	103.56	108.56		
744	2016	5	107.47	105.44		
720	2016	6	90.86	103.67		
744	2016	7	99.76	102.33		
744	2016	8	101.76	102.49		
720	2016	9	103.00	98.24		
744	2017	10	111.68	109.47		
721	2017	11	117.86	118.47		
744	2017	12	127.85	126.04		
744	2017	1	135.56	125.22		
672	2017	2	127.75	122.33		
743	2017	3	117.20	115.27		
720	2017	4	116.94	106.10		
744	2017	5	109.02	104.71		
720	2017	6	105.89	100.17		
744	2017	7	106.51	100.92		
744	2017	8	101.92	99.74		
720	2017	9	108.23	98.92		
744	2018	10	109.10	109.47		
721	2018	11	122.68	118.47		
744	2018	12	133.08	126.04		
744	2018	1	126.48	125.22		
672	2018	2	126.21	122.33		
743	2018	3	128.10	115.27		
720	2018	4	116.63	106.10		
744	2018	5	110.93	104.71		
720	2018	6	106.05	100.17		
744	2018	7	105.53	100.92		
744	2018	8	103.76	99.74		
720	2018	9	106.99	98.92		
744	2019	10	111.58	109.47		
721	2019	11	126.86	118.47		
744	2019	12	129.02	126.04		
744	2019	1	132.08	125.22		
672	2019	2	137.98	122.33		
743	2019	3	123.58	115.27		
720	2019	4	93.86	106.10		
744	2019	5	99.65	104.71		
720	2019	6	101.57	100.17		
744	2019	7	102.45	100.92		
744	2019	8	102.00	99.74		
720	2019	9	105.64	98.92		
744	2020	10	113.14	109.47	29.22	
721	2020	11	115.54	118.47	41.29	

744	2020	12	117.61	126.04	49.36	
744	2020	1	112.52	125.22	47.57	
696	2020	2	95.09	122.33	43.05	
743	2020	3	111.20	115.27	37.08	
720	2020	4	106.47	106.10	31.59	
744	2020	5	73.25	104.71	25.61	
720	2020	6	37.14	100.17	23.82	
744	2020	7	21.80	100.92	23.70	
744	2020	8	23.91	99.74	23.32	
720	2020	9	21.12	98.92	24.56	
744	2021	10	30.54	109.47	29.55	
721	2021	11	40.86	118.47	41.63	
744	2021	12	46.33	126.04	49.69	
744	2021	1	46.77	125.22	47.89	
672	2021	2	49.15	122.33	43.80	
743	2021	3	37.67	115.27	37.41	
720	2021	4	30.69	106.10	31.93	
744	2021	5	25.56	104.71	25.93	
720	2021	6			24.16	
744	2021	7			24.03	
744	2021	8			23.65	
720	2021	9			24.90	
744	2022	10			29.87	
721	2022	11			41.97	
744	2022	12			50.01	
744	2022	1			48.22	
672	2022	2			44.17	
743	2022	3			37.74	
720	2022	4			32.27	
744	2022	5			26.26	
720	2022	6			24.50	
744	2022	7			24.35	
744	2022	8			23.97	
720	2022	9			25.23	
744	2023	10			30.20	
721	2023	11			42.30	
744	2023	12			50.34	
744	2023	1			48.55	
672	2023	2			44.53	
743	2023	3			38.07	
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720	2023	6			24.84	
744	2023	7			24.68	
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720	2023	9			25.57	
744	2024	10			30.53	
721	2024	11			42.64	
744	2024	12			50.67	
744	2024	1			48.88	
696	2024	2			44.45	
743	2024	3			38.40	

720	2024	4			32.95		
744	2024	5			26.92		
720	2024	6			25.18		
744	2024	7			25.01		
744	2024	8			24.63		
720	2024	9			25.91		
744	2025	10			30.86		
721	2025	11			42.98		
744	2025	12			51.00		
744	2025	1			49.21		
672	2025	2			45.26		
743	2025	3			38.72		
720	2025	4			33.29		
744	2025	5			27.24		
720	2025	6			25.52		
744	2025	7			25.34		
744	2025	8			24.96		
720	2025	9			26.25		
744	2026	10			31.18		
721	2026	11			43.32		
744	2026	12			51.32		
744	2026	1			49.53		
672	2026	2			45.62		
743	2026	3			39.05		
720	2026	4			33.62		
744	2026	5			27.57		
720	2026	6			25.86		
744	2026	7			25.66		
744	2026	8			25.28		
720	2026	9			26.59		
744	2027	10			31.51		
721	2027	11			43.66		
744	2027	12			51.65		
744	2027	1			49.86		
672	2027	2			45.98		
743	2027	3			39.38		
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744	2027	5			27.90		
720	2027	6			26.20		
744	2027	7			25.99		
744	2027	8			25.61		
720	2027	9			26.93		
744	2028	10			31.84		
721	2028	11			44.00		
744	2028	12			51.98		
744	2028	1			50.19		
696	2028	2			45.86		
743	2028	3			39.71		
720	2028	4			34.30		
744	2028	5			28.23		
720	2028	6			26.53		
744	2028	7			26.32		

744	2028	8			25.94	
720	2028	9			27.27	
744	2029	10			32.16	
721	2029	11			44.33	
744	2029	12			52.31	
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720	2029	6			26.87	
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744	2029	8			26.27	
720	2029	9			27.60	
744	2030	10			32.49	
721	2030	11			44.67	
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744	2030	8			26.59	
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744	2031	10			32.82	
721	2031	11			45.01	
744	2031	12			52.96	
744	2031	1			51.17	
672	2031	2			47.43	
743	2031	3			40.69	
720	2031	4			35.32	
744	2031	5			29.21	
720	2031	6			27.55	
744	2031	7			27.30	
744	2031	8			26.92	
720	2031	9			28.28	
744	2032	10			33.15	
721	2032	11			45.35	
744	2032	12			53.29	
744	2032	1			51.50	
696	2032	2			47.26	
743	2032	3			41.02	
720	2032	4			35.65	
744	2032	5			29.54	
720	2032	6			27.89	
744	2032	7			27.63	
744	2032	8			27.25	
720	2032	9			28.62	
744	2033	10			33.47	
721	2033	11			45.69	

744	2033	12			53.62	
744	2033	1			51.83	
672	2033	2			48.16	
743	2033	3			41.35	
720	2033	4			35.99	
744	2033	5			29.87	
720	2033	6			28.23	
744	2033	7			27.96	
744	2033	8			27.58	
720	2033	9			28.96	
744	2034	10			33.80	
721	2034	11			46.02	
744	2034	12			53.94	
744	2034	1			52.15	
672	2034	2			48.52	
743	2034	3			41.68	
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720	2034	6			28.57	
744	2034	7			28.28	
744	2034	8			27.90	
720	2034	9			29.30	
744	2035	10			34.13	
721	2035	11			46.36	
744	2035	12			54.27	
744	2035	1			52.48	
672	2035	2			48.88	
743	2035	3			42.00	
720	2035	4			36.67	
744	2035	5			30.52	
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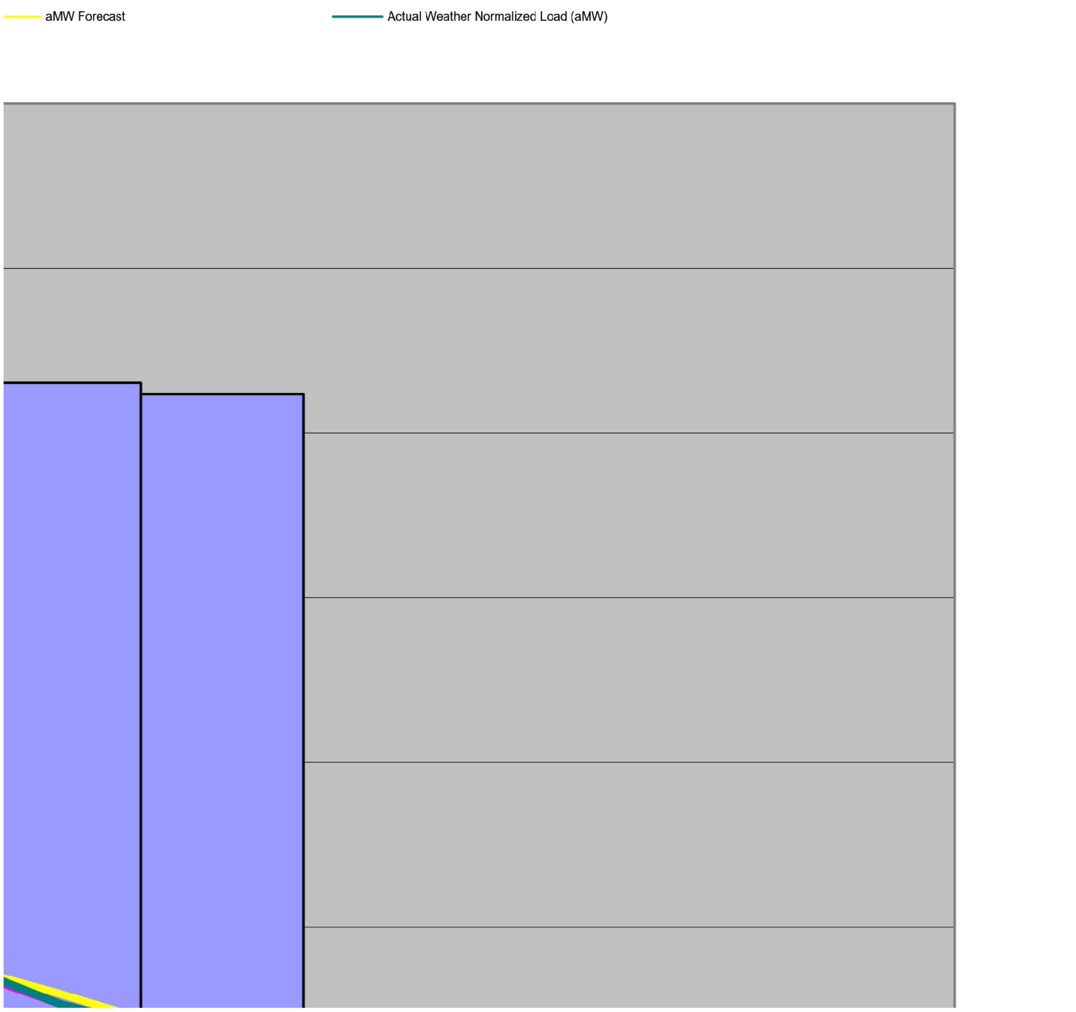
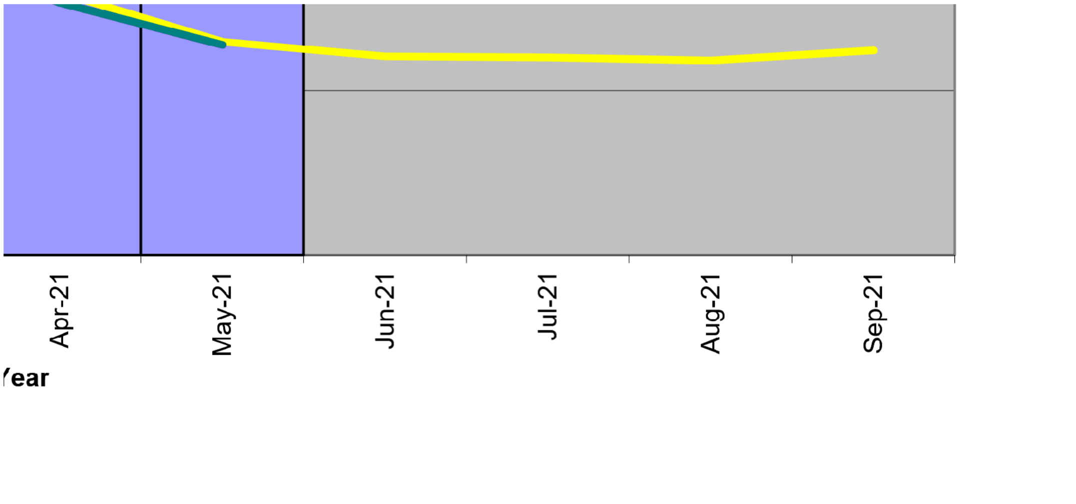
744	2035	7			28.61	
744	2035	8			28.23	
720	2035	9			29.63	
744	2036	10			34.46	
721	2036	11			46.70	
744	2036	12			54.60	

Shaped System Load (SSL) Plot	Select Customer	Customer Number	HWM (aMW)	Percent System	CHWM Resources and NLSL (aMW)	HWM Version
Hide	PEND OREILLE COUNTY PUD NO 1	10306				

e Meter Losses

D NO 1- Total Summary





aMW Above HWM	CP Actual Peak	CP Forecast Peak	CP Actual Load Factor	CP Forecast Load Factor
	123.39		85.6%	
	132.94		90.8%	
	137.11		89.6%	
	159.31		80.9%	
	140.17		86.5%	
	132.15		89.3%	
	130.76		85.5%	
	120.75		85.9%	
	113.25		91.5%	
	114.80		91.3%	
	117.72		80.4%	
	122.63		88.8%	
	124.69		89.6%	
	139.38		87.6%	
	155.45		84.4%	
	136.01		90.0%	
	150.29		82.3%	
	137.39		88.4%	
	134.43		80.9%	
	126.20		87.3%	
	117.83		88.3%	
	115.06		85.0%	
	111.94		91.5%	
	121.01		67.4%	
	133.75		80.6%	
	153.61		78.6%	
	141.91		84.3%	
	153.75		80.0%	

	140.62		82.3%	
	140.15		82.0%	
	129.84		72.2%	
	121.95		88.2%	
	115.48		87.0%	
	121.85		87.1%	
	117.31		88.6%	
	116.96		69.0%	
	132.40		84.4%	
	149.56		79.1%	
	148.29		89.0%	
	154.91		84.0%	
	142.91		88.4%	
	132.55		76.0%	
	131.59		81.5%	
	124.80		82.1%	
	119.65		89.3%	
	119.30		90.9%	
	123.50		86.9%	
	124.41		88.3%	
	141.64		80.3%	
	141.38		85.7%	
	162.00		82.1%	
	158.55		83.7%	
	147.20		84.6%	
	156.28		77.9%	
	132.18		80.3%	
	166.72		63.9%	
	115.21		87.1%	
	118.35		71.7%	
	111.22		90.1%	
	118.30		69.5%	
	138.72		82.2%	
	137.02		89.4%	
	158.69		83.1%	
	149.93		82.6%	
	136.11		86.0%	
	141.32		82.7%	
	133.61		83.5%	
	130.61		81.1%	
	121.25		85.5%	
	114.84		91.3%	
	114.97		88.7%	
	116.90		87.1%	
	130.79		82.9%	
	151.62		80.3%	
	146.95		83.0%	
	178.40		71.0%	
	158.69		81.2%	
	136.66		80.8%	
	136.57		83.8%	
	131.98		81.4%	

	121.77		87.5%	
	115.60		88.9%	
	117.31		89.4%	
	121.30		86.2%	
	136.17		83.3%	
	144.98		84.2%	
	146.51		86.1%	
	149.01		85.6%	
	148.03		83.5%	
	141.00		85.7%	
	136.68		84.7%	
	128.91		81.8%	
	123.53		84.6%	
	162.19		66.6%	
	121.56		86.5%	
	120.81		86.0%	
	133.00		86.4%	
	139.69		86.3%	
	143.62		90.3%	
	151.97		86.8%	
	144.37		88.0%	
	144.19		82.5%	
	135.91		82.4%	
	126.92		86.4%	
	122.00		86.8%	
	122.04		85.8%	
	119.90		87.9%	
	122.20		90.7%	
	140.92		80.4%	
	141.52		86.4%	
	152.97		85.3%	
	145.75		87.5%	
	161.35		82.1%	
	149.57		85.6%	
	134.67		76.4%	
	120.72		82.2%	
	107.43		86.5%	
	108.88		86.2%	
	105.52		85.7%	
	110.60		84.7%	
	141.73		68.6%	
	138.33		68.4%	
	143.85		77.2%	
	178.27		57.1%	
	135.01		81.5%	
	137.51		64.8%	
	120.30		67.7%	
	112.63		84.1%	
	107.39		70.7%	
	109.80		83.0%	
	101.16		73.0%	
	104.69		90.7%	

	122.28		81.6%	
	144.70		79.9%	
	144.46		86.3%	
	147.30		82.3%	
	141.00		86.6%	
	138.49		86.2%	
	126.23		82.0%	
	123.97		86.7%	
	119.56		76.0%	
	111.85		89.2%	
	116.97		87.0%	
	120.76		85.3%	
	128.10		87.2%	
	133.85		88.1%	
	159.89		80.0%	
	165.27		82.0%	
	150.23		85.0%	
	144.29		81.2%	
	137.35		85.1%	
	129.38		84.3%	
	121.10		87.4%	
	124.04		85.9%	
	122.77		83.0%	
	128.90		84.0%	
	135.34		80.6%	
	142.08		86.3%	
	155.76		85.4%	
	147.62		85.7%	
	161.61		78.1%	
	148.45		86.3%	
	142.14		82.1%	
	127.13		87.3%	
	121.61		87.2%	
	122.96		85.8%	
	117.77		88.1%	
	123.06		86.9%	
	136.67		81.6%	
	144.31		87.9%	
	147.80		87.3%	
	153.89		85.8%	
	159.21		86.7%	
	159.99		77.2%	
	137.35		68.3%	
	117.93		84.5%	
	113.80		89.3%	
	117.42		87.3%	
	116.34		87.7%	
	124.92		84.6%	
	140.26	46.70	80.7%	62.6%
	139.55	63.73	82.8%	64.8%

	135.19	71.13	87.0%	69.4%
	139.99	74.14	80.4%	64.2%
	142.31	64.50	66.8%	66.8%
	134.80	57.56	82.5%	64.4%
	136.77	49.58	77.8%	63.7%
	115.04	45.74	63.7%	56.0%
	102.18	33.36	36.3%	71.4%
	31.39	35.56	69.4%	66.6%
	31.74	30.45	75.3%	76.6%
	31.03	37.58	68.1%	65.4%
	56.92	47.20	53.6%	62.6%
	52.08	64.23	78.5%	64.8%
	60.34	71.63	76.8%	69.4%
	95.36	74.64	49.0%	64.2%
	74.89	65.00	65.6%	67.4%
	54.81	58.06	68.7%	64.4%
	51.49	50.08	59.6%	63.8%
	36.69	46.24	69.7%	56.1%
		33.86		71.4%
		36.07		66.6%
		30.95		76.4%
		38.08		65.4%
		47.70		62.6%
		64.73		64.8%
		72.13		69.3%
		75.14		64.2%
		65.50		67.4%
		58.56		64.4%
		50.58		63.8%
		46.74		56.2%
		34.36		71.3%
		36.57		66.6%
		31.45		76.2%
		38.58		65.4%
		48.20		62.7%
		65.24		64.8%
		72.64		69.3%
		75.64		64.2%
		66.00		67.5%
		59.06		64.5%
		51.08		63.8%
		47.24		56.3%
		34.87		71.2%
		37.07		66.6%
		31.95		76.1%
		39.08		65.4%
		48.71		62.7%
		65.74		64.9%
		73.14		69.3%
		76.14		64.2%
		66.50		66.8%
		59.56		64.5%

#N/A	#N/A	51.58	#N/A	63.9%
#N/A	#N/A	47.74	#N/A	56.4%
#N/A	#N/A	35.37	#N/A	71.2%
#N/A	#N/A	37.57	#N/A	66.6%
#N/A	#N/A	32.45	#N/A	75.9%
#N/A	#N/A	39.58	#N/A	65.5%
#N/A	#N/A	49.21	#N/A	62.7%
#N/A	#N/A	66.24	#N/A	64.9%
#N/A	#N/A	73.64	#N/A	69.3%
#N/A	#N/A	76.64	#N/A	64.2%
#N/A	#N/A	67.01	#N/A	67.5%
#N/A	#N/A	60.06	#N/A	64.5%
#N/A	#N/A	52.09	#N/A	63.9%
#N/A	#N/A	48.24	#N/A	56.5%
#N/A	#N/A	35.87	#N/A	71.1%
#N/A	#N/A	38.07	#N/A	66.5%
#N/A	#N/A	32.96	#N/A	75.7%
#N/A	#N/A	40.08	#N/A	65.5%
#N/A	#N/A	49.71	#N/A	62.7%
#N/A	#N/A	66.74	#N/A	64.9%
#N/A	#N/A	74.14	#N/A	69.2%
#N/A	#N/A	77.15	#N/A	64.2%
#N/A	#N/A	67.51	#N/A	67.6%
#N/A	#N/A	60.57	#N/A	64.5%
#N/A	#N/A	52.59	#N/A	63.9%
#N/A	#N/A	48.75	#N/A	56.6%
#N/A	#N/A	36.37	#N/A	71.1%
#N/A	#N/A	38.57	#N/A	66.5%
#N/A	#N/A	33.46	#N/A	75.6%
#N/A	#N/A	40.58	#N/A	65.5%
#N/A	#N/A	50.21	#N/A	62.8%
#N/A	#N/A	67.24	#N/A	64.9%
#N/A	#N/A	74.64	#N/A	69.2%
#N/A	#N/A	77.65	#N/A	64.2%
#N/A	#N/A	68.01	#N/A	67.6%
#N/A	#N/A	61.07	#N/A	64.5%
#N/A	#N/A	53.09	#N/A	64.0%
#N/A	#N/A	49.25	#N/A	56.7%
#N/A	#N/A	36.87	#N/A	71.0%
#N/A	#N/A	39.07	#N/A	66.5%
#N/A	#N/A	33.96	#N/A	75.4%
#N/A	#N/A	41.09	#N/A	65.5%
#N/A	#N/A	50.71	#N/A	62.8%
#N/A	#N/A	67.74	#N/A	64.9%
#N/A	#N/A	75.14	#N/A	69.2%
#N/A	#N/A	78.15	#N/A	64.2%
#N/A	#N/A	68.51	#N/A	66.9%
#N/A	#N/A	61.57	#N/A	64.5%
#N/A	#N/A	53.59	#N/A	64.0%
#N/A	#N/A	49.75	#N/A	56.7%
#N/A	#N/A	37.37	#N/A	71.0%
#N/A	#N/A	39.58	#N/A	66.5%

		34.46		75.3%
		41.59		65.6%
		51.21		62.8%
		68.25		65.0%
		75.65		69.1%
		78.65		64.2%
		69.01		67.7%
		62.07		64.5%
		54.09		64.0%
		50.25		56.8%
		37.88		71.0%
		40.08		66.5%
		34.96		75.1%
		42.09		65.6%
		51.71		62.8%
		68.75		65.0%
		76.15		69.1%
		79.15		64.2%
		69.51		67.7%
		62.57		64.5%
		54.59		64.1%
		50.75		56.9%
		38.38		70.9%
		40.58		66.5%
		35.46		75.0%
		42.59		65.6%
		52.21		62.9%
		69.25		65.0%
		76.65		69.1%
		79.65		64.2%
		70.02		67.7%
		63.07		64.5%
		55.09		64.1%
		51.25		57.0%
		38.88		70.9%
		41.08		66.5%
		35.96		74.9%
		43.09		65.6%
		52.72		62.9%
		69.75		65.0%
		77.15		69.1%
		80.16		64.2%
		70.52		67.0%
		63.58		64.5%
		55.60		64.1%
		51.75		57.1%
		39.38		70.8%
		41.58		66.4%
		36.47		74.7%
		43.59		65.6%
		53.22		62.9%
		70.25		65.0%

#N/A	#N/A	77.65	#N/A	69.0%
#N/A	#N/A	80.66	#N/A	64.3%
#N/A	#N/A	71.02	#N/A	67.8%
#N/A	#N/A	64.08	#N/A	64.5%
#N/A	#N/A	56.10	#N/A	64.2%
#N/A	#N/A	52.25	#N/A	57.2%
#N/A	#N/A	39.88	#N/A	70.8%
#N/A	#N/A	42.08	#N/A	66.4%
#N/A	#N/A	36.97	#N/A	74.6%
#N/A	#N/A	44.09	#N/A	65.7%
#N/A	#N/A	53.72	#N/A	62.9%
#N/A	#N/A	70.75	#N/A	65.0%
#N/A	#N/A	78.15	#N/A	69.0%
#N/A	#N/A	81.16	#N/A	64.3%
#N/A	#N/A	71.52	#N/A	67.8%
#N/A	#N/A	64.58	#N/A	64.5%
#N/A	#N/A	56.60	#N/A	64.2%
#N/A	#N/A	52.76	#N/A	57.2%
#N/A	#N/A	40.38	#N/A	70.7%
#N/A	#N/A	42.59	#N/A	66.4%
#N/A	#N/A	37.47	#N/A	74.5%
#N/A	#N/A	44.60	#N/A	65.7%
#N/A	#N/A	54.22	#N/A	62.9%
#N/A	#N/A	71.26	#N/A	65.1%
#N/A	#N/A	78.66	#N/A	69.0%
#N/A	#N/A	81.66	#N/A	64.3%
#N/A	#N/A	72.02	#N/A	67.9%
#N/A	#N/A	65.08	#N/A	64.5%
#N/A	#N/A	57.10	#N/A	64.2%
#N/A	#N/A	53.26	#N/A	57.3%
#N/A	#N/A	40.89	#N/A	70.7%
#N/A	#N/A	43.09	#N/A	66.4%
#N/A	#N/A	37.97	#N/A	74.4%
#N/A	#N/A	45.10	#N/A	65.7%
#N/A	#N/A	54.72	#N/A	63.0%
#N/A	#N/A	71.76	#N/A	65.1%
#N/A	#N/A	79.16	#N/A	69.0%

Month-Calendar Year	Actual Load (aMW)	Actual Year To Date aMW Load	Forecast Load (aMW)	Forecast Year To Date aMW Load	Forecast Minus Actual Mthly % Difference
Oct-20	30.54	30.54	29.55	29.55	-3.4%
Nov-20	40.86	35.62	41.63	35.49	1.8%
Dec-20	46.33	39.23	49.69	40.27	6.7%
Jan-21	46.77	41.13	47.89	42.19	2.4%
Feb-21	49.15	42.61	43.80	42.49	-12.2%
Mar-21	37.67	41.77	37.41	41.63	-0.7%
Apr-21	30.69	40.20	31.93	40.26	3.9%
May-21	25.56	38.34	25.93	38.43	1.4%
Jun-21			24.16		
Jul-21			24.03		
Aug-21			23.65		
Sep-21			24.90		
Total To Date		38.34		38.43	

Behind The Meter Generation

Month-Calendar Year	Behind the meter resource (Est. Generation aMW)	Adjusted Actual	Adjusted Actual Year To Date aMW Load	Forecast Minus Adj Actual Mthly % Difference	Forecast Minus Adj Actual Year To Date % Difference
Oct-20	0.00	30.54	30.54	-3.35%	-3.35%
Nov-20	0.00	40.86	35.62	1.85%	-0.35%
Dec-20	0.00	46.33	39.23	6.75%	2.60%
Jan-21	0.00	46.77	41.13	2.36%	2.53%
Feb-21	0.00	49.15	42.61	-12.20%	-0.29%
Mar-21	0.00	37.67	41.77	-0.68%	-0.35%
Apr-21	0.00	30.69	40.20	3.89%	0.13%
May-21	0.00	25.56	38.34	1.43%	0.24%
Jun-21	0.00				
Jul-21	0.00				
Aug-21	0.00				
Sep-21	0.00				
Total To Date			38.34		0.24%

Weather Station: Deer Park (KDEW)

Month-Calendar Year	Actual HDD55	Normal HDD55	Weather Normalization Factor	Actual Weather Normalized Load (aMW)	Actual Year To Date Weather Normalized Load (aMW)
Oct-20	368.50	341.00	0.92	30.14	30.14
Nov-20	600.17	542.00	0.89	39.22	34.61
Dec-20	772.04	936.00	1.18	49.97	39.78
Jan-21	708.33	923.00	1.23	51.70	42.78
Feb-21	736.21	666.00	0.89	46.66	43.50
Mar-21	507.28	547.00	1.07	38.54	42.66
Apr-21	251.21	325.00	1.00	30.69	40.97
May-21	77.21	37.00	1.00	25.56	39.00
Jun-21	0.00	0.00	1.00		
Jul-21	0.00	0.00	1.00		
Aug-21	0.00	0.00	1.00		
Sep-21	0.00	0.00	1.00		
Total To Date	4021	4317			39.00
Shoulder Load (aMW)	25.56				

Forecast Minus Actual Year To Date % Difference	Forecast Minus Actual Mthly aMW Difference	Forecast Minus Actual Year To Date aMW Difference	Normal Forecast Load (aMW)	Hours Per Month
-3.4%	-0.99	-0.99	109.47	744
-0.4%	0.77	-0.12	118.47	721
2.6%	3.35	1.05	126.04	744
2.5%	1.13	1.07	125.22	744
-0.3%	-5.35	-0.12	122.33	672
-0.3%	-0.25	-0.14	115.27	743
0.1%	1.24	0.05	106.10	720
0.2%	0.37	0.09	104.71	744
				720
				744
				744
				720
0.2%		0.09		8760

Forecast Minus Adj. Actual Mthly aMW Difference	Forecast Minus Adj. Actual Year To Date aMW Difference	Behind the meter resource (Est. Generation MW)	Adjusted Actual Peak (MW)	Adjusted Actual Load Factor
-0.99	-0.99	0	56.92	0.54
0.77	-0.12	0	52.08	0.78
3.35	1.05	0	60.34	0.77
1.13	1.07	0	95.36	0.49
-5.35	-0.12	0	74.89	0.66
-0.25	-0.14	0	54.81	0.69
1.24	0.05	0	51.49	0.60
0.37	0.09	0	36.69	0.70
		0		
		0		
		0		
		0		
	0.09	0	95.36	0.402023

Forecast Minus Wthr Normalized Actual Mthly % Difference	Forecast Minus Wthr Normalized Actual Year To Date % Difference	Forecast Minus Wthr Normalized Actual Mthly aMW Difference	Forecast Minus Wthr Normalized Actual Year To Date aMW Difference
-2.0%	-2.0%	-0.59	-0.59
5.8%	2.5%	2.41	0.89
-0.6%	1.2%	-0.29	0.49
-7.9%	-1.4%	-3.80	-0.59
-6.5%	-2.4%	-2.86	-1.01
-3.0%	-2.5%	-1.13	-1.03
3.9%	-1.8%	1.24	-0.71
1.4%	-1.5%	0.37	-0.57
#N/A	#N/A	#N/A	#N/A
#N/A	#N/A	#N/A	#N/A
#N/A	#N/A	#N/A	#N/A
#N/A	#N/A	#N/A	#N/A
	-1.5%		-0.57

	Data Start Date	Data Stop Date
Customer Level Model Parameters:	1/1/03	3/31/17
Customer Level Energy forecast based on trend; R-Squared = N/A		
Customer Level Peak forecast based on trend; R-Squared = N/A		

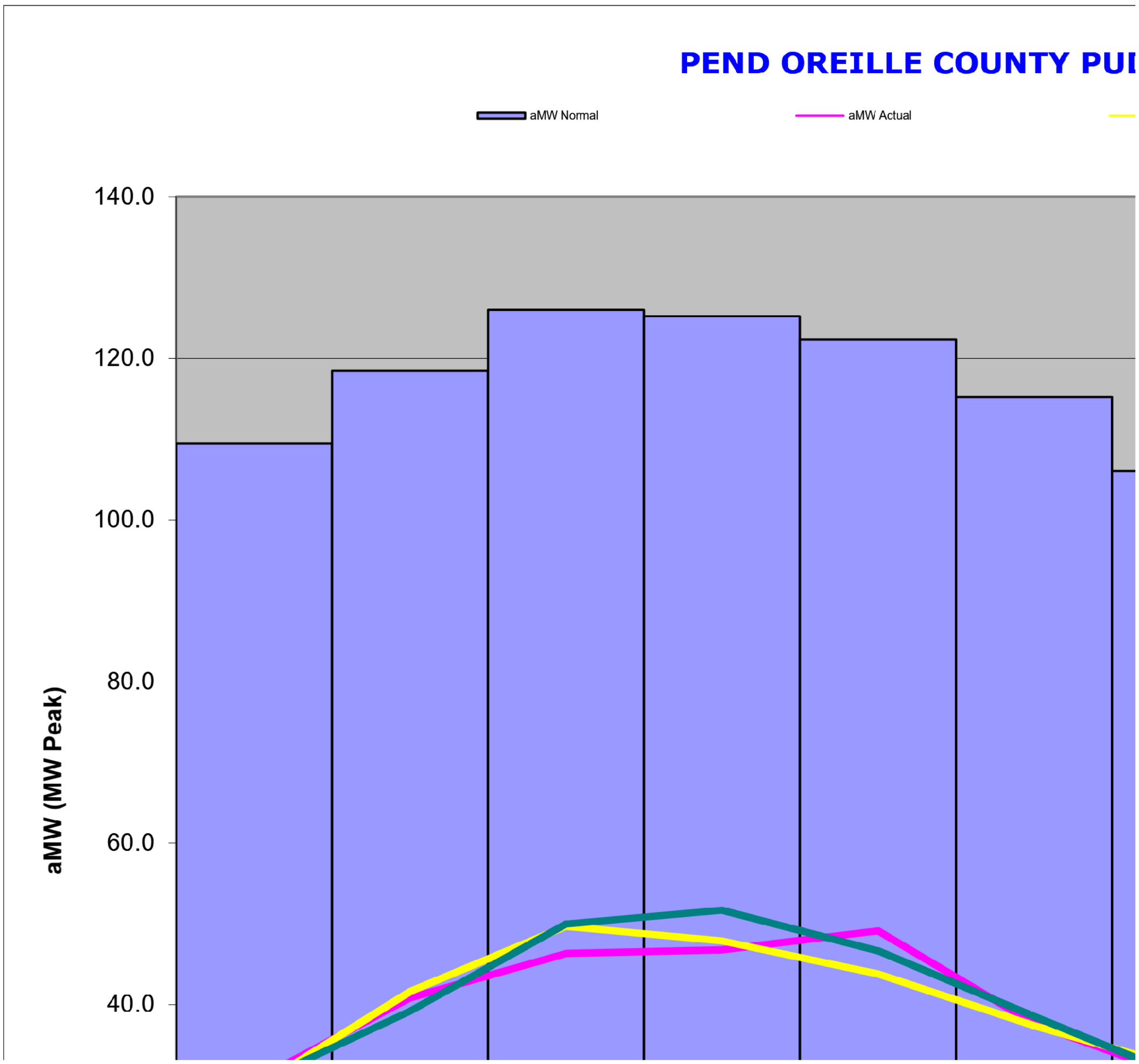
Active Projects:	Project Start Date	POD	Peak kW	Load Factor
Cominco Load Loss	Ramps from 1/2015 through 5/2015. Full load through 12/2019.	10306_DP0443	7000	Variable monthly LF

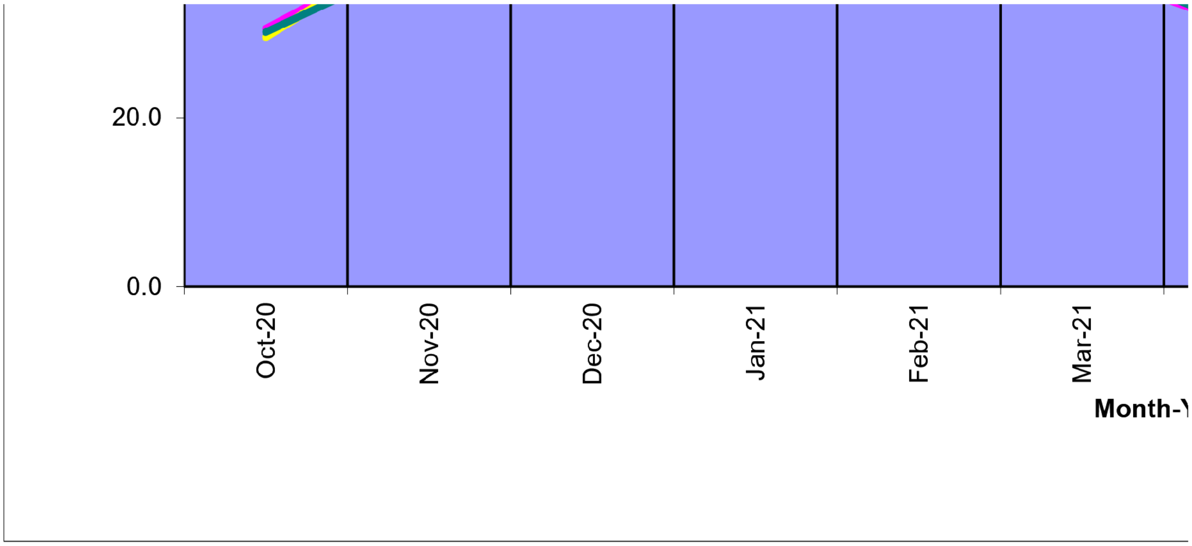
Cominco Load Loss		
Month	Peak kW	Load Factor
1	7000	82.0
2	7000	82.0
3	7000	82.0
4	7000	82.0
5	7000	82.0
6	7000	82.0
7	7000	82.0
8	7000	82.0
9	7000	82.0
10	7000	82.0
11	7000	82.0

12	7000	82.0

Forecast Fiscal Start Year	Fiscal Plot Start Year	Fiscal Plot Stop Year	Year Type	Load Type	Peak Type	Peak Plot
2021	2021	2021	Fiscal	aMW	CP	Hide

*Historical Load Values Do Not Includ





Monthly Hrs	Fiscal Year	Month	aMW Actual	aMW Normal	aMW Forecast	aMW HWM
745	2005	10	105.59	108.16		
720	2005	11	120.73	118.15		
744	2005	12	122.83	124.11		
744	2005	1	128.87	123.47		
672	2005	2	121.24	118.36		
744	2005	3	118.01	112.57		
719	2005	4	111.84	104.05		
744	2005	5	103.78	103.08		
720	2005	6	103.62	101.93		
744	2005	7	104.76	99.41		
744	2005	8	94.69	100.33		
720	2005	9	108.88	95.32		
745	2006	10	111.72	109.11		
720	2006	11	122.04	119.09		
744	2006	12	131.18	125.10		
744	2006	1	122.42	124.36		
672	2006	2	123.64	119.35		
744	2006	3	121.48	113.45		
719	2006	4	108.74	105.03		
744	2006	5	110.21	104.10		
720	2006	6	104.09	102.94		
744	2006	7	97.86	100.33		
744	2006	8	102.43	101.31		
720	2006	9	81.56	96.29		
745	2007	10	107.84	110.03		
720	2007	11	120.80	120.06		
744	2007	12	119.61	126.00		
744	2007	1	123.03	125.33		

672	2007	2	115.69	120.43			
743	2007	3	114.91	114.55			
720	2007	4	93.71	105.82			
744	2007	5	107.56	104.95			
720	2007	6	100.43	103.83			
744	2007	7	106.18	101.30			
744	2007	8	103.94	102.26			
720	2007	9	80.70	97.25			
744	2008	10	111.79	111.13			
721	2008	11	118.36	120.93			
744	2008	12	132.05	126.95			
744	2008	1	130.11	126.28			
696	2008	2	126.27	120.73			
743	2008	3	100.76	115.51			
720	2008	4	107.23	106.84			
744	2008	5	102.52	105.95			
720	2008	6	106.80	104.95			
744	2008	7	108.43	102.24			
744	2008	8	107.31	103.14			
720	2008	9	109.82	98.19			
744	2009	10	113.72	112.04			
721	2009	11	121.09	121.87			
744	2009	12	133.05	127.92			
744	2009	1	132.70	127.21			
672	2009	2	124.59	122.52			
743	2009	3	121.73	116.44			
720	2009	4	106.19	107.80			
744	2009	5	106.52	106.88			
720	2009	6	100.34	105.91			
744	2009	7	84.84	103.17			
744	2009	8	100.19	104.07			
720	2009	9	82.25	99.15			
744	2010	10	114.03	112.97			
721	2010	11	122.44	122.83			
744	2010	12	131.85	128.85			
744	2010	1	123.83	128.14			
672	2010	2	117.04	123.55			
743	2010	3	116.89	117.37			
720	2010	4	111.63	108.76			
744	2010	5	105.90	107.81			
720	2010	6	103.64	106.87			
744	2010	7	104.82	104.10			
744	2010	8	102.00	105.00			
720	2010	9	101.85	100.11			
744	2011	10	108.48	112.71	111.99		
721	2011	11	121.70	123.13	121.92		
744	2011	12	122.03	128.63	127.96		
744	2011	1	126.58	128.24	127.21		
672	2011	2	128.87	124.16	122.67		
743	2011	3	110.43	116.86	116.39		
720	2011	4	114.44	109.27	107.73		
744	2011	5	107.48	107.77	106.76		

720	2011	6	106.55	106.88	105.85		
744	2011	7	102.74	104.47	103.04		
744	2011	8	104.84	104.99	104.16		
720	2011	9	104.57	100.66	98.92		
744	2012	10	113.41	113.52	106.08		
721	2012	11	122.09	123.97	113.35		
744	2012	12	126.09	129.45	118.99		
744	2012	1	127.61	129.06	125.07		
696	2012	2	123.63	124.22	132.14		
743	2012	3	120.83	117.67	124.43		
720	2012	4	115.76	110.11	122.04		
744	2012	5	105.42	108.58	116.46		
720	2012	6	104.56	107.72	112.20		
744	2012	7	108.00	105.28	107.21		
744	2012	8	105.15	105.80	104.30		
720	2012	9	103.85	101.50	104.15		
744	2013	10	114.91	114.34	112.43		
721	2013	11	120.51	124.81	122.95		
744	2013	12	129.71	130.26	128.45		
744	2013	1	131.97	129.87	128.02		
672	2013	2	127.07	125.96	124.07		
743	2013	3	118.98	118.49	116.57		
720	2013	4	111.94	110.95	108.97		
744	2013	5	109.64	109.40	107.42		
720	2013	6	105.84	108.56	106.59		
744	2013	7	104.74	106.10	104.12		
744	2013	8	105.34	106.62	104.86		
720	2013	9	110.80	102.35	100.21		
744	2014	10	113.36	112.64	114.28		
721	2014	11	122.32	123.28	125.34		
744	2014	12	130.47	129.60	131.91		
744	2014	1	127.51	128.66	130.94		
672	2014	2	132.51	124.35	126.46		
743	2014	3	127.97	117.62	119.46		
720	2014	4	102.84	110.64	112.20		
744	2014	5	99.25	107.36	108.78		
720	2014	6	92.98		107.68		
744	2014	7	93.88		106.09		
744	2014	8	90.45		106.25		
720	2014	9	93.67		102.25		
744	2015	10	97.24	113.26	105.97		
721	2015	11	94.57	123.77	116.90		
744	2015	12	111.00	130.14	123.52		
744	2015	1	101.81	129.27	134.44		
672	2015	2	110.03	125.04	130.04		
743	2015	3	89.09	118.26	122.99		
720	2015	4	81.43		115.76		
744	2015	5	94.70		112.33		
720	2015	6	75.90		111.20		
744	2015	7	91.13		109.60		
744	2015	8	73.84		109.75		
720	2015	9	94.93		104.43		

744	2016	10	99.80	113.67	86.01	
721	2016	11	115.63	124.22	96.96	
744	2016	12	124.61	130.55	103.54	
744	2016	1	121.19	129.68	102.63	
696	2016	2	122.07	125.07	97.85	
743	2016	3	119.36	118.67	91.20	
720	2016	4	103.56		83.98	
744	2016	5	107.47		80.53	
720	2016	6	90.86		79.39	
744	2016	7	99.76		98.51	
744	2016	8	101.76		95.06	
720	2016	9	103.00		92.21	
744	2017	10	111.68	111.07	84.10	
721	2017	11	117.86	120.82	92.12	
744	2017	12	127.85	126.98	100.55	
744	2017	1	135.56	126.61	100.16	
672	2017	2	127.75	122.06	97.81	
743	2017	3	117.20	115.95	90.87	
720	2017	4	116.94	106.10	85.27	
744	2017	5	109.02		78.34	
720	2017	6	105.89		75.43	
744	2017	7	106.51		75.94	
744	2017	8	101.92		75.17	
720	2017	9	108.23		76.92	
744	2018	10	109.10	109.47	109.86	
721	2018	11	122.68	118.47	121.52	
744	2018	12	133.08	126.04	129.40	
744	2018	1	126.48	125.22	126.46	
672	2018	2	126.21	122.33	123.51	
743	2018	3	128.10	115.27	115.62	
720	2018	4	116.63		107.49	
744	2018	5	110.93		106.13	
720	2018	6	106.05		102.27	
744	2018	7	105.53		102.80	
744	2018	8	103.76		101.63	
720	2018	9	106.99		101.21	
744	2019	10	111.58	109.47	110.08	
721	2019	11	126.86	118.47	121.75	
744	2019	12	129.02	126.04	129.62	
744	2019	1	132.08	125.22	126.68	
672	2019	2	137.98	122.33	123.76	
743	2019	3	123.58	115.27	115.84	
720	2019	4	93.86		107.72	
744	2019	5	99.65		106.35	
720	2019	6	101.57		102.50	
744	2019	7	102.45		103.03	
744	2019	8	102.00		101.85	
720	2019	9	105.64		101.44	
744	2020	10	113.14	109.47	110.31	
721	2020	11	115.54	118.47	121.98	

744	2020	12	117.61	126.04	129.84		
744	2020	1	112.52	125.22	121.38		
696	2020	2	95.09	122.33	118.12		
743	2020	3	111.20	115.27	110.57		
720	2020	4	106.47		102.63		
744	2020	5	73.25		100.96		
720	2020	6	37.14		97.25		
744	2020	7	21.80		97.71		
744	2020	8	23.91		96.59		
720	2020	9	21.12		96.30		
744	2021	10	30.54	109.47	29.55		
721	2021	11	40.86	118.47	41.63		
744	2021	12	46.33	126.04	49.69		
744	2021	1	46.77	125.22	47.89		
672	2021	2	49.15	122.33	43.80		
743	2021	3	37.67	115.27	37.41		
720	2021	4	30.69	106.10	31.93		
744	2021	5	25.56	104.71	25.93		
720	2021	6			24.16		
744	2021	7			24.03		
744	2021	8			23.65		
720	2021	9			24.90		
744	2022	10			29.87		
721	2022	11			41.97		
744	2022	12			50.01		
744	2022	1			48.22		
672	2022	2			44.17		
743	2022	3			37.74		
720	2022	4			32.27		
744	2022	5			26.26		
720	2022	6			24.50		
744	2022	7			24.35		
744	2022	8			23.97		
720	2022	9			25.23		
744	2023	10			30.20		
721	2023	11			42.30		
744	2023	12			50.34		
744	2023	1			48.55		
672	2023	2			44.53		
743	2023	3			38.07		
720	2023	4			32.61		
744	2023	5			26.59		
720	2023	6			24.84		
744	2023	7			24.68		
744	2023	8			24.30		
720	2023	9			25.57		
744	2024	10			30.53		
721	2024	11			42.64		
744	2024	12			50.67		
744	2024	1			48.88		
696	2024	2			44.45		
743	2024	3			38.40		

720	2024	4			32.95	
744	2024	5			26.92	
720	2024	6			25.18	
744	2024	7			25.01	
744	2024	8			24.63	
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744	2025	1			49.21	
672	2025	2			45.26	
743	2025	3			38.72	
720	2025	4			33.29	
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744	2026	7			25.66	
744	2026	8			25.28	
720	2026	9			26.59	
744	2027	10			31.51	
721	2027	11			43.66	
744	2027	12			51.65	
744	2027	1			49.86	
672	2027	2			45.98	
743	2027	3			39.38	
720	2027	4			33.96	
744	2027	5			27.90	
720	2027	6			26.20	
744	2027	7			25.99	
744	2027	8			25.61	
720	2027	9			26.93	
744	2028	10			31.84	
721	2028	11			44.00	
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744	2028	1			50.19	
696	2028	2			45.86	
743	2028	3			39.71	
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744	2028	7			26.32	

744	2028	8			25.94		
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721	2029	11			44.33		
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672	2029	2			46.71		
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720	2029	6			26.87		
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744	2029	8			26.27		
720	2029	9			27.60		
744	2030	10			32.49		
721	2030	11			44.67		
744	2030	12			52.63		
744	2030	1			50.84		
672	2030	2			47.07		
743	2030	3			40.36		
720	2030	4			34.98		
744	2030	5			28.88		
720	2030	6			27.21		
744	2030	7			26.97		
744	2030	8			26.59		
720	2030	9			27.94		
744	2031	10			32.82		
721	2031	11			45.01		
744	2031	12			52.96		
744	2031	1			51.17		
672	2031	2			47.43		
743	2031	3			40.69		
720	2031	4			35.32		
744	2031	5			29.21		
720	2031	6			27.55		
744	2031	7			27.30		
744	2031	8			26.92		
720	2031	9			28.28		
744	2032	10			33.15		
721	2032	11			45.35		
744	2032	12			53.29		
744	2032	1			51.50		
696	2032	2			47.26		
743	2032	3			41.02		
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744	2032	7			27.63		
744	2032	8			27.25		
720	2032	9			28.62		
744	2033	10			33.47		
721	2033	11			45.69		

744	2033	12			53.62	
744	2033	1			51.83	
672	2033	2			48.16	
743	2033	3			41.35	
720	2033	4			35.99	
744	2033	5			29.87	
720	2033	6			28.23	
744	2033	7			27.96	
744	2033	8			27.58	
720	2033	9			28.96	
744	2034	10			33.80	
721	2034	11			46.02	
744	2034	12			53.94	
744	2034	1			52.15	
672	2034	2			48.52	
743	2034	3			41.68	
720	2034	4			36.33	
744	2034	5			30.19	
720	2034	6			28.57	
744	2034	7			28.28	
744	2034	8			27.90	
720	2034	9			29.30	
744	2035	10			34.13	
721	2035	11			46.36	
744	2035	12			54.27	
744	2035	1			52.48	
672	2035	2			48.88	
743	2035	3			42.00	
720	2035	4			36.67	
744	2035	5			30.52	
720	2035	6			28.91	
744	2035	7			28.61	
744	2035	8			28.23	
720	2035	9			29.63	
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			#N/A	#N/A	41.2152507	#N/A
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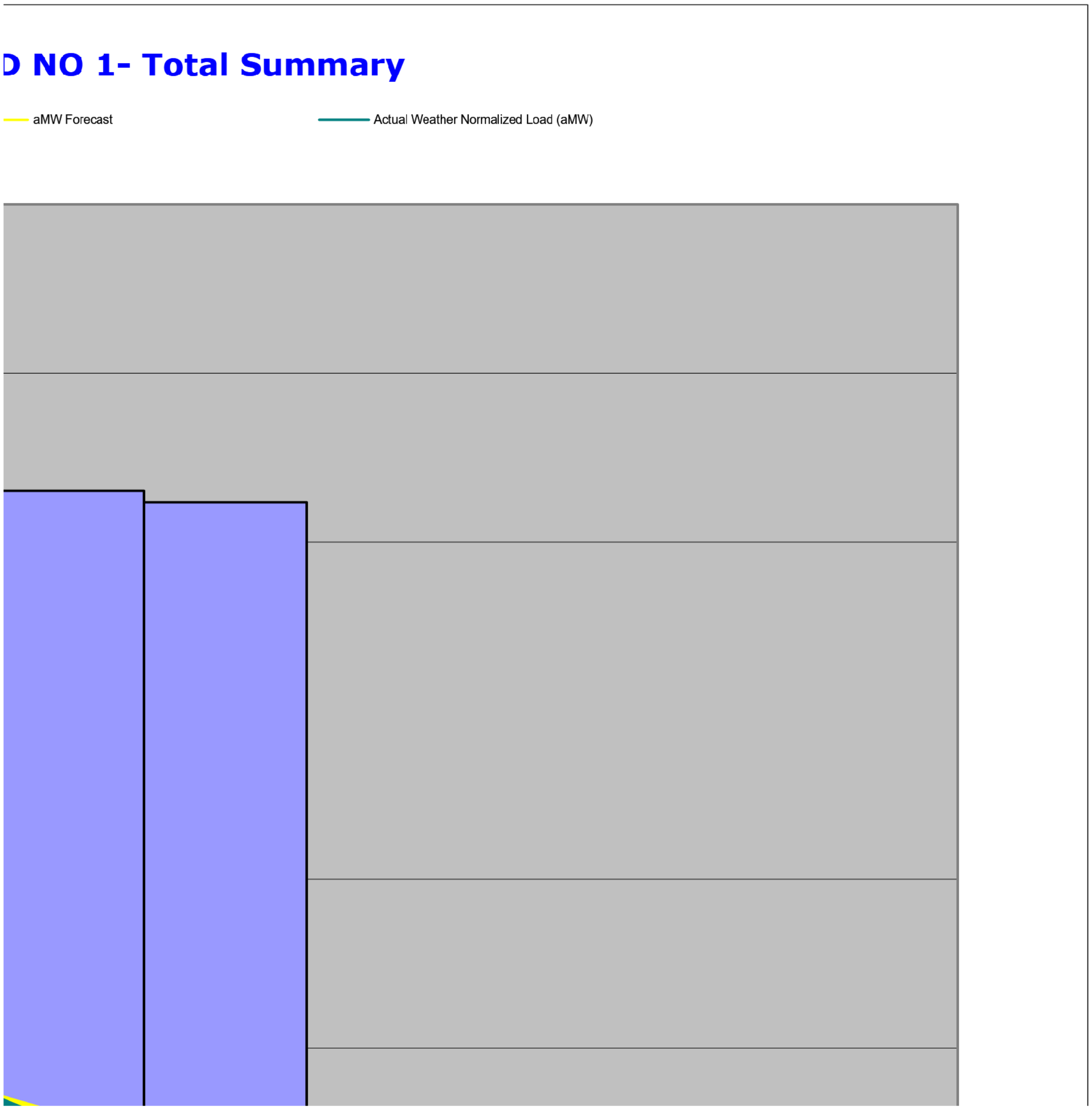
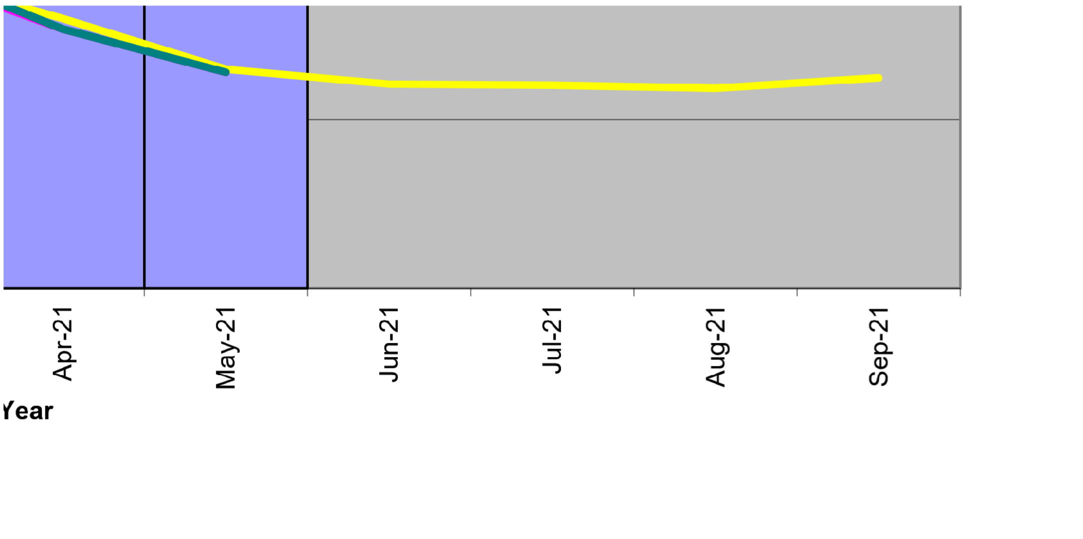
			#N/A	#N/A	21.2958006	#N/A
			#N/A	#N/A	22.6442006	#N/A

Shaped System Load (SSL) Plot	Select Customer	Customer Number	HWM (aMW)	Percent System	CHWM Resources and NLSL (aMW)	HWM Version
Hide	PEND OREILLE COUNTY PUD NO 1	10306				

e Meter Losses





aMW Above HWM	CP Actual Peak	CP Forecast Peak	CP Actual Load Factor	CP Forecast Load Factor
	123.39		85.6%	
	132.94		90.8%	
	137.11		89.6%	
	159.31		80.9%	
	140.17		86.5%	
	132.15		89.3%	
	130.76		85.5%	
	120.75		85.9%	
	113.25		91.5%	
	114.80		91.3%	
	117.72		80.4%	
	122.63		88.8%	
	124.69		89.6%	
	139.38		87.6%	
	155.45		84.4%	
	136.01		90.0%	
	150.29		82.3%	
	137.39		88.4%	
	134.43		80.9%	
	126.20		87.3%	
	117.83		88.3%	
	115.06		85.0%	
	111.94		91.5%	
	121.01		67.4%	
	133.75		80.6%	
	153.61		78.6%	
	141.91		84.3%	
	153.75		80.0%	

	140.62		82.3%	
	140.15		82.0%	
	129.84		72.2%	
	121.95		88.2%	
	115.48		87.0%	
	121.85		87.1%	
	117.31		88.6%	
	116.96		69.0%	
	132.40		84.4%	
	149.56		79.1%	
	148.29		89.0%	
	154.91		84.0%	
	142.91		88.4%	
	132.55		76.0%	
	131.59		81.5%	
	124.80		82.1%	
	119.65		89.3%	
	119.30		90.9%	
	123.50		86.9%	
	124.41		88.3%	
	141.64		80.3%	
	141.38		85.7%	
	162.00		82.1%	
	158.55		83.7%	
	147.20		84.6%	
	156.28		77.9%	
	132.18		80.3%	
	166.72		63.9%	
	115.21		87.1%	
	118.35		71.7%	
	111.22		90.1%	
	118.30		69.5%	
	138.72		82.2%	
	137.02		89.4%	
	158.69		83.1%	
	149.93		82.6%	
	136.11		86.0%	
	141.32		82.7%	
	133.61		83.5%	
	130.61		81.1%	
	121.25		85.5%	
	114.84		91.3%	
	114.97		88.7%	
	116.90		87.1%	
	130.79	134.21	82.9%	83.4%
	151.62	147.51	80.3%	82.7%
	146.95	153.51	83.0%	83.4%
	178.40	159.18	71.0%	79.9%
	158.69	147.11	81.2%	83.4%
	136.66	139.48	80.8%	83.4%
	136.57	132.08	83.8%	81.6%
	131.98	131.78	81.4%	81.0%

	121.77	122.12	87.5%	86.7%	
	115.60	121.35	88.9%	84.9%	
	117.31	120.69	89.4%	86.3%	
	121.30	125.86	86.2%	78.6%	
	136.17	131.56	83.3%	80.6%	
	144.98	141.57	84.2%	80.1%	
	146.51	148.48	86.1%	80.1%	
	149.01	159.30	85.6%	78.5%	
	148.03	169.39	83.5%	78.0%	
	141.00	158.44	85.7%	78.5%	
	136.68	157.71	84.7%	77.4%	
	128.91	151.75	81.8%	76.7%	
	123.53	139.49	84.6%	80.4%	
	162.19	128.58	66.6%	83.4%	
	121.56	124.72	86.5%	83.6%	
	120.81	130.02	86.0%	80.1%	
	133.00	137.27	86.4%	81.9%	
	139.69	152.04	86.3%	80.9%	
	143.62	157.39	90.3%	81.6%	
	151.97	164.74	86.8%	77.7%	
	144.37	151.41	88.0%	81.9%	
	144.19	142.50	82.5%	81.8%	
	135.91	135.72	82.4%	80.3%	
	126.92	134.86	86.4%	79.7%	
	122.00	125.72	86.8%	84.8%	
	122.04	124.33	85.8%	83.7%	
	119.90	123.71	87.9%	84.8%	
	122.20	128.88	90.7%	77.8%	
	140.92	132.37	80.4%	86.3%	
	141.52	146.41	86.4%	85.6%	
	152.97	152.46	85.3%	86.5%	
	145.75	158.82	87.5%	82.4%	
	161.35	145.04	82.1%	87.2%	
	149.57	138.22	85.6%	86.4%	
	134.67	131.86	76.4%	85.1%	
	120.72	129.34	82.2%	84.1%	
	107.43	120.21	86.5%	89.6%	
	108.88	123.14	86.2%	86.2%	
	105.52	118.17	85.7%	89.9%	
	110.60	123.14	84.7%	83.0%	
	141.73	133.80	68.6%	79.2%	
	138.33	147.54	68.4%	79.2%	
	143.85	153.68	77.2%	80.4%	
	178.27	161.96	57.1%	83.0%	
	135.01	148.15	81.5%	87.8%	
	137.51	141.30	64.8%	87.0%	
	120.30	134.87	67.7%	85.8%	
	112.63	132.34	84.1%	84.9%	
	107.39	123.28	70.7%	90.2%	
	109.80	121.96	83.0%	89.9%	
	101.16	121.23	73.0%	90.5%	
	104.69	126.25	90.7%	82.7%	

#N/A	122.28	136.30	81.6%	63.1%
#N/A	144.70	149.62	79.9%	64.8%
#N/A	144.46	155.81	86.3%	66.5%
#N/A	147.30	162.70	82.3%	63.1%
#N/A	141.00	148.90	86.6%	65.7%
#N/A	138.49	142.05	86.2%	64.2%
#N/A	126.23	135.62	82.0%	61.9%
#N/A	123.97	133.08	86.7%	60.5%
#N/A	119.56	124.03	76.0%	64.0%
#N/A	111.85	122.71	89.2%	80.3%
#N/A	116.97	121.98	87.0%	77.9%
#N/A	120.76	126.99	85.3%	72.6%
#N/A	128.10	110.47	87.2%	76.1%
#N/A	133.85	116.92	88.1%	78.8%
#N/A	159.89	134.39	80.0%	74.8%
#N/A	165.27	137.82	82.0%	72.7%
#N/A	150.23	123.44	85.0%	79.2%
#N/A	144.29	119.06	81.2%	76.3%
#N/A	137.35	112.54	85.1%	75.8%
#N/A	129.38	116.50	84.3%	67.2%
#N/A	121.10	93.27	87.4%	80.9%
#N/A	124.04	88.92	85.9%	85.4%
#N/A	122.77	89.01	83.0%	84.5%
#N/A	128.90	95.20	84.0%	80.8%
#N/A	135.34	138.42	80.6%	79.4%
#N/A	142.08	153.13	86.3%	79.4%
#N/A	155.76	161.47	85.4%	80.1%
#N/A	147.62	165.94	85.7%	76.2%
#N/A	161.61	152.14	78.1%	81.2%
#N/A	126.09	145.60	82.1%	79.4%
#N/A	142.14	139.84	82.1%	76.9%
#N/A	127.13	136.60	87.3%	77.7%
#N/A	121.61	124.83	87.2%	81.9%
#N/A	122.96	125.45	85.8%	81.9%
#N/A	117.77	120.94	88.1%	84.0%
#N/A	123.06	128.60	86.9%	78.7%
#N/A	136.67	138.71	81.6%	79.4%
#N/A	144.31	153.41	87.9%	79.4%
#N/A	147.80	161.75	87.3%	80.1%
#N/A	153.89	166.23	85.8%	76.2%
#N/A	159.21	152.43	86.7%	81.2%
#N/A	159.99	145.89	77.2%	79.4%
#N/A	137.35	140.13	68.3%	76.9%
#N/A	117.93	136.89	84.5%	77.7%
#N/A	113.80	125.11	89.3%	81.9%
#N/A	117.42	125.74	87.3%	81.9%
#N/A	116.34	121.23	87.7%	84.0%
#N/A	124.92	128.89	84.6%	78.7%
#N/A	140.26	139.00	80.7%	79.4%
#N/A	139.55	153.70	82.8%	79.4%

	135.19	162.04	87.0%	80.1%
	139.99	160.11	80.4%	75.8%
	142.31	146.34	66.8%	80.7%
	134.80	139.71	82.5%	79.1%
	136.77	134.03	77.8%	76.6%
	115.04	130.74	63.7%	77.2%
	102.18	118.97	36.3%	81.7%
	31.39	119.59	69.4%	81.7%
	31.74	115.10	75.3%	83.9%
	31.03	122.77	68.1%	78.4%
	56.92	47.20	0.54	62.6%
	52.08	64.23	0.78	64.8%
	60.34	71.63	0.77	69.4%
	95.36	74.64	0.49	64.2%
	74.89	65.00	0.66	67.4%
	54.81	58.06	0.69	64.4%
	51.49	50.08	0.60	63.8%
	36.69	46.24	0.70	56.1%
		33.86		71.4%
		36.07		66.6%
		30.95		76.4%
		38.08		65.4%
		47.70		62.6%
		64.73		64.8%
		72.13		69.3%
		75.14		64.2%
		65.50		67.4%
		58.56		64.4%
		50.58		63.8%
		46.74		56.2%
		34.36		71.3%
		36.57		66.6%
		31.45		76.2%
		38.58		65.4%
		48.20		62.7%
		65.24		64.8%
		72.64		69.3%
		75.64		64.2%
		66.00		67.5%
		59.06		64.5%
		51.08		63.8%
		47.24		56.3%
		34.87		71.2%
		37.07		66.6%
		31.95		76.1%
		39.08		65.4%
		48.71		62.7%
		65.74		64.9%
		73.14		69.3%
		76.14		64.2%
		66.50		66.8%
		59.56		64.5%

		51.58		63.9%
		47.74		56.4%
		35.37		71.2%
		37.57		66.6%
		32.45		75.9%
		39.58		65.5%
		49.21		62.7%
		66.24		64.9%
		73.64		69.3%
		76.64		64.2%
		67.01		67.5%
		60.06		64.5%
		52.09		63.9%
		48.24		56.5%
		35.87		71.1%
		38.07		66.5%
		32.96		75.7%
		40.08		65.5%
		49.71		62.7%
		66.74		64.9%
		74.14		69.2%
		77.15		64.2%
		67.51		67.6%
		60.57		64.5%
		52.59		63.9%
		48.75		56.6%
		36.37		71.1%
		38.57		66.5%
		33.46		75.6%
		40.58		65.5%
		50.21		62.8%
		67.24		64.9%
		74.64		69.2%
		77.65		64.2%
		68.01		67.6%
		61.07		64.5%
		53.09		64.0%
		49.25		56.7%
		36.87		71.0%
		39.07		66.5%
		33.96		75.4%
		41.09		65.5%
		50.71		62.8%
		67.74		64.9%
		75.14		69.2%
		78.15		64.2%
		68.51		66.9%
		61.57		64.5%
		53.59		64.0%
		49.75		56.7%
		37.37		71.0%
		39.58		66.5%

#N/A	#N/A	34.46	#N/A	75.3%
#N/A	#N/A	41.59	#N/A	65.6%
#N/A	#N/A	51.21	#N/A	62.8%
#N/A	#N/A	68.25	#N/A	65.0%
#N/A	#N/A	75.65	#N/A	69.1%
#N/A	#N/A	78.65	#N/A	64.2%
#N/A	#N/A	69.01	#N/A	67.7%
#N/A	#N/A	62.07	#N/A	64.5%
#N/A	#N/A	54.09	#N/A	64.0%
#N/A	#N/A	50.25	#N/A	56.8%
#N/A	#N/A	37.88	#N/A	71.0%
#N/A	#N/A	40.08	#N/A	66.5%
#N/A	#N/A	34.96	#N/A	75.1%
#N/A	#N/A	42.09	#N/A	65.6%
#N/A	#N/A	51.71	#N/A	62.8%
#N/A	#N/A	68.75	#N/A	65.0%
#N/A	#N/A	76.15	#N/A	69.1%
#N/A	#N/A	79.15	#N/A	64.2%
#N/A	#N/A	69.51	#N/A	67.7%
#N/A	#N/A	62.57	#N/A	64.5%
#N/A	#N/A	54.59	#N/A	64.1%
#N/A	#N/A	50.75	#N/A	56.9%
#N/A	#N/A	38.38	#N/A	70.9%
#N/A	#N/A	40.58	#N/A	66.5%
#N/A	#N/A	35.46	#N/A	75.0%
#N/A	#N/A	42.59	#N/A	65.6%
#N/A	#N/A	52.21	#N/A	62.9%
#N/A	#N/A	69.25	#N/A	65.0%
#N/A	#N/A	76.65	#N/A	69.1%
#N/A	#N/A	79.65	#N/A	64.2%
#N/A	#N/A	70.02	#N/A	67.7%
#N/A	#N/A	63.07	#N/A	64.5%
#N/A	#N/A	55.09	#N/A	64.1%
#N/A	#N/A	51.25	#N/A	57.0%
#N/A	#N/A	38.88	#N/A	70.9%
#N/A	#N/A	41.08	#N/A	66.5%
#N/A	#N/A	35.96	#N/A	74.9%
#N/A	#N/A	43.09	#N/A	65.6%
#N/A	#N/A	52.72	#N/A	62.9%
#N/A	#N/A	69.75	#N/A	65.0%
#N/A	#N/A	77.15	#N/A	69.1%
#N/A	#N/A	80.16	#N/A	64.2%
#N/A	#N/A	70.52	#N/A	67.0%
#N/A	#N/A	63.58	#N/A	64.5%
#N/A	#N/A	55.60	#N/A	64.1%
#N/A	#N/A	51.75	#N/A	57.1%
#N/A	#N/A	39.38	#N/A	70.8%
#N/A	#N/A	41.58	#N/A	66.4%
#N/A	#N/A	36.47	#N/A	74.7%
#N/A	#N/A	43.59	#N/A	65.6%
#N/A	#N/A	53.22	#N/A	62.9%
#N/A	#N/A	70.25	#N/A	65.0%

		77.65		69.0%
		80.66		64.3%
		71.02		67.8%
		64.08		64.5%
		56.10		64.2%
		52.25		57.2%
		39.88		70.8%
		42.08		66.4%
		36.97		74.6%
		44.09		65.7%
		53.72		62.9%
		70.75		65.0%
		78.15		69.0%
		81.16		64.3%
		71.52		67.8%
		64.58		64.5%
		56.60		64.2%
		52.76		57.2%
		40.38		70.7%
		42.59		66.4%
		37.47		74.5%
		44.60		65.7%
		54.22		62.9%
		71.26		65.1%
		78.66		69.0%
		81.66		64.3%
		72.02		67.9%
		65.08		64.5%
		57.10		64.2%
		53.26		57.3%
		40.89		70.7%
		43.09		66.4%
		37.97		74.4%
		45.10		65.7%
#N/A	#N/A	54.72058	#N/A	0.62966815
#N/A	#N/A	71.7579	#N/A	0.65078899
#N/A	#N/A	79.15771	#N/A	0.68975936
#N/A	#N/A	72.345245	#N/A	0.62949148
#N/A	#N/A	58.889477	#N/A	0.69987463
#N/A	#N/A	51.092117	#N/A	0.68644451
#N/A	#N/A	46.573189	#N/A	0.63487413
#N/A	#N/A	42.494366	#N/A	0.561835
#N/A	#N/A	30.903957	#N/A	0.71322192
#N/A	#N/A	31.329733	#N/A	0.69033105
#N/A	#N/A	27.212816	#N/A	0.78256511
#N/A	#N/A	35.071159	#N/A	0.64566444

Month-Calendar Year	Actual Load (aMW)	Actual Year To Date aMW Load	Forecast Load (aMW)	Forecast Year To Date aMW Load	Forecast Minus Actual Mthly % Difference
Oct-20	30.54	30.54	29.55	29.55	-3.4%
Nov-20	40.86	35.62	41.63	35.49	1.8%
Dec-20	46.33	39.23	49.69	40.27	6.7%
Jan-21	46.77	41.13	47.89	42.19	2.4%
Feb-21	49.15	42.61	43.80	42.49	-12.2%
Mar-21	37.67	41.77	37.41	41.63	-0.7%
Apr-21	30.69	40.20	31.93	40.26	3.9%
May-21	25.56	38.34	25.93	38.43	1.4%
Jun-21			24.16		
Jul-21			24.03		
Aug-21			23.65		
Sep-21			24.90		
Total To Date		38.34		38.43	

Behind The Meter Generation

Month-Calendar Year	Behind the meter resource (Est. Generation aMW)	Adjusted Actual	Adjusted Actual Year To Date aMW Load	Forecast Minus Adj Actual Mthly % Difference	Forecast Minus Adj Actual Year To Date % Difference
Oct-20	0.00	30.54	30.54	-3.35%	-3.35%
Nov-20	0.00	40.86	35.62	1.85%	-0.35%
Dec-20	0.00	46.33	39.23	6.75%	2.60%
Jan-21	0.00	46.77	41.13	2.36%	2.53%
Feb-21	0.00	49.15	42.61	-12.20%	-0.29%
Mar-21	0.00	37.67	41.77	-0.68%	-0.35%
Apr-21	0.00	30.69	40.20	3.89%	0.13%
May-21	0.00	25.56	38.34	1.43%	0.24%
Jun-21	0.00				
Jul-21	0.00				
Aug-21	0.00				
Sep-21	0.00				
Total To Date			38.34		0.24%

Weather Station: Deer Park (KDEW)

Month-Calendar Year	Actual HDD55	Normal HDD55	Weather Normalization Factor	Actual Weather Normalized Load (aMW)	Actual Year To Date Weather Normalized Load (aMW)
Oct-20	368.50	341.00	0.92	30.14	30.14
Nov-20	600.17	542.00	0.89	39.22	34.61
Dec-20	772.04	936.00	1.18	49.97	39.78
Jan-21	708.33	923.00	1.23	51.70	42.78
Feb-21	736.21	666.00	0.89	46.66	43.50
Mar-21	507.28	547.00	1.07	38.54	42.66
Apr-21	251.21	325.00	1.00	30.69	40.97
May-21	77.21	37.00	1.00	25.56	39.00
Jun-21	0.00	0.00	1.00	#N/A	#N/A
Jul-21	0.00	0.00	1.00	#N/A	#N/A
Aug-21	0.00	0.00	1.00	#N/A	#N/A
Sep-21	0.00	0.00	1.00	#N/A	#N/A
Total To Date	4021	4317			39.00
Shoulder Load (aMW)	25.56				

Forecast Minus Actual Year To Date % Difference	Forecast Minus Actual Mthly aMW Difference	Forecast Minus Actual Year To Date aMW Difference	Normal Forecast Load (aMW)	Hours Per Month
-3.4%	-0.99	-0.99	109.47	744
-0.4%	0.77	-0.12	118.47	721
2.6%	3.35	1.05	126.04	744
2.5%	1.13	1.07	125.22	744
-0.3%	-5.35	-0.12	122.33	672
-0.3%	-0.25	-0.14	115.27	743
0.1%	1.24	0.05	106.10	720
0.2%	0.37	0.09	104.71	744
				720
				744
				744
				720
0.2%		0.09		8760

Forecast Minus Adj. Actual Mthly aMW Difference	Forecast Minus Adj. Actual Year To Date aMW Difference	Behind the meter resource (Est. Generation MW)	Adjusted Actual Peak (MW)	Adjusted Actual Load Factor
-0.99	-0.99	0	56.92	0.54
0.77	-0.12	0	52.08	0.78
3.35	1.05	0	60.34	0.77
1.13	1.07	0	95.36	0.49
-5.35	-0.12	0	74.89	0.66
-0.25	-0.14	0	54.81	0.69
1.24	0.05	0	51.49	0.60
0.37	0.09	0	36.69	0.70
		0		
		0		
		0		
		0		
	0.09	0	95.36	0.402023

Forecast Minus Wthr Normalized Actual Mthly % Difference	Forecast Minus Wthr Normalized Actual Year To Date % Difference	Forecast Minus Wthr Normalized Actual Mthly aMW Difference	Forecast Minus Wthr Normalized Actual Year To Date aMW Difference
-2.0%	-2.0%	-0.59	-0.59
5.8%	2.5%	2.41	0.89
-0.6%	1.2%	-0.29	0.49
-7.9%	-1.4%	-3.80	-0.59
-6.5%	-2.4%	-2.86	-1.01
-3.0%	-2.5%	-1.13	-1.03
3.9%	-1.8%	1.24	-0.71
1.4%	-1.5%	0.37	-0.57
	-1.5%		-0.57

	Data Start Date	Data Stop Date
Customer Level Model Parameters:	1/1/03	3/31/13
Customer Level Energy forecast based on trend; R-Squared =0.804 Customer Level Peak forecast based on trend; R-Squared = 0.811		

	Active Projects:	Project Start Date	POD	Peak kW
	Cominco Load Loss	Ramps from 1/2015 through 5/2015. Full load through 12/2019.	10306_DP0443	7000
Per Kimberly 4/2015	~~Newsprint Slowdown~~	~~1/2015 through 12/2016. Energy reduction only. Peak remains steady~~	~~10306_0927 (Usk)~~	~~Unchanged~~
Per Kimberly 6/2015	Newsprint Slowdown	10/2016 through 9/2018. Load at 56 aMW. 0 aMW FY 2019 and beyond.	10306_0927 (Usk)	appx 63,000

Cominco Load Loss		
Month	Peak kW	Load Factor
1	7000	82.0
2	7000	82.0
3	7000	82.0
4	7000	82.0
5	7000	82.0
6	7000	82.0
7	7000	82.0

8	7000	82.0
9	7000	82.0
10	7000	82.0
11	7000	82.0
12	7000	82.0

Load Factor
Variable monthly LF
Variable. Appx (90%)

From: Colin Willenbrock

Sent: Wed Jun 23 07:51:05 2021

To: Normandeau,Mike (BPA) - PSE-RONAN

Cc: April Owen; Tyler Whitney

Subject: [EXTERNAL] Ponderay Newsprint Site

Importance: Normal

Mike,

We are expecting a letter of intent and projected load profile from the new owners of the newsprint site by the end of this week. Is it possible to get on your calendar sometime next week to discuss?

Hope all is well.

Thank you,

Colin

F. Colin Willenbrock

General Manager

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington

Newport, Washington 99156
509.447.3137 | cwillenbrock@popud.org | www.popud.org

Pend Oreille County Public Utility District #1

From: Colin Willenbrock

Sent: Wed Jun 23 09:05:56 2021

To: Normandeau,Mike (BPA) - PSE-RONAN

Cc: April Owen; Tyler Whitney; Patton,Kathryn B (BPA) - PSS-SEATTLE

Bcc: mrnormandeau@bpa.gov

Subject: [EXTERNAL] RE: Ponderay Newsprint Site

Importance: Normal

Mike,

How about Wednesday, June 30 at 9am PT?

Colin

From: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Sent: Wednesday, June 23, 2021 8:19 AM
To: Colin Willenbrock <cwillenbrock@popud.org>
Cc: April Owen <aowen@popud.org>; Tyler Whitney <TWhitney@popud.org>; Patton,Kathryn B (BPA) - PSS-SEATTLE <kbpatton@bpa.gov>
Subject: RE: Ponderay Newsprint Site

CAUTION: This email originated from outside of the POPUD. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Sure thing. I'd like to have Kate Patton participate in the discussion as well. Do you have a preferred day and time? Wednesday and Thursday look pretty good on our calendars.

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Pend Oreille County Public Utility District #1

From: Normandeau,Mike (BPA) - PSE-RONAN

Sent: Wed Jun 23 10:09:38 2021

To: Colin Willenbrock; Moore,Lisa A (BPA) - PSSE-MEAD-GOB; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB

Cc: April Owen; Tyler Whitney; Patton,Kathryn B (BPA) - PSS-SEATTLE

Subject: Ponderay Newsprint Site

Importance: Normal

Discussion on potential/projected new load at the Newsprint site.

From: Colin Willenbrock <cwillenbrock@popud.org>
Sent: Wednesday, June 23, 2021 10:06 AM
To: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Cc: April Owen <aowen@popud.org>; Tyler Whitney <TWhitney@popud.org>; Patton,Kathryn B (BPA) - PSS-SEATTLE <kbpatton@bpa.gov>
Subject: [EXTERNAL] RE: Ponderay Newsprint Site

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To: Colin Willenbrock <cwillenbrock@popud.org>
Cc: April Owen <aowen@popud.org>; Tyler Whitney <TWhitney@popud.org>; Patton,Kathryn B (BPA) - PSS-

SEATTLE <kbpatton@bpa.gov>
Subject: RE: Ponderay Newsprint Site

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General Manager

Public Utility District No. 1 of Pend Oreille County
P.O. Box 190 | 130 N. Washington
Newport, Washington 99156

509.447.3137 | cwillenbrock@popud.org | www.popud.org

Pend Oreille County Public Utility District #1

From: Tyler Whitney

Sent: Wed Jun 23 10:10:30 2021

To: Normandeau,Mike (BPA) - PSE-RONAN

Subject: Accepted: Ponderay Newsprint Site

Importance: Normal

Pend Oreille County Public Utility District #1

From: Colin Willenbrock

Sent: Wed Jun 23 10:17:17 2021

To: Normandeau,Mike (BPA) - PSE-RONAN

Subject: Accepted: Ponderay Newsprint Site

Importance: Normal

Pend Oreille County Public Utility District #1

From: April Owen

Sent: Wed Jun 23 11:04:42 2021

To: Normandeau,Mike (BPA) - PSE-RONAN

Subject: Accepted: Ponderay Newsprint Site

Importance: Normal

Pend Oreille County Public Utility District #1

From: Diana Jackson

Sent: Wed Jun 30 06:58:08 2021

To: Normandeau,Mike (BPA) - PSE-RONAN

Subject: [EXTERNAL] Accepted: Ponderay Newsprint Site

Importance: Normal

Pend Oreille County Public Utility District #1

From: April Owen

Sent: Wed Jun 30 15:22:31 2021

To: Normandeau,Mike (BPA) - PSE-RONAN

Cc: Patton,Kathryn B (BPA) - PSS-SEATTLE; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB

Bcc: mrnormandeau@bpa.gov

Subject: [EXTERNAL] RE: POPUD Data Request

Importance: Normal

Attachments: 2019-2020 TRL & CP.xlsx

Mike,

Here is the requested information and is also attached in excel format. The drop in TRL and CSP is reflected of Ponderay Newsprint's closure in June 2020.

Thanks,

April.

April Owen

Director, Audit, Finance & Power Supply

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington Ave

Newport, WA 99156
509.447.9321 | www.popud.org

From: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Sent: Thursday, June 17, 2021 11:53 AM
To: April Owen <aowen@popud.org>
Cc: Patton,Kathryn B (BPA) - PSS-SEATTLE <kbpatton@bpa.gov>; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB <sababaidhan@bpa.gov>
Subject: RE: POPUD Data Request

Total Retail Load. Correct. You can give us the summed up megawatt hours of usage for each month.

Customer System Peak. Coincident highest Heavy Load Hour usage for each month.

Chances are, Avista's bill probably has this info on it.

Basically 12 data points for TRL and 12 for CSP. That would be great.

Thanks.

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Sent: Thursday, June 17, 2021 10:49 AM
To: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Cc: Patton,Kathryn B (BPA) - PSS-SEATTLE <kbpatton@bpa.gov>; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB <sababaidhan@bpa.gov>
Subject: [EXTERNAL] RE: POPUD Data Request

Mike –

Thought I saw your name on the NWPPA seminar. Agreed, I thought Goroski's presentation was well done and interesting.

Quick question – TRL = Total retail load, CSP = ? (I should know, but couldn't think of a good match!). I haven't looked yet at what we have submitted in the past, is this hourly data or monthly aMW?

Thanks,

April.

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Sent: Thursday, June 17, 2021 9:17 AM
To: April Owen <aowen@popud.org>
Cc: Patton,Kathryn B (BPA) - PSS-SEATTLE <kbpatton@bpa.gov>; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB <sababaidhan@bpa.gov>
Subject: POPUD Data Request
Importance: High

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April-

Hope you are enjoying the NWPPA Finance Seminar. Goroski has done a great job presenting how Flathead has implemented their Demand Rate.

Quick request and hoping it isn't too big of a lift. We are wrapping up the Net Requirement process and would greatly benefit from some historical data. Could you please send us the PUD's monthly TRL and CSP for FY 2020 (October 2019-September 2020). It would help us fill out the historical numbers. I don't expect it will make a difference. You're the one customer we don't have this readily available for.

Shoot back to this group the data and any questions/concerns.

Thanks.

Mike

Pend Oreille County Public Utility District #1

Pend Oreille PUD
FYE 9/30/20 Data Request
prepared by A. Owen 6/30/21

October 2019 - September 2020	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug
Total Retail Load (MWh)	84,271	83,343	87,521	83,741	66,198	82,668	76,710	54,529	26,735	16,234	17,397
Customer System Peak (MW)	140	140	135	140	142	135	137	115	102	31	32

Sept
16,402
33

June 23, 2021

Mr. F. Colin Willenbrock,
General Manager
Public Utility District No. 1 of Pend Oreille County
P.O. Box 190
Newport, WA 99156

Delivered via electronic mail to: cwillenbrock@popud.org

Re: Letter of Intent to Establish Electric Service

In response to your letters dated May 6 and May 20, 2021, please accept this Letter of Intent ("LOI") to expand electric service at the former Ponderay Newsprint Mill site in Usk for Ponderay Renewable Fiber and Blockchain, LLC ("PRFB" or "Customer"). We are eager to establish a productive and value-added relationship with Public Utility District No. 1 of Pend Oreille County ("District") and hope that this LOI will be the catalyst to enable cooperative efforts between the District and PRFB (together, "Parties"). We look forward to working with your team to establish a low cost, reliable industrial scale power supply. Details are provided below.

1. **Non-Binding**: Nothing in this LOI should be construed to be a binding commitment of Customer. Information herein is the best estimate available currently and is subject to change without notice. The binding commitments of the Parties shall only be as set forth in definitive agreements based on this LOI and efforts between the Parties to reach agreement on terms of power supply.
2. **Customer**: Ponderay Renewable Fiber and Blockchain, LLC.
3. **Customer Location**: 422767 SR 20, Usk, WA 99180, service will be required within Tax parcel 443208000005 and other nearby parcels at the Customer Location in Pend Oreille County, WA.
4. **Customer Contacts**: Mr. Todd Behrend (509) 671-7729 tbehrend@ponderayrfb.com or Mr. Steve Wood (509) 737-7472 swood@ponderayrfb.com
5. **Customer Affiliation**: Customer is a wholly owned affiliate of Allrise Capital, Inc. 200 Spectrum Center Dr. Suite 1450, Irvine, CA 92618 (949) 748-6285.
6. **Existing Service**: Customer is currently receiving Industrial Service from the PUD at this location and wishes to expand the service to include additional future operating needs.

7. **<u>Service Requested</u>:** Customer requests that the District collaborate with Customer to develop two power supply scenarios to expand service at the Customer Location, as described in general below.
   a. <u>District Supply</u>: Service to customer pursuant to the PUD's Electric Service and Rates Policy dated January 1, 2021 (page 14, Industrial Service). In this scenario Customer understands the District will develop a supply portfolio including electricity from District-owned generation resources and from the Bonneville Power Administration (BPA), supplemented by wholesale market purchases as appropriate. The District would develop an industrial service rate and Customer understands that a negotiated contract will be required.
   b. <u>District Modified Buy-Sell</u>: In this scenario, Customer requests District cooperation and support for Customer to negotiate the terms of a power supply portfolio with market-based suppliers, which could include power marketing entities as well as third-party utilities, including investor-owned utilities and other public utilities, willing to sell excess energy production. Once Customer has completed negotiation of the market-based power supply, the District would agree to make reasonable efforts to purchase such market-based power supply and resell it to Customer. In this scenario, the District will include a delivery fee, to be negotiated with Customer, for use of District equipment and Balancing Authority Area services to facilitate delivery of the market-based power supply to Customer. In addition, customer requests District consideration of establishing a BPA "net requirement" based on Customer load requirements. Such BPA net requirement would be delivered at the current BPA Priority Firm (PF) rate and the amount of BPA provided PF power would be netted against the quantities pertaining to the buy-sell contract.
8. **<u>Load Estimate</u>**: Please provide rates for delivered power in the quantities estimated below.
   a. **Immediate 2 MW expansion** Customer plans to add up to 2MW to the existing 1.5 MW currently being provided by the District. This immediate expansion would result in total Customer site load of 3.0 to 3.5 MW. Customer would prefer to start this immediate expansion of service in July 2021 if possible. Additional service expansions are listed in 8.b through 8.d below.
   b. **Not less than 75 MW and not more than 125 MW** with various start of service dates as follows:
      i. September 1, 2021
      ii. October 1, 2021
      iii. November 1, 2021
   c. **Not less than 125 MW and not more than 144 MW** beginning January 1, 2022.
   d. **Not less than 144 MW and not more than 300 MW** beginning July 1, 2023.

9. **Nature of the Load**: Customer intends to re-start and operate the existing pulp and paper making equipment that exists at the Customer Location and has been previously served by the District. In addition, Customer plans to install one or more data centers. Accordingly, please consider the initial assumptions listed below as to the nature and shape of the power deliveries.
    a. Pulp and Paper: Customer expects normal operation at 92% to 93% load factor.
        i. Fluctuations may occur as in the past, due to unanticipated events within the paper-making process and scheduled maintenance activities that require temporary reductions in electrical load. Pulp and paper process load is anticipated to vary between 75 MW and 90 MW over time. Like what the District and previous mill operations experienced in the past, Customer would anticipate curtailing production in response to events called by the District or for events to allow arbitrage of spot market energy price spikes, the proposed terms of which should be set forth in the District's response to paragraph 7 of this LOI.
        ii. Customer is willing to discuss demand response related (including economic curtailments) for up to ~50% of its pulp and paper load which may be helpful to the District and BPA in managing critical demand events or emergencies within the overall system. Customer requests the District to include the value of demand response and required load flexibility terms in its response to paragraph 7 of this LOI.
    b. Data Center: Customer expects that the data center installation will have space heating and cooling requirements in addition to electronic computer equipment and lighting. This load shape is expected be at virtually 100% load factor. As a general matter, please assume that demand above 90 MW is related to data center operations.
        i. Customer is willing to assist in managing load fluctuation by temporarily adding or curtailing data center demand, thus reducing the incidence of unanticipated material deviations in load.
        ii. Customer is willing to discuss demand response related (including economic curtailments) for up to 25% of its load which may be helpful to the District and BPA in managing critical demand events or emergencies within the overall system. Customer requests the District to include the value of demand response and required load flexibility terms in its response to paragraph 7 of this LOI.
10. **Sequencing service start dates**: The existing electrical equipment at the site has been properly maintained since being taken out of service in 2020. Customer's independent consultants have advised that as of June 2021 the existing 13.8 kV site electrical equipment operating capacity is about 144 MW. To attain restarted operations as quickly as possible, Customer proposes a two-stage approach:

i. Phase 1 – Initial expansion of service. To facilitate near term, startup planning needs, Customer therefore asks the District to expedite the development of terms for between 90 MW and 144 MW of service that do not exceed the limits of the equipment which has been used historically to serve the Customer location.

ii. Phase 2 – Planning for material load growth. It is understood that technical studies and evaluations may need to be completed to provide service above the existing equipment capacity range of 90 MW to 144 MW referenced above. Customer requests that these study and evaluation efforts be undertaken on a parallel track but separately from the initial service expansion.

Thank you for your consideration. We look forward to working with the District to complete an appropriate Cost Reimbursement Agreement and to provide the deposit necessary so that we may begin work on the concepts outlined herein.

Sincerely,

Steve Wood, CFO
Ponderay Renewable Fiber & Blockchain

Cc: Todd Behrend, PRFB
Ruslan Zinurov, Allrise Capital
Nathan Cho, Allrise Capital
Mikhail Trubchik, Allrise Capital
April Owen, Pend Oreille PUD
Tyler Whitney, Pend Oreille PUD

From: Normandeau,Mike (BPA) - PSE-RONAN

Sent: Wed Jun 30 17:29:15 2021

To: April Owen

Cc: Patton,Kathryn B (BPA) - PSS-SEATTLE; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB

Subject: RE: POPUD Data Request

Importance: Normal

Thank you. This is appreciated! Sounds like your discussion with John Wellschlager went well. I hope it works out!

Mike

From: April Owen <aowen@popud.org>
Sent: Wednesday, June 30, 2021 4:23 PM
To: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Cc: Patton,Kathryn B (BPA) - PSS-SEATTLE <kbpatton@bpa.gov>; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB <sababaidhan@bpa.gov>
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Director, Audit, Finance & Power Supply

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Importance: High

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Thanks.

Mike

From: David Hodder

Sent: Fri Jul 02 11:53:26 2021

To: Lacambra,Jared M (BPA) - TPCF-MEAD-GOB

Subject: [EXTERNAL] PNC site analysis

Importance: Normal

Attachments: Asset Report 2.pdf

FYI

Thanks,

Regards,

David J Hodder P.E.

Engineering Manager

Phone 509 447-3137

Cell [redacted]

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington

Newport, Washington 99156

Pend Oreille County Public Utility District #1

MAINTENANCE & TEST ENGINEERING, LLC

June 9, 2021
Rev 2

Ponderay Newsprint Substation Asset Review

Executive Summary:

Allrise Capital Inc. is interested in understanding the maximum available electric power that can be delivered to the Ponderay Newsprint Company (PNC) Substation. Assuming an adequate supply is available from the power market, power delivery to the PNC Substation is physically limited by:

- Wheeling capacity through the Bonneville Power Administration (BPA) 230 kV Usk Substation tie to the PNC Substation
- The capacity of the Pend Oreille PUD (POPUD) 115 kV tie to the PNC Substation
- The capacity of the PNC 230/13.8 kV Substation

The BPA 230 kV USK tie has the potential of delivering 600 MVA to the PNC Substation. The tie is part of a series of substations and transmission lines that connect the 1,100 MVA Boundary Hydro Project north of Newport to the BPA 500 kV system in Spokane at Bell Substation. The available capacity of this connection is highly dependent on existing wheeling contracts.

The PNC project is an electric customer of Pend Oreille PUD, which has historically delivered approximately 80 MVA of electric power over its 115 kV lines. Informal conversations with POPUD indicate that 100 MVA of power capacity is readily available. Additional power capacity, up to 167 MVA, may be available but would require POPUD to perform studies to determine the maximum available capacity of their tie to PNC. Power delivered from POPUD would displace BPA capacity since they share infrastructure.

The maximum capacity of the PNC substation is at present limited to 216 MVA. Allowing for operating contingencies and substation asset maintenance, the realistic operating rating of the PNC Substation is approximately 144 MVA. Future increases in the PNC Substation capacity would be expected to occur in coordination with load growth at the PNC site. Planning, designing, procuring, and constructing these capacity increases would take one and one-half to two years to fully execute.

Beyond the physical limits of the power delivery assets, other items that impact power delivery capacity include:

- Routine Maintenance. Nearly all assets need to be removed from service periodically for maintenance. For some assets, this will cause no loss of capacity; for many assets, it will result in a 33% reduction in capacity. These are planned events with a normal duration of one to eight hours.
- Asset Failure. Even with the best preventive maintenance program, random asset failure will occur. The present PNC substation has an elementary fault protection scheme. Currently, many substation asset failure modes will cause a total loss of substation functionality, de-energizing the station for a period of one to twenty-four hours.
- Grid Power Flow. The flow of power in an electric grid is complex, and studies must be performed to guarantee large-scale power delivery.
- N-1 Planning. BPA designs and builds its grid to accommodate the unexpected loss of nearly any grid component at any time. This N-1 planning requires most lines and substations to reserve capacity to mitigate unplanned events.
- Interruptable Power. Industrial customers who choose interruptable power rates are often allowed more grid capacity during low grid power demand periods.

In summary:

- 80 MVA of firm capacity is likely available now.
- 100 MVA of capacity could likely be available in six (6) months with little or no capital investment.
- 144 MVA of capacity could be available in eighteen (18) months with only a small capital investment.
- 600 MVA of capacity could be available in thirty (30) months with appropriate BPA system studies and significant capital investment in substation assets.

Introduction:

At the request of Allrise Capital Inc./Ponderay Newsprint Company (PNC), Maintenance and Test Engineering Company LLC (MTEC) made a technical review of the PNC Substation assets in Usk, Washington. On May 27, 2021, John E. Skog, Principal of MTEC, made a site visit to review documentation and inspect the substation assets. Discussion with Todd Behrend of PNC, and Dave Hodder, Engineering Manager of Pend Oreille PUD, also took place.

Of high importance to Allrise Capital Inc./PNC was determining the substation's electrical capacity and the condition of the substation assets. In summary, present substation capacity limitations are as follows:

- **13.8 kV Feed (216 MVA-Available, 144 MVA-Prudent)**
  Each of the 13.8 kV bus sections is limited by a 230kV/13.8kV power transformer (75 MVA each) and a 3,000 Amp Cable Bus/Primary Breaker feeding the switchgear (72 MVA). In total, there is an installed capacity of 216 MVA; the prudent, continuous operating capability is expected to be less-144 MVA.

- **115 kV Feed from Pend Oreille PUD (167 MVA)**
  A single 115 kV transmission line is the normal power feed to the PNC substation. This feed is limited by the 230 kV/115kV Power Transformer rating, 166 MVA, and the Transmission Line wire size (795 kcmil) of 176 MVA.

- **230 kV Feed from BPA (600 MVA)**
  The PNC substation is also connected to the 230 kV Ring Bus at BPA's Usk substation. While the substation Circuit and Bus capacity are approximately 800 MVA, drawings indicate that the Transmission Line "Loop Ampacity" is limited to about 600 MVA, well above the Pend Oreille PUD feed capability.

Terms Used in this Document:

This document is intended to be read by diverse individuals with differing electric power system familiarity levels. The following terms are used throughout the document, and their general definitions are provided to improve the consistency of understanding.

Electric Current:

Electric current is the flow of charge/electrons in an electric circuit. Water systems are many times used as an analogy for electric systems. The flow of water in a water system is analogous to the current flow in an electrical system. Increasing the size of the pipe in a water system increases the amount of water that can flow through it. Similarly, increasing the size of the conductor in an electric system also increases the amount of electric current that can flow through it.

Typical units of electric current are:

- Amperes (Amps)
- Kilo-Amps (1,000 Amperes or 1 kA)

Typical values of current found in this document:

- 1,200 Amps (1.2 Kilo-Amps or 1.2 kA)
- 2,000 Amps (2.0 Kilo-Amps or 2 kA)
- 3,000 Amps (3.0 Kilo-Amps or 3 kA)

Voltage:

Voltage is the electromotive force in an electric circuit that causes the flow of current. Water systems are many times used as an analogy for electric systems. The water pressure in a water system is analogous to the voltage level found in an electrical system. A stronger pipe is required to carry water at high pressure; similarly, stronger insulation is required for higher voltage in electric systems.

Typical units are:

- Volts
- Kilo-Volts (1,000 Volts or 1 kV)

Common values of voltage found in this document are:

- 115 kV (Pend Oreille PUD feed to the PNC Substation)
- 230 kV (BPA feed to the PNC Substation))
- 13.8 kV (Plant distribution feed)
- 120 V, 240 V, and 480 V (voltages used by many plant assets such as lighting, motors, computers, etc.)

Electrical Power (Real):

Power refers to the rate of electrical energy transfer or capacity of an asset. In this document, it is a rating that defines an asset's ability to deliver or consume electrical energy. Typical units of electrical power are:

- Watt
- Kilowatt (1,000 Watts)
- Megawatt (1,000,000 Watts)

Sometimes electric power is called "Real Power" because it can perform actual work.

Electric power is a function of Volts X Amps

Electrical Energy (Real):

Electrical Energy is a measure of work performed by an electrical asset. Electrical energy is the transfer of electrical power over a period of time. Typical units of electrical power are:

- Watt-hours
- Kilowatt-hours (1,000 Watt-hours)
- Megawatt-hours (1,000,000 Watt-hours)

Sometimes electric energy is called "Real Energy" because it performs actual work.

Electric Energy is a function of Volts X Amps X Time

Example:

A computer has a 750-Watt power supply. That power supply is designed to deliver up to 750-Watts of power to the various components of the computer. If the computer is shut-off for two hours, the 750-Watt power supply delivers 0-Watt-hours of electrical energy, the rate of electrical energy transfer is zero. When the computer is on, and the power supply is only 2/3^{rds} loaded, its output power is 500 Watts. When the computer's power supply runs for 24 hours at 2/3^{rds} output, it consumes 12 kilo-Watt-hours of energy (750 x 0.66 x 24/1000).

Reactive Power and Reactive Energy:

Unlike DC power systems, AC power systems supply Reactive Energy/Reactive Power. Reactive Energy/Reactive Power does not perform "Real Work." Reactive Energy/Reactive Energy is a property of Capacitive and Inductive loads that consume power during half of the voltage cycle and returns it to the power system during the other half.

While Reactive Energy does not perform "Real Work" it does require resources and thus has both an economic and system capacity impact.

Apparent Power/Apparent Energy:

Apparent Power/Apparent Energy considers both Real Power/Energy and Reactive Power/Energy. Apparent Power is often used for identifying the capacity/rating of an asset. Typical units of Apparent Power are:

- VA (Volt-Amperes)
- KVA (Kilo-Volt-Amperes)
- MVA (Mega-Volt-Amperes)

Typical units of Apparent Energy are:

- VA-hours (Volt-Amperes-Hrs.)
- KVA-hours (Kilo-Volt-Amperes-Hrs.)
- MVA-hours (Mega-Volt-Amperes-Hrs.)

Common values of Apparent Power used in this document are:

- 75 MVA (PNC Power Transformers)
- 166 MVA (Pend Oreille PUD Power Transformer feeding the site)
- 600 MVA (BPA Capacity)

Power Factor:

Power Factor is the ratio between Real Energy and Reactive Energy. A 100% Power Factor means no Reactive Energy is being delivered. A 0% Power Factor means no Real Energy is being delivered.

Power Transformer:

An asset used to make the transfer of electrical energy economical. A power transformer brings in energy at one voltage and current level and transforms it to another level. At the PNC substation, three transformers have an input voltage of 230 kV that is reduced by a factor of 16.67 to an output of 13.8 kV. Conversely, the input current that enters the transformer is increased by the same factor of 16.67 at the transformer output.

Instrument Transformer:

Similar to a power transformer, an instrument transformer is used to changed voltage and current levels by a fixed ratio that is usable by metering and protective equipment.

Current Transformer:
An instrument transformer is designed to reduce current by a fixed ratio.

Voltage Transformer:
An instrument transformer is designed to reduce voltage by a fixed ratio.

Cable:

A conductor surrounded by an insulating material (usually polyethylene) that conducts current and provides voltage insulation allowing for the safe uninterrupted transfer of high voltage electrical power.

Bus:

A metallic conductor that is designed to support the flow of high levels of electric current.

Disconnect Switch:

A high voltage device that separates conductors not allowing current to flow. Usually used for safety purposes to enable workers to see a visible air gap between energized and de-energized conductors.

Circuit Breaker:

A specialized switch that can interrupt the flow of power.

Vacuum Circuit Breaker:
A circuit breaker that uses a vacuum as an electrical insulating and interrupting media.

SF_6 Breaker:
A circuit breaker that uses Sulfur Hexafluoride gas as an electrical insulating and interrupting media.

Circuit Switcher:

A specialized switch that can interrupt the flow of electric power and also act a disconnect switch. It is similar to a circuit breaker but with reduced interrupting capability.

kcmil:

Thousand circular mils. A circular mil is a unit of the cross-sectional area of a wire or conductor, equal to the area of a circle with a diameter of one mil (one-thousandth of an inch). It is used to describe the size of large-diameter electrical wires.

Load Factor:

A measure of the utilization rate of an electrical circuit. For code requirements, the electric power infrastructure must be at least 120% of the expected load. The load factor is 120%.

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Electric Asset Capacity Details:

A more thorough discussion of the power capacity of critical substation power feed assets follows.

PNC 13.8 kV System

The PNC 13.8 kV system consists of three (3), 45/60/75 MVA transformers, three (3), 3000 Amp buses that feed switchgear comprised of numerous vacuum circuit breakers, and associated controls and instrument transformers. The 13.8 kV network is designed to protect and distribute electric power to the multiple load centers found in the plant.

Due to the diversity of loads and the need for operating flexibility, actual loads are much less than the technical capacity of the various 13.8 kV network elements. A summary of crucial 13.8 kV network element capacities is summarized in Table 1 below.

Network Element	Ampacity	Voltage (kV)	Capacity (MVA)	Limiting Factor
Power Transformer	3141	13.8	75	Thermal capability of transformer
13.8 kV Cable Bus	3000	13.8	72	Ampacity rating of conductor
13.8 kV Secondary and Section Breakers	3000	13.8	72	Ampacity rating
13.8 kV Line Breakers	2000	13.8	48	Ampacity rating
13.8 kV Line Breakers	1200	13.8	29	Ampacity rating
13.8 kV CTs	4000	13.8	95	Ampacity rating

Table 1: 13.8 kV Network Capacity Limits

Power Transformers (Banks A, B, and C):

The power transformers are built with thermally upgraded paper insulation, allowing for a temperature rise of 65°C above a 40°C ambient (105° C). The transformers have three MVA ratings:

- 45 MVA-Self cooled by the oil insulation and static air.
- 60 MVA-Additionally forced air through the radiators with 50% of the fans running.
- 75 MVA-Additionally forced air through the radiators with 100% of the fans running.

The transformers can be overloaded for short periods of time with little to no loss of life. A spare radiator has been installed, creating an additional cooling margin.

The historical loading of the three transformers has been approximately 80 MVA. This electrical load is much below the total combined transformer capacity of 225 MVA. The 225 MVA installed capacity allows for future load growth and removing any transformer from service for maintenance.

Increasing the total transformer loading to 150 MVA could occur with no additional power transformers and only a minor impact on substation operations. This loading level will allow the loss of one power transformer but will overload some of the 13.8 kV equipment.

13.8 kV Cable Bus:

Each transformer is connected to the 13.8 kV switchgear primary breaker through a short cable bus. These cables consist of an insulated (assume Polyethylene) conductor with a maximum ampere rating of 3,000 Amps or 72 MVA. Cables have little to no overload capability. The cable ampacity is about 5% less than the ampacity limit of the transformers and is thus a limiting factor.

The capacity of the cable bus could be increased at a low cost by either replacing the existing cables with larger ones or adding extra cables in parallel. The selected option depends on physical constraints within the supporting and connecting structures.

13.8 kV Switchgear

The 13.8 kV switchgear is comprised of a series of vacuum breakers that connect the transformer to numerous 13.8 kV circuits that distribute energy throughout the PNC plant. This switchgear is used to manage electric power distribution and isolate the system from an electrical failure. The switchgear includes:

- Transformer secondary breaker-a single breaker to isolate the transformer from the rest of the switchgear.
- Line breakers-numerous breakers that protect feeds to load centers and other electric distribution assets.
- Section breakers – connects the switchgear to adjacent switchgear fed by other power transformers. These breakers provide operating and electric asset maintenance flexibility.
- Controls, protection, and Instrument Transformers-devices use to detect the presence of a fault condition and to measure electrical operating parameters (voltage, current, power, energy, etc.)

Industry experience has shown that the rating of the switchgear and the actual load served by the switchgear generally are dramatically different. These differences can easily be factors from two (2) to (10). For example, a line breaker may be rated at 600 Amps, but its peak load is 300 Amps and its average load 200 Amps. Much of this excess capacity is to:

- Meet code requirements.
- Support the sizeable momentary power demand required to start large motors.

- Provide emergency response capacity.
- Accommodate future growth.

13.8 kV Secondary and Section Breakers:
A 3,000 Amp Vacuum Circuit Breaker protects the secondary side of each of the three power transformers. These breakers match the 72 MVA capability of the cable bus and have similar overload limitations. Additionally, a few 3,000 Amp bus section breakers allow connecting 13.8 kV buses for maintenance purposes.

There is a remote possibility that the 3,000 Amp breakers could be replaced with larger ones to make full utilization of the capacity of the power transformer. Adding additional switchgear may be a better option.

2,000 Amp and 1,200 Amp 13.8 kV Line Breakers:
A series of 2,000 and 1,200 Amp Vacuum Circuit Breakers are used to distribute electric power to various plant loads. Their respective capabilities of 48 MVA and 29 MVA do not limit the overall station capacity.

It is expected that additional line breakers can be easily added to the existing switchgear to serve new circuits.

13.8 kV Current Transformers:
Current Transformers are required for metering and protection purposes. These devices have multiple ratings and overload capabilities. Their nominal maximum rating of 4,000 Amps (95 MVA at 13.8 kV) does not represent a power delivery limitation.

115 kV/230 kV System- Pend Oreille PUD:

Normal load flow to PNC is via Pend Oreille PUD's 115 kV transmission system and stepped up to 230 kV via a 115kV/230kV 167 MVA autotransformer. This transmission system is connected to the Box Canyon Hydro Plant, giving power flow control not typical of most 115 kV systems. The Box Canyon Project allows the PUD to adjust the power angle of their system, thus forcing electric power to flow to PNC from Box Canyon versus from the much stronger BPA 230 kV system.

According to POPUD, under normal PNC operation, typical power flow from the 115 kV system is approximately 80 MVA. Discussions with colleagues who have worked on the Box Canyon and the 115 kV line extension project indicate that 100 MVA was the nominal power delivery target to the PNC substation. Historical planning around this 100 MVA target would make immediate delivery obligations very probable.

A capacity summary of crucial 115 kV/230 kV PUD System elements is summarized in Table 2 below.

115 kV Element	Ampacity	Voltage (kV)	Capacity (MVA)	Limiting Factor
230/115 kV Step-up Transformer (T1)	839	115	167	Thermal capability of transformer
Bus	2040	115	406	Ampacity rating of conductor
115 kV incoming line	887	115	176	Ampacity rating
230 KV Circuit Switcher	1200	230	477	Ampacity rating
115 kV Circuit Switcher	1200	115	239	Ampacity rating

Table 2: Pend Oreille PUD Capacity Limits

115kV/230 kV Power Transformer T1:
The step-up power transformer was manufactured with thermally upgraded paper insulation allowing for a temperature rise of 65°C above a 40°C ambient. The autotransformer has three MVA ratings:

- 100 MVA-Self cooled by the oil insulation and static air.
- 133 MVA-Forced Air through the radiators with 50% of the fans running.
- 167 MVA-Forced Air through the radiators with 100% of the fans running.

Additionally, the transformers can be overloaded for short periods of time with little to no loss of life. A spare radiator has been installed creating an additional cooling margin.

115 kV Bus:
The 115 kV bus is made of three-inch (3") schedule 40 Aluminum Pipe. It has a maximum ampacity rating of 2,040 Amps, or 406 MVA at 115 kV.

115 kV Transmission Line:
The 115 kV transmission line utilizes a 795 kcmil (thousand circular mill) aluminum conductor. This conductor has a rating of 887 Amps, or 176 MVA at 115 kV. The line rating is nominally matched to the maximum rating of the step-up transformer.

115 kV Circuit Switcher:
The 115 kV Circuit Switcher is used to isolate the step-up transformer from the 115 kV line. The Circuit Switcher is rated 1,200 Amps or 239 MVA at 115 kV.

230 kV Circuit Switcher:
The 230 kV Circuit Switcher is used to isolate the step-up transformer from the 230 kV bus. The Circuit Switcher is rated 1,200 Amps or 477 MVA at 230 kV.

230 kV System-BPA:

According to Pend Oreille PUD, the 230 kV BPA connection serves mostly as backup and voltage support to the plant. The BPA Usk Substation is a robust design that includes a ring-bus and two feeds-Bell and Boundary Substations.

The BPA Usk substation is part of BPA's 230 system that connects the 1,100 MVA Boundary Dam to BPA's 500 kV Grid at Bell Substation in Spokane. The BPA Usk Substation also connects to PNC and POPUD. This system provides for three (3) paths for power flow with enough reserve capacity to allow any one path to be removed from service with no degrading effects on the Boundary Hydro Project. These three lines also support the import of electric power from BC Hydro.

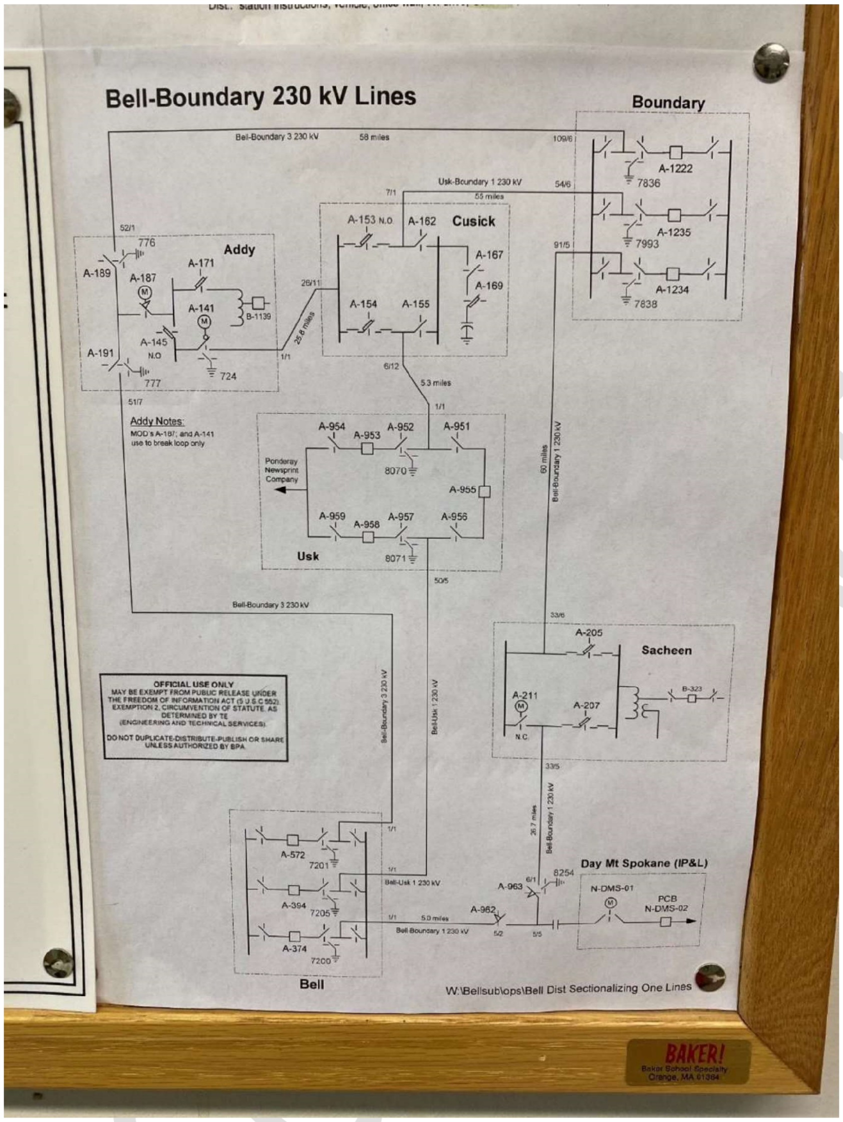

Figure 1: One-line of BPA 230 System

A summary of crucial 230 kV Usk Substation elements is summarized in Table 2 below.

230 kV Element	Ampacity	Voltage (kV)	Capacity (MVA)	Limiting Factor
Cusick 230 kV Line	1500	230	597	T-line Conductor Ampacity
Bell 230 kV Line	1500	230	597	T-line Conductor Ampacity
Bus	2040	230	812	Ampacity rating of conductor
Loading Capacity-Short Range		230	120	Note on one-line diagram-assumed to be a planning reference not a limitation
Loading Capacity-Long Range		230	130	Note on one-line diagram-assumed to be a planning reference not a limitation
Breakers	2000	230	796	Ampacity rating of Circuit Breaker
Disconnects	2000	230	796	Ampacity rating of Disconnects

Table 3: 230 kV System Capacity Limits

Cusick 230 kV Line:
The line to Cusick Substation and then on to the Boundary Hydro Project is rated at 1,500 Amps or 597 MVA at 230 kV per BPA one-line drawings. From Cusick Substation, it ties into both Addy and Boundary Substations. The Boundary Substation connects to the Boundary Hydro Project with a nominal output of 1,100 MW. There are also 230 kV connections to BC Hydro-Canada.

Bell 230 kV Line:
The line to Bell Substation in Spokane is rated at 1,500 Amps or 597 MVA at 230 kV per BPA one-line drawings. The Bell Substation is connected to BPA's 500 kV Network.

230 kV Bus:
The 230 kV bus is made of three-inch (3") schedule 40 Aluminum Pipe. It has a maximum ampacity rating of 2,040 Amps or 812 MVA at 230 kV.

Loading Capacity:
A note on the one-line diagram states the following:

Line Loading of Loop
230 kV, 1500 Amperes (597 MW)

Loading Capacity (assume to be a planning limit, not a physical limit)
Short Range 120 MW
Long Range 130 MW

It is unknown if some other limitations affect the capacity of the BPA system.

230 kV Circuit Breakers:
The 230 kV Circuit Breakers are used to isolate BPA's 230 kV ring bus from PNC/POPUD. Each circuit breaker is rated 2,000 Amps, or 796 MVA each.

230 kV Disconnect Switches:
The 230 kV Disconnect Switches are used to isolate BPA's 230 kV ring bus from PNC/POPUD are rated 2,000 Amps or 796 MVA.

While BPA's Ust Substation is built to support nearly 800 MVA of load; the actual power it can deliver is probably significantly less and will require BPA to perform a load-flow and capacity study. Some of things the study will look at are:

- Capacity of lines connected to the USK substation and power delivery commitments to others.
- Regional power resource typical output capabilities.
- Power flow from regional resources to the USK substation during various conditions including:
  - Times of draught when hydro resources are low.
  - N-2 scenarios, when a combination of any two (2) normally in-service resources are out of services. Resources include:
    - Individual generators
    - Transmission lines
    - Large intertie transformers
    - Circuit breakers
    - Etc.
- Voltage and frequency support requirements

PNC Station Loading Scenarios:

Several incremental loading scenarios are presented for consideration. These scenarios highlight how existing resources may be utilized to meet the vision of Allrise Capital.

Typical crypto miner requirements are used for illustrative purposes.

Crypto-Miner Assumptions	
Model:	100 Bitmain Antminer S19j 90 TH/s
Power Rating	3,100 Watts
Load factor	120%
Auxillary load and cooling factor	150%
Power factor	0.9
Aggregated load per Crypto Miner	6.2 KVA
Fixed Site Load	5 MW

Scenario 1-Replace Historical Load with Crypto Miners

PNC has a historic power load of approximately 80 MVA. With only minor 13.8 kV Switchgear additions and improvements, the following electric loads can be supported:

Scenario 1			
Load Description	**Crypto-Miner Count**	**MW**	**Assumptions**
Fixed load to site		5 MVA	Support of non-mining operations
Miners:	12,097	75 MVA	No service to mill
Total Load		80 MVA	

While this scenario does not require any major modifications to the 230 kV substation, some improvements in the protection system may be desirable to improve overall electric system availability and reliability. Specifically, all three transformers are protected as a single entity; when one has a problem, they all must trip offline to isolate the problem. Additionally, the existing protection is slow, exposing transformers to fault scenarios for a much longer time than other protective designs, increasing the risk of cascading failures.

Scenario 2-Minimal Study Requirements-100 MVA

The Pend Oreille PUD indicated that a load of 100 MVA can be supported without much study under existing BPA agreements. With only a few 13.8 kV Switchgear additions and improvements, the following loads can be supported:

Scenario 2			
Load Description	**Crypto-Miner Count**	**MW**	**Assumptions**
Fixed load to site		5 MVA	Support of non-mining operations
Miners:	15,323	95 MVA	No service to mill
Total Load		100 MVA	

Scenario 3-Maximum PUD Utilization - 166 MVA

The Pend Oreille PUD 230 kV/115kV autotransformer has a maximum rating of 166 MVA, only about 80 MVA of capacity is presently utilized. There is a possibility that both BPA and Pend Oreille PUD will support full transformer capacity with only a cursory study. By adding additional 13.8 KV switchgear at a nominal cost, the following loads can be supported:

Scenario 3			
Load Description	**Crypto-Miner Count**	**MW**	**Assumptions**
Fixed load to site		5 MVA	Support of non-mining operations
Miners:	25,968	161 MVA	
Total Load		166 MVA	

Scenario 4-Mixed Load - 150 MVA

The Pend Oreille PUD 230 kV/115kV autotransformer has a maximum rating of 166 MVA, only about 80 MVA of capacity is presently utilized. It may be desirable to re-start the papermill for social and political reasons and add a new crypto-miner load. There is a possibility that both BPA and Pend Oreille PUD will support full transformer capacity with only a cursory study. The two diverse loads could share 230 kV substation resources; separate 13.8 kV switchgear would be recommended. By adding additional 13.8 KV switchgear at a nominal cost, dedicating one transformer each to mill and mining operations, the third transformer could serve as a backup. This would require a reworking of the 230 kV bus but is very doable. This project could support the following:

Scenario 4			
Load Description	**Crypto Miner Count**	**MW**	**Assumptions**
Fixed load to site		5 MVA	Support of non-mining operations
Mill Operations		75 MVA	Might need to slightly reduce existing load
Miners:	11,290	70 MVA	Stand-alone Power Transformer
Total Load		150 MVA	

Substation Modification and Expansion:

Modifying or expanding the capacity of the PNC substation will require the assistance of specialized Engineering and Construction firms. Some recommended firms include:

Substation Construction:

- Potelco Inc.
  14103 Stewart Rd SE, Sumner, WA 98390
  Pat Darling-Manager Operations Substation Services
  pjdarling@potelco.net
  +1 360-490-8546

  Kelvin Crockford- Manager Substation Services
  KWCrockford@Potelco.net
  +1 253-455-2587

Substation Design:

- HDR Engineering
  835 N Post Street
  Suite 101
  Spokane, WA 99201-2126
  +1 509-343-8500

- Power Engineers

MAINTENANCE & TEST ENGINEERING, LLC

3940 Glenbrook Drive
P.O. Box 1066
Hailey, ID 83333
+1 208-788-3456

- Quanta Services Inc. Subsidaries:
  - LEX Engineering
    Suite 110 – 4321 Still Creek Drive
    Burnaby, BC V5C 6S7 Canada
    http://www.lexengineering.com/
  - HBK Engineering
    921 W. Van Buren St.
    Chicago, IL 60607
    +1 312-432-0076
    https://hbkengineering.com/

Asset Condition Assessment:

Condition assessment test data found in PNC files was reviewed, and an external inspection of major substation assets was also performed. Findings are as follows:

- Visual inspection of the bus insulators revealed no damage or tracking.
- Visual inspection of the disconnect switches revealed no major misalignment problems.
- Visual inspection of the 230 kV bus revealed no significant overheating or issues.
- Metalclad switchgear test and maintenance reports were reviewed. There was not enough detail to make a meaningful assessment. Experience with these models of breakers has revealed:
  - Long operating lives
  - Robust circuit interrupters
  - There is a need to pay close attention to mechanism lubrication practices. Old lubrication will deteriorate over time, becoming sticky and stiff. This lubrication deterioration will slow the operation of the breaker and ultimately render it in a stuck position.

- Test results indicated Transformer Banks A, B, and C had aged slowly and were in good condition. Transformers of this type used by Electric Utilities have a nominal life expectancy of 40 years. These transformers should have useful and reliable operating life exceeding 50 years.

  A recent insulation Power Factor test performed on Transformer Bank B gave peculiar results that could be interpreted as both aging of the High Voltage winding insulation and bushing irregularities. While a problem could exist, I'm suspicious of a testing error. Re-testing is recommended.

  Additionally, DGA testing should occur annually. This testing can only effectively identify incipient problems in a timely manner if performed at intervals of 1 year or less.

  Along with periodic Insulation Power Factor testing, Swept Frequency Response Analysis, aka SFRA testing, should occur. This testing will identify abnormal winding and core movements at an early stage.

  Some oil leaks were observable on the transformers and noted in test reports. These are probably the result of a worn gasket and should be repaired when convenient. Unfortunately, this will require special handling of the oil and specialized oil process equipment. These oil leaks are also allowing air to enter the transformer and accelerate insulation aging slightly.

Bank A-Westinghouse S/NMNM5393-2 Assessment

Nameplate Data:

Primary Winding Voltage: 230 kV
Secondary Winding Voltage: 13.8 kV
Tertiary Winding Voltage: 13.8 kV (not available for load)
Capacity: 45/60/75MVA
Cooling: Air/Forced Air/Forced Air
Year Manufactured: 1988

Review of Insulation Power Factor Test Results - 2018:

Insulation Power Factor is an electrical test that assesses the overall condition of major insulation packages, including:

- High Voltage Winding

- Primary Winding
- Bushings
- Insulating Oil

No insulation deficiencies were indicated, and tests show all insulation packages are in good condition.

Review of Leakage Reactance/ Impedance Test - 2018

The Leakage Reactance/Impedance Test can indicate changes to the transformer magnetic core or winding movement.

No deficiencies or movements were indicated by the test.

Oil Dissolved Gas Analysis (DGA) – 2018

DGA tests can identify electrical faults at an incipient stage, generally providing personnel time to remove the transformer from service before a catastrophic failure occurs. Many times these incipient faults can be corrected, and the transformer can be returned to service. The test can also identify air leaks that can result in premature aging of the oil and insulating systems.

No incipient faults or air leaks were detected. Annual DGA testing is highly recommended.

Oil Quality Test – 2018

Oil quality tests look at the condition of the mineral oil used to cool and insulate the transformer. Oil quality deterioration leads to insulation deterioration which can lead to an internal electrical failure. There are four (4) general causes for oil deterioration:

- Overheating of the transformer windings
- Oxygen ingress
- Water ingress
- Foreign contaminates.

The oil quality tests revealed the oil to be in excellent condition with no major signs of aging or contamination.

Degree of Polymerization (DP) – 2017

The DP test indirectly measures the tensile strength of the winding paper insulation. Insulating paper with a low DP/tensile strength is very prone to a turn-to-turn short circuit, an event that almost always leads to an immediate catastrophic failure.

The DP test results show minor loss of winding paper tensile strength.

Bank B-Westinghouse S/NMNM5393-1 Assessment

Nameplate Data:

Primary Winding Voltage: 230 kV
Secondary Winding Voltage: 13.8 kV
Tertiary Winding Voltage: 13.8 kV (not available for load)
Capacity: 45/60/75MVA
Cooling: Air/Forced Air/Forced Air
Year Manufactured: 1987

Review of Insulation Power Factor Test Results - 2017:

Insulation Power Factor is an electrical test that assesses the overall condition of major insulation packages, including:

- High Voltage Winding
- Primary Winding
- Bushings
- Insulating Oil

Some of the test results are questionable. The tests indicate the High Voltage winding insulation packages have deteriorated. This is generally caused by moisture in the oil. The tests also show abnormal results for the High Voltage bushings, not commonly seen on a transformer.

I am very suspicious that the test was not performed correctly. Re-testing is suggested.

Review of Excitation and Leakage Reactance/ Impedance Tests - 2017

The Excitation and Leakage Reactance/Impedance Test can indicate changes to the transformer magnetic core or winding movement.

The test indicated no deficiencies or movements.

Oil Dissolved Gas Analysis (DGA) – 2019

DGA tests are capable of identifying electrical faults at an incipient stage, generally providing personnel time to remove the transformer from service before a catastrophic failure occurs. Many times these incipient faults can be corrected, and the transformer can be returned to service. The test can also identify air leaks that can result in premature aging of the oil and insulating systems.

No incipient faults were detected. Signs of air leaks were indicated; they could also be caused by an improper sampling of the oil. Re-testing is recommended along with annual DGA testing.

Oil Quality Test – 2019

Oil quality tests look at the condition of the mineral oil used to cool and insulate the transformer. Oil quality deterioration leads to insulation deterioration which can lead to an internal electrical failure. There are four (4) general causes for oil deterioration:

- Overheating of the transformer windings
- Oxygen ingress
- Water ingress
- Foreign contaminates.

The oil quality tests revealed the oil to be in excellent condition with no major signs of aging or contamination.

Degree of Polymerization (DP) – 2017

The DP test indirectly measures the tensile strength of the winding paper insulation. Insulating paper with a low DP/tensile strength is very prone to a turn-to-turn short circuit, an event that almost always leads to an immediate catastrophic failure.

The DP test results show little loss of winding paper tensile strength.

Bank C-Westinghouse S/NMNM5393-3 Assessment

Nameplate Data:

Primary Winding Voltage: 230 kV
Secondary Winding Voltage: 13.8 kV
Tertiary Winding Voltage: 13.8 kV (not available for load)
Capacity: 45/60/75MVA
Cooling: Air/Forced Air/Forced Air
Year Manufactured: 1988

Review of Insulation Power Factor Test Results - 2018:

Insulation Power Factor is an electrical test that assesses the overall condition of major insulation packages, including:

- High Voltage Winding

- Primary Winding
- Bushings
- Insulating Oil

The test indicated no deficiencies and show all insulation packages are in good condition.

Review of Leakage Reactance/ Impedance Test - 2018
The Leakage Reactance/Impedance Test can indicate changes to the transformer magnetic core or winding movement.

The test indicated no deficiencies or movements.

Oil Dissolved Gas Analysis (DGA) – 2018
DGA tests are capable of identifying electrical faults at an incipient stage, generally providing personnel time to remove the transformer from service before a catastrophic failure occurs. Many times these incipient faults can be corrected, and the transformer can be returned to service. The test can also identify air leaks that can result in premature aging of the oil and insulating systems.

No incipient faults or air leaks were detected, and annual DGA testing is highly recommended.

Oil Quality Test – 2018
Oil quality tests look at the condition of the mineral oil used to cool and insulate the transformer. Oil quality deterioration leads to insulation deterioration which can lead to an internal electrical failure. There are four (4) general causes for oil deterioration:

- Overheating of the transformer windings
- Oxygen ingress
- Water ingress
- Foreign contaminates.

The oil quality tests revealed the oil to be in excellent condition with no major signs of aging or contamination.

Degree of Polymerization (DP) – 2017
The DP test indirectly measures the tensile strength of the winding paper insulation. Insulating paper with a low DP/tensile strength is very prone to a turn-to-turn short circuit, an event that almost always leads to an immediate catastrophic failure.

The DP test results show a slight loss of winding paper tensile strength.

Concluding Remarks:

The installed substation capacity at PNC is substantial and significantly higher than the historical power usage of the paper mill. Even with allowing for reserved capacity for unintended events and failures, the existing substation should support 144 MVA of load without significant modifications. With only minor POPUD and BPA modifications but substantial capital upgrades to the PNC substation, 600 MVA of capacity is potentially available.

The determination of the actual capacity of the system feeding the substation goes beyond the assets located inside the PNC substation fence and requires the attention of other stakeholders (BPA and Pend Oreille PUD).

The substation assets exceed 30 years in calendar age, yet they are physically aging slower. Achieving an operational life of 50 years or more is probable. But since these assets are approaching their nominal life expectancy of 40 years, periodic condition assessment and testing are recommended at a shorter frequency.

From: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2

Sent: Tue Jul 06 11:10:22 2021

To: April Owen

Subject: Automatic reply: Pend Oreille FY21 Q3 Review 2021-6-16 (Exc Newsprint Load).xlsx

Importance: Normal

I will be out of the office for the remainder of today through Tuesday, July 6. If you have an uregnt matter please reach me at (b) (6) [redacted] Have a happy and safe Forth of July!

From: Cicarelli,Andres A (BPA) - KSL-BELL-1

Sent: Tue Jul 06 11:12:24 2021

To: April Owen

Cc: Diana Jackson; Harris,Adelle L (TFE)(BPA) - TSES-TPP-2; Normandeau,Mike (BPA) - PSE-RONAN; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB; Colin Willenbrock; Tyler Whitney; Patton,Kathryn B (BPA) - PSS-SEATTLE; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB

Subject: RE: Pend Oreille FY21 Q3 Review 2021-6-16 (Exc Newsprint Load).xlsx

Importance: Normal

Thanks April!

I will run with that then.

Talk to you later,

Andres

From: April Owen <aowen@popud.org>

Sent: Tuesday, July 6, 2021 11:10 AM
To: Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>
Cc: Diana Jackson <djackson@popud.org>; Harris,Adelle L (TFE)(BPA) - TSES-TPP-2 <alharris@bpa.gov>; Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB <jmlacambra@bpa.gov>; Colin Willenbrock <cwillenbrock@popud.org>; Tyler Whitney <TWhitney@popud.org>; Patton,Kathryn B (BPA) - PSS-SEATTLE <kbpatton@bpa.gov>; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB <sababaidhan@bpa.gov>
Subject: [EXTERNAL] RE: Pend Oreille FY21 Q3 Review 2021-6-16 (Exc Newsprint Load).xlsx

Hi Andres,

We understand that they have equipment capacity to receive the loads that they have indicated for the 2021-2022 year, and they have also retained an energy consultant to procure a power contract with us. Given those items and no current information to the contrary, we are relying on the letter of intent as being real in both timing and quantity. I will let you know if and when we receive any clarifying information.

Thanks,

April.

From: Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>
Sent: Thursday, July 1, 2021 1:40 PM
To: April Owen <aowen@popud.org>
Cc: Diana Jackson <djackson@popud.org>; Harris,Adelle L (TFE)(BPA) - TSES-TPP-2 <alharris@bpa.gov>; Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>; Lacambra,Jared M (BPA) - TPCF-MEAD-

GOB <jmlacambra@bpa.gov>; Colin Willenbrock <cwillenbrock@popud.org>; Tyler Whitney <TWhitney@popud.org>; Patton,Kathryn B (BPA) - PSS-SEATTLE <kbpatton@bpa.gov>; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB <sababaidhan@bpa.gov>
Subject: RE: Pend Oreille FY21 Q3 Review 2021-6-16 (Exc Newsprint Load).xlsx

Thanks for letting me know April!

I read the letter of intent but I have to ask; how real do you think the Renewable Fiber and Blockchain is? We typically don't include loads in our forecast if they are below a 70 percent certainty so I'm trying to get a handle on whether that is the case for this one. If so, then I need to include it in the upcoming FY2022 forecast.

Talk to you later,

Andres

From: April Owen <aowen@popud.org>
Sent: Wednesday, June 30, 2021 4:34 PM
To: Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>
Cc: Diana Jackson <djackson@popud.org>; Harris,Adelle L (TFE)(BPA) - TSES-TPP-2 <alharris@bpa.gov>; Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB <jmlacambra@bpa.gov>; Colin Willenbrock <cwillenbrock@popud.org>; Tyler Whitney <TWhitney@popud.org>; Patton,Kathryn B (BPA) - PSS-SEATTLE <kbpatton@bpa.gov>; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB <sababaidhan@bpa.gov>
Subject: [EXTERNAL] RE: Pend Oreille FY21 Q3 Review 2021-6-16 (Exc Newsprint Load).xlsx

Andres,

I think using the existing forecast for the net requirements calculation looks reasonable. I have attached some historical and estimated future load data on some specific items:

1. I included Teck Cominco monthly average MW, since that has been a change in our load over the years. We do not expect any changes for the next fiscal year.

2. We have had some cryptomining load come in to the District. Those loads declined slightly for the first 6 months of 2021, but we now have a few that are wanting more power as well as a couple new customers. The estimates include our best guess as to when those loads will be occurring.

3. The Ponderay Newsprint site was purchased by Allrise Capital and is looking to start up both the mill and cryptomining operations. They are operating under Ponderay Renewable Fiber & Blockchain name. I've attached their letter of intent that we recently received and took a guess at what their loads may look like per the letter. Hopefully we will know more on actual amounts and timelines soon.

Hopefully this information will help in the adjustments for the 2021-2022 calculation, as you know better than me what all goes in to the calculation.

Let me know what else you will need.

Thanks,

April.

April Owen

Director, Audit, Finance & Power Supply

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington Ave

Newport, WA 99156
509.447.9321 | www.popud.org

From: Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>

Sent: Thursday, June 17, 2021 10:31 AM
To: April Owen <aowen@popud.org>
Cc: Diana Jackson <djackson@popud.org>; Harris,Adelle L (TFE)(BPA) - TSES-TPP-2 <alharris@bpa.gov>; Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB <jmlacambra@bpa.gov>
Subject: Pend Oreille FY21 Q3 Review 2021-6-16 (Exc Newsprint Load).xlsx

CAUTION: This email originated from outside of the POPUD. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi April,

Attached is the 3rd quarter forecast review for FY2021. Note that it is missing a month for a full quarter, but due to contract requirements, Pend Oreille's forecast needs to be completed by late June-early July.

The energy forecast is tracking fairly well on a year to date and monthly basis when compared to weather adjusted (where applicable) actual amounts.

The peak forecast isn't tracking as well as I would like with large discrepancies between forecast and actual amounts. However, those differences usually occur when there is a large deviation in HDD from the normal HDD used in the model. Note that actual amounts are not weather normalized. Since the differences in peak amounts tend to correspond with HDD differences, I think at least part of the discrepancies can be explained by weather events. Any thoughts on anything else which may have caused the peak discrepancies?

Because the energy forecast is tracking fairly well, and the peak forecast discrepancies be can at least partially explained, I am inclined to use the existing forecast for the upcoming Slice/Block contract process. Any thoughts on this?

The energy and peak forecast amounts are shown below relative to historical values.

Talk to you later,

Andres

you are not the intended recipient, and believe that you have received this email in error, please notify the sender and delete the copy you received.

Pend Oreille County Public Utility District #1

From: Tyler Whitney

Sent: Tue Jul 06 11:12:47 2021

To: Cicarelli,Andres A (BPA) - KSL-BELL-1

Subject: [EXTERNAL] Automatic reply: Pend Oreille FY21 Q3 Review 2021-6-16 (Exc Newsprint Load).xlsx

Importance: Normal

I am out of the office and will return Monday, July 12.

NOTICE: *This email may contain confidential or privileged material, and is intended solely for use by the above referenced recipient. Any review, copying, printing, disclosure, distribution, or any other use, is strictly prohibited. If you are not the intended recipient, and believe that you have received this email in error, please notify the sender and delete the copy you received.*

Pend Oreille County Public Utility District #1

From: David Hodder

Sent: Thu Jul 08 10:24:26 2021

To: Lacambra,Jared M (BPA) - TPCF-MEAD-GOB

Subject: [EXTERNAL] POPUD LLIR

Importance: Normal

Attachments: 2021_06_23 Letter of Intent.pdf

Jared,

I forgot to attach the LOI to the package I submitted today. Here it is. Can you forward it to the proper group?

Thanks,

Regards,

David J Hodder P.E.

Engineering Manager

Phone 509 447-3137

Cell [redacted]

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington

Newport, Washington 99156

Pend Oreille County Public Utility District #1

June 23, 2021

Mr. F. Colin Willenbrock,
General Manager
Public Utility District No. 1 of Pend Oreille County
P.O. Box 190
Newport, WA 99156

Delivered via electronic mail to: cwillenbrock@popud.org

Re: Letter of Intent to Establish Electric Service

In response to your letters dated May 6 and May 20, 2021, please accept this Letter of Intent ("LOI") to expand electric service at the former Ponderay Newsprint Mill site in Usk for Ponderay Renewable Fiber and Blockchain, LLC ("PRFB" or "Customer"). We are eager to establish a productive and value-added relationship with Public Utility District No. 1 of Pend Oreille County ("District") and hope that this LOI will be the catalyst to enable cooperative efforts between the District and PRFB (together, "Parties"). We look forward to working with your team to establish a low cost, reliable industrial scale power supply. Details are provided below.

1. **Non-Binding**: Nothing in this LOI should be construed to be a binding commitment of Customer. Information herein is the best estimate available currently and is subject to change without notice. The binding commitments of the Parties shall only be as set forth in definitive agreements based on this LOI and efforts between the Parties to reach agreement on terms of power supply.
2. **Customer**: Ponderay Renewable Fiber and Blockchain, LLC.
3. **Customer Location**: 422767 SR 20, Usk, WA 99180, service will be required within Tax parcel 443208000005 and other nearby parcels at the Customer Location in Pend Oreille County, WA.
4. **Customer Contacts**: Mr. Todd Behrend (509) 671-7729 tbehrend@ponderayrfb.com or Mr. Steve Wood (509) 737-7472 swood@ponderayrfb.com
5. **Customer Affiliation**: Customer is a wholly owned affiliate of Allrise Capital, Inc. 200 Spectrum Center Dr. Suite 1450, Irvine, CA 92618 (949) 748-6285.
6. **Existing Service**: Customer is currently receiving Industrial Service from the PUD at this location and wishes to expand the service to include additional future operating needs.

7. **Service Requested:** Customer requests that the District collaborate with Customer to develop two power supply scenarios to expand service at the Customer Location, as described in general below.

    a. District Supply: Service to customer pursuant to the PUD's Electric Service and Rates Policy dated January 1, 2021 (page 14, Industrial Service). In this scenario Customer understands the District will develop a supply portfolio including electricity from District-owned generation resources and from the Bonneville Power Administration (BPA), supplemented by wholesale market purchases as appropriate. The District would develop an industrial service rate and Customer understands that a negotiated contract will be required.

    b. District Modified Buy-Sell: In this scenario, Customer requests District cooperation and support for Customer to negotiate the terms of a power supply portfolio with market-based suppliers, which could include power marketing entities as well as third-party utilities, including investor-owned utilities and other public utilities, willing to sell excess energy production. Once Customer has completed negotiation of the market-based power supply, the District would agree to make reasonable efforts to purchase such market-based power supply and resell it to Customer. In this scenario, the District will include a delivery fee, to be negotiated with Customer, for use of District equipment and Balancing Authority Area services to facilitate delivery of the market-based power supply to Customer. In addition, customer requests District consideration of establishing a BPA "net requirement" based on Customer load requirements. Such BPA net requirement would be delivered at the current BPA Priority Firm (PF) rate and the amount of BPA provided PF power would be netted against the quantities pertaining to the buy-sell contract.

8. **Load Estimate**: Please provide rates for delivered power in the quantities estimated below.

    a. **Immediate 2 MW expansion** Customer plans to add up to 2MW to the existing 1.5 MW currently being provided by the District. This immediate expansion would result in total Customer site load of 3.0 to 3.5 MW. Customer would prefer to start this immediate expansion of service in July 2021 if possible. Additional service expansions are listed in 8.b through 8.d below.

    b. **Not less than 75 MW and not more than 125 MW** with various start of service dates as follows:

        i. September 1, 2021
        ii. October 1, 2021
        iii. November 1, 2021

    c. **Not less than 125 MW and not more than 144 MW** beginning January 1, 2022.

    d. **Not less than 144 MW and not more than 300 MW** beginning July 1, 2023.

9. **Nature of the Load**: Customer intends to re-start and operate the existing pulp and paper making equipment that exists at the Customer Location and has been previously served by the District. In addition, Customer plans to install one or more data centers. Accordingly, please consider the initial assumptions listed below as to the nature and shape of the power deliveries.
    a. Pulp and Paper: Customer expects normal operation at 92% to 93% load factor.
        i. Fluctuations may occur as in the past, due to unanticipated events within the paper-making process and scheduled maintenance activities that require temporary reductions in electrical load. Pulp and paper process load is anticipated to vary between 75 MW and 90 MW over time. Like what the District and previous mill operations experienced in the past, Customer would anticipate curtailing production in response to events called by the District or for events to allow arbitrage of spot market energy price spikes, the proposed terms of which should be set forth in the District's response to paragraph 7 of this LOI.
        ii. Customer is willing to discuss demand response related (including economic curtailments) for up to ~50% of its pulp and paper load which may be helpful to the District and BPA in managing critical demand events or emergencies within the overall system. Customer requests the District to include the value of demand response and required load flexibility terms in its response to paragraph 7 of this LOI.
    b. Data Center: Customer expects that the data center installation will have space heating and cooling requirements in addition to electronic computer equipment and lighting. This load shape is expected be at virtually 100% load factor. As a general matter, please assume that demand above 90 MW is related to data center operations.
        i. Customer is willing to assist in managing load fluctuation by temporarily adding or curtailing data center demand, thus reducing the incidence of unanticipated material deviations in load.
        ii. Customer is willing to discuss demand response related (including economic curtailments) for up to 25% of its load which may be helpful to the District and BPA in managing critical demand events or emergencies within the overall system. Customer requests the District to include the value of demand response and required load flexibility terms in its response to paragraph 7 of this LOI.
10. **Sequencing service start dates**: The existing electrical equipment at the site has been properly maintained since being taken out of service in 2020. Customer's independent consultants have advised that as of June 2021 the existing 13.8 kV site electrical equipment operating capacity is about 144 MW. To attain restarted operations as quickly as possible, Customer proposes a two-stage approach:

i. Phase 1 – Initial expansion of service. To facilitate near term, startup planning needs, Customer therefore asks the District to expedite the development of terms for between 90 MW and 144 MW of service that do not exceed the limits of the equipment which has been used historically to serve the Customer location.

ii. Phase 2 – Planning for material load growth. It is understood that technical studies and evaluations may need to be completed to provide service above the existing equipment capacity range of 90 MW to 144 MW referenced above. Customer requests that these study and evaluation efforts be undertaken on a parallel track but separately from the initial service expansion.

Thank you for your consideration. We look forward to working with the District to complete an appropriate Cost Reimbursement Agreement and to provide the deposit necessary so that we may begin work on the concepts outlined herein.

Sincerely,

DocuSigned by:
(b)(6) [redacted]
24D9BF6239E9409...
Steve Wood, CFO
Ponderay Renewable Fiber & Blockchain

Cc: Todd Behrend, PRFB
Ruslan Zinurov, Allrise Capital
Nathan Cho, Allrise Capital
Mikhail Trubchik, Allrise Capital
April Owen, Pend Oreille PUD
Tyler Whitney, Pend Oreille PUD

From: Galbraith,Brian T (BPA) - TPCC-TPP-4

Sent: Mon Jul 12 18:08:35 2021

To: cwillenbrock@popud.org

Cc: Galbraith,Brian T (BPA) - TPCC-TPP-4; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB; Wick,Martin A (BPA) - TPCV-TPP-4; Cosola,Anna M (BPA) - TPCC-TPP-4; Harris,Adelle L (TFE)(BPA) - TSES-TPP-2; dhodder@popud.org

Subject: L0494 Pend Oreille's Line and Load Interconnection Request Acknowledgement

Importance: Normal

Dear Mr. Willenbrock,

This formally acknowledges that BPA has received Pend Oreille PUD No. 1's (Pend Oreille) Line and Load Interconnection Request (LLIR). The LLIR has been posted in BPA's Interconnection Queue as Request No. L0494, with a queue date of July 12, 2021.

BPA will be contacting you within 30 Business Days to schedule a kickoff meeting.

If you have any questions, please contact Adelle Harris at (360) 619-6090 or Jared Lacambra at (509) 822-4605.

Thank you,

Brian Galbraith

Line and Load Interconnection Administrator

Customer Service Engineering Contract Administration (TPCC)

Transmission Services

Bonneville Power Administration

(503) 230-5912

From: Cicarelli,Andres A (BPA) - KSL-BELL-1

Sent: Thu Jul 15 05:28:44 2021

To: April Owen

Cc: Normandeau,Mike (BPA) - PSE-RONAN

Subject: RE: Pend Oreille FY21 Q3 Review 2021-7-9.xlsx

Importance: Normal

Hi April,

I used 85 MW for Oct-Dec based on the spreadsheet that came along with the LOI. Starting in January 2022 I bumped it up to 125 MW and another bump up to 144 MW in July 2023. Those numbers are straight from the LOI.

Talk to you later,

Andres

From: April Owen <aowen@popud.org>
Sent: Wednesday, July 14, 2021 5:16 PM
To: Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>

Cc: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Subject: [EXTERNAL] RE: Pend Oreille FY21 Q3 Review 2021-7-9.xlsx

Hi Andres,

In the new forecast, did you add the minimum amounts from the LOI? For example in Oct-Dec, did you add 75 MW, 125 MW, or something in between? I want to make sure I'm comparing the right numbers.

Thanks!

April.

From: Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>
Sent: Friday, July 9, 2021 2:40 PM
To: April Owen <aowen@popud.org>
Cc: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Subject: Pend Oreille FY21 Q3 Review 2021-7-9.xlsx

Hi April,

Attached is the draft forecast for Pend Oreille PUD including Ponderay Renewable Fiber & Blockchain. It was generated using the information provided in the letter of intent. I'm assuming the load will be very flat given the Load Factor mentioned and the data provided by Pend Oreille PUD. Any thoughts on this forecast revision?

The energy and peak forecasts relative to historical amounts are shown below.

Talk to you later,

Andres

Pend Oreille County Public Utility District #1

From: Cicarelli,Andres A (BPA) - KSL-BELL-1

Sent: Fri Jul 16 05:09:27 2021

To: April Owen

Cc: Normandeau,Mike (BPA) - PSE-RONAN

Subject: FW: Pend Oreille FY21 Q3 Review 2021-7-9.xlsx

Importance: Normal

Hi April,

Yesterday Mike indicated Pend Oreille PUD was okay with using the draft forecast I had sent over. If so, could you send me an e-mail confirming that?

Talk to you later,

Andres

From: Cicarelli,Andres A (BPA) - KSL-BELL-1
Sent: Thursday, July 15, 2021 5:29 AM
To: April Owen <aowen@popud.org>

Cc: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Subject: RE: Pend Oreille FY21 Q3 Review 2021-7-9.xlsx

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Subject: [EXTERNAL] RE: Pend Oreille FY21 Q3 Review 2021-7-9.xlsx

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To: April Owen <aowen@popud.org>
Cc: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Subject: Pend Oreille FY21 Q3 Review 2021-7-9.xlsx

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Talk to you later,

Andres

Pend Oreille County Public Utility District #1

From: Cicarelli,Andres A (BPA) - KSL-BELL-1

Sent: Fri Jul 16 09:19:01 2021

To: April Owen

Cc: Normandeau,Mike (BPA) - PSE-RONAN

Subject: RE: Pend Oreille FY21 Q3 Review 2021-7-9.xlsx

Importance: Normal

Thanks for letting me know April!

Talk to you later,

Andres

From: April Owen <aowen@popud.org>
Sent: Friday, July 16, 2021 7:44 AM
To: Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>
Cc: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Subject: [EXTERNAL] RE: Pend Oreille FY21 Q3 Review 2021-7-9.xlsx

Hi Andres,

Yes, we are good with the forecast that you sent over. We will let you know if we get any further load or timing information on the Ponderay site.

Thanks for the help!

April.

April Owen

Director, Audit, Finance & Power Supply

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington Ave

Newport, WA 99156
509.447.9321 | www.popud.org

From: Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>
Sent: Friday, July 16, 2021 5:09 AM
To: April Owen <aowen@popud.org>
Cc: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Subject: FW: Pend Oreille FY21 Q3 Review 2021-7-9.xlsx

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April.

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To: April Owen <aowen@popud.org>
Cc: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
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Talk to you later,

Andres

Pend Oreille County Public Utility District #1

From: Galbraith,Brian T (BPA) - TPCC-TPP-4

Sent: Mon Jul 19 09:34:17 2021

To: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB; Wick,Martin A (BPA) - TPCV-TPP-4; Cosola,Anna M (BPA) - TPCC-TPP-4; Vierck,Alexandra L (CONTR) - TPCC-TPP-4; Huntington,Joseph J (TFE)(BPA) - TSES-TPP-2; Mendez-Sierra,Akira M (BPA) - TPPC-OPP-3; Ngoy,Prachthearat (BPA) - TPMC-OPP-3; cwillenbrock@popud.org; David Hodder:

Subject: L0494 Ponderay Renewable Fiber and Blockchain Project LLIR Kickoff Meeting

Importance: Normal

Attachments: Pend_Oreille_PUD_F6420_25E.d.pdf; 99-D-S061_R5 - Usk 230 115kV Substation Transformer T1 Three Line Diagram-Model.pdf; LLIP_Kickoff Meeting AGENDA_L0494.docx

Good morning,

Please see attached agenda for the Line and Load Kickoff meeting regarding L0494 occurring August 18th, 2021 from 8:30 to 9:30am.

For those of you that are calling in, the phone bridge information is listed in the attached agenda as well as here below:

Telephone Bridge

(b)(6) [redacted]

Thank you.

U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION

Electronic Form
Approved by Forms
Mgmt. 10/20/2006

TECHNICAL REQUIREMENTS FOR INTERCONNECTION TRANSMISSION LINE AND LOADS CONNECTION INFORMATION

WHO SHOULD FILE THIS FORM: Any customer expressing an interest in connecting transmission line or loads to the Bonneville Power Administration's (BPA) Transmission Business Line System (TBL's). This application should be completed as soon as possible and returned to the BPA Transmission Account Executive in order to begin processing the request.

INFORMATION: This application will be used by BPA to determine if a System Impact and Facility Requirement Study are required. This study is used to determine the location *(Connection Point)*, equipment requirements *(Requester and BPA TBL)*, system modifications, etc. to connect transmission lines and/or loads. Sections 1 and 2 should be completed as soon as possible and returned to the BPA Transmission Account Executive. Section 3 must be completed if it is determined that a System Impact and Facility Requirement Study is required. Following completion of the study the Requester will receive a preliminary estimate for the utility interface requirements that may be used in calculating the overall project connection requirements.

SECTION 1 – INTERCONNECTION REQUESTER AND CONTRACTORS

A. Requester/Owner Information

Company Name
Pend Oreille Public Utility District #1

Mailing Address
130 N. Washington Ave

City	State	9 Digit Zip Code
Newport	**WA**	**99156**

Phone Number	Email Address	Contact Name
509 447-3137	**cwillenbrock@popud.org**	**Colin Willenbrock**

B. Connection Design/Engineering Architect *(As applicable)*

Company Name
Pend Oreille Public Utility District #1

Mailing Address
130 N. Washington Ave

City	State	9 Digit Zip Code
Newport	**WA**	**99156**

Phone Number	Email Address	Contact Name
509 447-3137	**dhodder@popud.org**	**David Hodder**

C. Electrical Contractor *(As Applicable)*

Company Name
TBD

Mailing Address

City	State	9 Digit Zip Code

Phone Number	Email Address	Contact Name

**U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION**

*Electronic Form
Approved by Forms
Mgmt. 10/20/2006*

TECHNICAL REQUIREMENTS FOR INTERCONNECTION TRANSMISSION LINE AND LOADS CONNECTION INFORMATION

Section 2 – General Specifications, Location, and Diagrams for Connection

Preliminary Review Information

A. Type of Connection

	Comments
☐ Radial Load ☒ Network Connection with Other Sources Present Operating Voltage (kV): 230	**Re-energizing Ponderay Renewable Fiber and Blockchain, LLC (old PNC site)**

B. Connection Point Location – Identify the BPA TBL Line or Substation

Street Address

422767 Highway 20, USK WA

State	County	Nearest community
WA	**Pend Oreille**	**USK**

Township	Range	Section
T32	**R44**	**443208**

Identify the BPA TBL Line or Substation Connection Point

BPA Usk Substation

C. Type of Load: Identify the characteristics which best describe the type of load to be served. Include specific information for loads such as those associated with arc furnaces, large motor, etc.

Customer intends to re-start and operate the existing pulp and paper making equipment that exists at the Customer Location and has been previously served by the Pend Oreille PUD District and BPA. In addition, Customer plans to install one or more data centers. Pulp and paper process load is anticipated to vary between 75 MW and 90 MW over time. This load shape will be 93% load power factor.

Customer expects that the data center installation will have space heating and cooling requirements in addition to electronic computer equipment and lighting. This load shape is expected be at virtually 100% load factor. As a general matter, please assume that demand above 90 MW is related to data center operations.

D. Load Data *(At the time of energization and every year for 10 years)*

Value for Year:	1	2	3	4	5	6	7	8	9	10
Projected Peak Load [kW]	125,000	144,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Summer Peak Load [kW]	125,000	144,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Winter Peak Load [kW]	125,000	144,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Anticipated Power Factor	.95	.95	.90	.90	.90	.90	.90	.90	.90	.90

e. Quality of Service *(Special Requirements such as power quality, frequency and duration of outages, etc.)*

No Special Requirements

F. Future Plans *(Where known: Modification, changes, or additions affecting the connection or connected equipment)*

Per Customer Letter of Intent:
Not less than 75 MW and not more than 125 MW with various start of service dates as follows:
i. September 1, 2021
ii. October 1, 2021
iii. November 1, 2021
-Not less than 125 MW and not more than 144 MW beginning January 1, 2022.
-Not less than 144 MW and not more than 300 MW beginning July 1, 2023.

G. Attach Electrical One-Line Diagram of the project that includes proposed protective relaying, breaker and switching arrangements, ground sources *(zero sequence)*, and assumed electrical equipment parameters for the connection.

U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION

Electronic Form Approved by Forms Mgmt. 10/20/2006

TECHNICAL REQUIREMENTS FOR INTERCONNECTION TRANSMISSION LINE AND LOADS CONNECTION INFORMATION

Title	Name *(First, Last) (Please Print or Type)*	
General Manager	**Colin Willenbrock**	
Signature: DocuSigned by: (b)(6) [redacted] 44C5F3A11446419...		Date 7/6/2021

U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION

Electronic Form Approved by Forms Mgmt. 10/20/2006

TECHNICAL REQUIREMENTS FOR INTERCONNECTION TRANSMISSION LINE AND LOADS CONNECTION INFORMATION

Section 3 – Study Data Requirements

A. Network Power Flow Model *(As required) (Enclose a model using approved WECC format)*

B. Interconnecting Transmission Line(s) or Cable *(Provide all parameters in physical units if applicable)*

No anticipated changes to the BPA-USK Substation or BPA transmission lines, other than to accomidate additional load. This is re-energizing an existing facility through the POPUD A960 Usk disconnect. This feed will have additional load greater than the previous approximatly 85 MW. Eventual load will be 300 MW.

Nominal voltage [kV]	Length (Miles)
230	**0.0**

Transmission Line Impedances

Quantity		Positive Sequences	Zero Sequence
Series Resistance, R Ω			
Series Reactance X Ω			
Shunt Susceptance, B μ S (or $\mu\Omega^{-1}$)]			
Will this line be built on common structures with other circuits?	☐ Yes ☐ No		
Will this line be transformer-terminated at either end? If "yes", state which end(s) and the transformer identifier.	☐ Yes ☐ No	End:	Transformer:

C. Transformers *(Provide parameters if applicable)*

Identifier	Number of Windings	Autotransformer? ☐ Yes ☐ No

Winding	Nominal Voltage [kV]	Configuration (Δ or YG)	Nameplate MVA / /
H:			**H to X:** / /
X:			**H to Y:** / /
Y:			**X to Y:** / /

Tap Information Winding (H, X, or Y)	Values: Operational [kV]	Available Taps [kV] / / / /
Transformer Impedance: Winding	H to X: % @ MVA H to Y: % @ MVA X to Y: % @ MVA	

D. System Data – Only applicable where generation resources are present or if the connection includes another network source. Provide a system equivalent *(R1, X1, R0, X0 in per unit on a 100 MVA base)* at the proposed Connection Point looking into the connecting system. These values should be determined such that the system model *does not* include the physical connection to the BPA System. Assuming there are no other connections to the BPA System at any other point, these quantities are available by computing a single line-to-ground "bus fault" at the proposed Connection Point.

Generation *(If applicable), (Must follow the processes as described in this BPA form that are appropriate for a new generation interconnection.)*

N/A

E. Reactive Equipment *(Location, size, and rated voltage)* More specific information is required for reactive with dynamic capability *(SVC, TCSC, Sync Condensers, etc.)*

N/A

To be filled out by the BPA Transmission Account Executive:		
Transmission Account Executive *(Name)*	Internal Routing	Phone Number
Region		E-Mail Address
Copy of Interconnection Study Request and Attachments to:	**Transmission Planning Manager – TPP; System Protection Manager – TECC; Customer Service Engineering - TPC**	

(b)(4)

[redacted]

Date	August 18th, 2021	**Customer Name**	Pend Oreille PUD
Time	8:30 to 9:30am	**Project**	L0494 Ponderay Renewable Fiber and Blockchain
Room	Phone Conference		
Phone Bridge/Call-In #	509-822-4485 Call ID is: [redacted]		

Attendees	**Pend Oreille PUD**	**BPA**
	Colin Willenbrock	Adelle Harris, Account Executive
	David Hodder	Jared Lacambra (host), Customer Service Engineer
		Martin Wick, L&L Lead
		Anna Cosola, GI Administrator
		Brian Galbraith, L&L Administrator
		Joseph Huntington, Account Services
		Akira Sierra-Mendez, Planning
		Prachthearat Ngoy, Planning
		Murphy Vierck, Program Support

Kickoff Meeting Agenda

Topic	SME	Notes
Welcome / Introductions - All	N/A	
Project Description	Customer	
Identify Issues	BAA, Planning, Communications, Environment, Energization Date	

Next Steps

Action	Due Date
BPA will tender a Feasibility Study Agreement, or	
BPA will tender an Interconnection System Impact Study Agreement, or	
BPA will tender an Interconnection Facilities Study Agreement	
BPA will tender a NEPA Study	

Agreement, if applicable	

From: Tyler Whitney

Sent: Mon Jul 19 10:02:59 2021

To: Galbraith,Brian T (BPA) - TPCC-TPP-4

Subject: [EXTERNAL] Accepted: L0494 Ponderay Renewable Fiber and Blockchain Project LLIR Kickoff Meeting

Importance: Normal

You don't often get email from twhitney@popud.org. [Learn why this is important]

Pend Oreille County Public Utility District #1

From: Galbraith,Brian T (BPA) - TPCC-TPP-4

Sent: Mon Jul 19 10:04:32 2021

To: Tyler Whitney

Subject: Automatic reply: L0494 Ponderay Renewable Fiber and Blockchain Project LLIR Kickoff Meeting

Importance: Normal

I am currently out of the office and will return on Tuesday, July 20. If you need immediate assistance please contact Anna Cosola at 360-619-6047.

Thanks, Brian

From: Sarah Holderman

Sent: Mon Jul 19 10:35:09 2021

To: Galbraith,Brian T (BPA) - TPCC-TPP-4

Subject: [EXTERNAL] Accepted: L0494 Ponderay Renewable Fiber and Blockchain Project LLIR Kickoff Meeting

Importance: Normal

You don't often get email from sholderman@popud.org. [Learn why this is important]

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Pend Oreille County Public Utility District #1

From: Sarah Holderman

Sent: Mon Jul 19 10:35:09 2021

To: Vierck,Alexandra L (CONTR) - TPCC-TPP-4

Subject: [EXTERNAL] Accepted: L0494 Ponderay Renewable Fiber and Blockchain Project LLIR Kickoff Meeting

Importance: Normal

You don't often get email from sholderman@popud.org. Learn why this is important

Pend Oreille County Public Utility District #1

From: David Hodder

Sent: Mon Jul 19 11:16:45 2021

To: Galbraith,Brian T (BPA) - TPCC-TPP-4

Subject: Accepted: L0494 Ponderay Renewable Fiber and Blockchain Project LLIR Kickoff Meeting

Importance: Normal

Pend Oreille County Public Utility District #1

From: Galbraith,Brian T (BPA) - TPCC-TPP-4

Sent: Mon Jul 19 11:16:59 2021

To: David Hodder

Subject: Automatic reply: L0494 Ponderay Renewable Fiber and Blockchain Project LLIR Kickoff Meeting

Importance: Normal

I am currently out of the office and will return on Tuesday, July 20. If you need immediate assistance please contact Anna Cosola at 360-619-6047.

Thanks, Brian

From: Normandeau,Mike (BPA) - PSE-RONAN

Sent: Fri Jul 30 16:40:34 2021

To: April Owen; Colin Willenbrock (cwillenbrock@popud.org)

Cc: Moore,Lisa A (BPA) - PSSE-MEAD-GOB; Patton,Kathryn B (BPA) - PSS-SEATTLE; Babaidhan,Sami A (BPA) - PSSE-MEAD-GOB

Subject: FY2022 Net Requirements Transparency Process - Public Comment period set to open Monday 8/2

Importance: High

Attachments: FY2022_NetRequirement_PEND_OREILLE_DRAFT_2021.07.28.xlsx

Good Afternoon Colin and April,

I wanted to let you know that the FY 2022 Net Requirements process will begin on Monday, August 2nd. The public comment period concludes on August 18th. If you have any new information regarding the Allrise/PRFB load for the upcoming fiscal year, you will need to submit a comment during this public process. The PUD's preliminary Net Requirement based on the most recent forecast information provided to BPA is attached.

Links below will take you to the public information and public comment site.

We are available to discuss this further if there is interest in doing so.

Have a good weekend.

Mike

The FY2022 Net Requirements Transparency Process- Public Comment period is set to open on Monday 8/2/2021.

Slice/Block and Block customer TRL and CSP forecasts for FY2022 are published at:

https://www.bpa.gov/p/Power-Contracts/Regional-Dialogue/Pages/Regional-Dialogue.aspx

The direct link to the data is:

https://www.bpa.gov/p/Power-Contracts/Regional-Dialogue/rdi/FY22_SliceBlock_NetRequirements_Transparency.xlsx

Customers are encouraged to review their forecast information and identify any revisions or corrections using the Public Comment process at:

https://publiccomments.bpa.gov/OpenCommentListing.aspx

The due date for comments is 5:00 PM on Friday 8/13/2021.

FY2022 Annual Net Requirement Calculations and Block Amounts
Prepared by BPA, July 28, 2021

Customer Name	**PEND OREILLE PUD**
BES Number	10306
Fiscal Year	2022
Hours	8,760

Step 1: Above-RHWM Load Calculation
(in annual aMW)

TRL Forecast 1/	139.851
NLSL Resources 2/	105.904
Existing Resources 3/	7.403
Gross Requirements 4/	26.544
RHWM 5/	24.581
Above-RHWM Load 6/	1.963

Notes:
1/ TRL Forecast submitted by customer and approved by BPA (or BPA forecast if customer submitted forecast deemed not reasonable.)
2/ If NLSL see page 3 for additional calculations.
3/ Existing Resources are from Exhibit A and do not include resources serving NLSLs. Existing Resources can be removed in the second year of a Rate Period. See page 3 for removal of Existing Resource calculations.
4/ Gross Requirements is a preliminary Net Requirement calculation (preliminary since New Resources to serve Above-RHWM Load have not yet been added.)
5/ RHWM is from RHWM Process Outputs spreadsheet published on September 28, 2012, with updates for Provisional HWM if necessary.
6/ Headroom, if RHWM is greater than Gross Req, Above-RHWM Load, if RHWM is less than Gross Req.

Step 2: Annual Net Requirement Calculation
(in annual aMW)

Gross Requirements 7/	26.544
New Resources 8/	1.963
Net Requirements (NR) 9/	24.581
Tier 2 Block Amounts 10/	0.000

Notes:
7/ Gross Requirements from Step 1.
8/ New Resources equal Above-RHWM Load less T2 Amounts. If customer has New Specified Resources and T2 Block Amounts that sum to an amount greater than the customer's Above-RHWM Load, then the customer needs to determine the order of resource removal/T2 remarketing per section 10 of the body of the Slice/Block Contract.
9/ Net Requirements equals Gross Requirement Amounts less New Resources.
10/ T2 Amounts based on customer's election made by the September 30, 2011 Notice Deadline.
If T2 Amounts, then amounts go into section 2.5 of Exhibit C.
T2 Amounts plus T1 Amounts equal Net Requirements.

Monthly Net Requirement Calculations (with Block Amounts)
Prepared by BPA, July 28, 2021

Hours	October 744	November 721	December 744	January 744	February 672

Step 4: Monthly Tier 1 Block Amount Calculations

	October	November	December	January	February
Monthly Block Shaping Factors	0.034	0.149	0.135	0.190	0.168
Monthly T1 Block Amounts (MWh)	7,321	32,084	29,069	40,913	36,175
Monthly T2 Block Amounts (MWh)	0	0	0	0	0

13/ Exhibit C, Section 1.2.1.4 states that monthly Tier 1 Block amounts in MWh are equal to the Monthly Shapin
Shaping Factors are in Exhibit C, Section 1.2.13

Diurnal Shaping Factors					
Monthly Block HLH Shaping Factors	N/A	N/A	N/A	N/A	N/A
Monthly Block LLH Shaping Factors	N/A	N/A	N/A	N/A	N/A

14/ Diurnal Shaping Factors per Exhibit C, Section 1.2.2.4 if customer elected Tier 1 Block within-month shaped t

Total - T1 Block Amounts (MW/hr)	10.0	44.0	39.0	55.0	54.0
HLH - T1 Block Amounts (MW/hr)	10.0	44.0	39.0	55.0	54.0
LLH - T1 Block Amounts (MW/hr)	10.0	44.0	39.0	55.0	54.0

15/ Shaped within-month Block Amounts arre megawatt per hour amounts equal to the monthly MWh amounts
and rounded to a whole number. Flat within-month Block Amounts are megawatt per hour amounts equal to the
rounded to a whole number. The diurnal amounts go into section 1.3 of Exhibit C. Due to rounding the total me

Tier 1 and Tier 2 Block Amounts (MWh)	7,440	31,724	29,016	40,920	36,288

Step 5: Net Requirement Calculations (and Unspecified Resources Amounts)

TRL Forecast Energy (MWh)	80,313	86,590	95,350	121,605	107,113
TRL Forecast Peak (MW)	132.6	149.7	157.1	200.4	190.8
NLSL Resources (MWh)	58,153	56,356	58,153	85,752	77,453
Existing Resources (MWh)	14,685	2,905	10,042	3,073	2,574
Monthly Gross Requirements (MWh)	7,475	27,329	27,155	32,780	27,086

16/ TRL Forecast submitted by customer and approved by BPA (or BPA forecast if customer forecast not approve
Existing Resources from Exhibit A. Monthly Gross Requirements equals TRL less NLSLs and Exisiting Resources. N

New Specified Resources (MWh)	0	0	0	0	0
New Specified Resources (aMW)	0.000	0.000	0.000	0.000	0.000
Unspecified Resource Amts (MWh)	1,460	1,415	1,460	1,460	1,319
Unspecified Resource Amts (aMW)	1.963	1.963	1.963	1.963	1.963

17/ New Specified Resouces can be added to serve Above-RHWM Load. If customer must dedicate New Specifie
then customer may do so but the amounts will be reduced to match the Above-RHWM Load. If New Specified Re

Net Requirement Forecast (MWh)	6,015	25,914	25,695	31,320	25,767

18/ Net Requirements equals TRL less NLSLs, Existing Resources, New Resources (Specified and Unspecified), an

NLSL Calculations (if applicable)
Prepared by BPA, July 28, 2021

	October	November	December	January	February
NLSL Forecast (MWh)	58,153	56,356	58,153	85,752	77,453
Resources Serving an NLSL (MWh)	42,751	41,372	42,751	42,751	38,614
Change to NLSL Resources (MWh)	15,402	14,984	15,402	43,001	38,839
Updated Resources Serving NLSL (MWh)	58,153	56,356	58,153	85,752	77,453

18/ Original resource amounts from Exhibit A. Update NLSL resources in Exhibit A to match NLSL forecast.

Change to Existing Resources (MWh)	-15,402	-8,536	-12,061	-8,158	-4,344
Change to Existing Resources (aMW)	-20.702	-11.839	-16.212	-10.965	-6.464
Updated Total Existing Resources (MWh)	14,685	2,905	10,042	3,073	2,574
Updated Total Existing Resources (aMW)	19.737	4.029	13.497	4.130	3.830

19/ If customer has a single resource split amongst NLSL and non-NLSL load, then balance the single resource am

Removal of Existing Resources in Second Year of Rate Period (if applicable)
Prepared by BPA, July 28, 2021 0 1st Year = 0, Second Year = 1

[redacted]

29/ Existing Resource Removal for Subsequent Fiscal Years of Each Rate Period (section 10.5 of the Slice/Block Contracts) is applicable for customers that have Existing Resour
that is less than the preliminary Net Requirement in the first year of a rate period. Preliminary Net Requirement means BPA's forecast of Customer's Net Requirement for each

Customer Specific Data for Fiscal Year	2021	2021	2021	2022	2022

Prepared by BPA, July 28, 2021		10	11	12	1	2
RHWM	24.581	416	400	416	400	384
		328	321	328	344	288
BES Number	10306					
T2 Block Amounts	0					
TRL Forecast - Energy (MWh)		80,313	86,590	95,350	121,605	107,113
TRL Forecast - Peak (MW)		132.585	149.663	157.084	200.391	190.756
NLSL Forecast		58,153	56,356	58,153	85,752	77,453
Existing		30,087	11,441	22,103	11,231	6,918
New		0	0	0	0	0
NLSL		42,751	41,372	42,751	42,751	38,614
Block Shaping Factors		0.034	0.149	0.135	0.190	0.168
HLH Shaping Factors		0.559	0.555	0.559	0.538	0.571
LLH Shaping Factors		0.419	0.445	0.462	0.441	0.425
[redacted]						
Existing Resource Removal Shape		0.119	0.039	0.084	0.037	0.020
New Resource Removal Shape		0.000	0.000	0.000	0.000	0.000

Customer Charges and Load Shaping Charges
Prepared by BPA, July 28, 2021

	October	November	December	January	February
HLH by Month	416	400	416	400	384
LLH by Month	328	321	328	344	288
RHWM T1 System Capability HLH (MWh)	2,920,790	3,537,945	3,223,873	2,651,580	2,346,690
RHWM T1 System Capability LLH (MWh)	1,633,134	2,227,488	2,419,335	2,009,470	1,693,144
BP-22 Final Proposal Rates					
Composite Rate (TOCA) ($$/%)	$1,998,417	$1,998,417	$1,998,417	$1,998,417	$1,998,417
Non-Slice Rate ($$/%)	($329,943)	($329,943)	($329,943)	($329,943)	($329,943)
Slice Rate ($$/%)	$0	$0	$0	$0	$0
Load Shaping - HLH ($$/MWh)	$29.92	$31.71	$38.76	$34.29	$34.79
Load Shaping - LLH ($$/MWh)	$28.27	$29.14	$32.05	$25.85	$28.29
Financial Reserves Policy Surcharge	$0.00	$0.00	$0.00	$0.00	$0.00
Financial Reserves Policy Amount	**$0.0**	$-Millions			
Financial Reserves Policy Surcharge	$0.00				
FY2022 Billing Determinants					
TOCA %	0.36490%	0.36490%	0.36490%	0.36490%	0.36490%

Non-Slice TOCA %	0.36490%	0.36490%	0.36490%	0.36490%	0.36490%
Load Shaping - HLH (MWh)	-6,498	4,690	4,460	12,324	12,173
Load Shaping - LLH (MWh)	-2,679	5,996	3,964	11,587	9,374

FY2022 Tier 1 Power Charges without Low Density Discounts or Irrigation Rate Discounts					
Composite Charge	$729,222	$729,222	$729,222	$729,222	$729,222
Non-Slice Charge	($120,396)	($120,396)	($120,396)	($120,396)	($120,396)
Load Shaping - HLH	($194,419)	$148,721	$172,873	$422,603	$423,496
Load Shaping - LLH	($75,744)	$174,720	$127,041	$299,535	$265,183
Financial Reserves Policy Surcharge	$0	$0	$0	$0	$0
Total	$338,663	$932,267	$908,740	$1,330,964	$1,297,505

Steps in calculating Load Shaping Billing Determinants					
System Shaped Load HLH (MWh)	10,658	12,910	11,764	9,676	8,563
System Shaped Load LLH (MWh)	5,959	8,128	8,828	7,333	6,178
Actual Tier 1 Load HLH (MWh)	4,160	17,600	16,224	22,000	20,736
Actual Tier 1 Load LLH (MWh)	3,280	14,124	12,792	18,920	15,552

Step 3: Critical Slice & Block Amounts (with TOCAs)
(in annual aMW)

Tier 2 Block Amounts	0.000
Tier 1 Block Amounts 11/	24.581
Net Requirements	24.581

TOCAs 12/

Sum of RHWM	6736.361
Non-Slice TOCA	0.36490%
TOCA	0.36490%

Notes:
11/ Tier 1 Block Amounts equal Net Requirement less Tier 2 Amounts.
Annual Tier 1 Block Amounts (in aMW) go into section 1.1 of Exhibit C.
12/ TOCA equals minimum of Net Requirement or RHWM,
divided by the Sum of RHWM. Sum of RHWM in cell J18.
Non-Slice TOCA equals TOCA.

March	April	May	June	July	August	September	ANNUAL
743	720	744	720	744	744	720	8,760

0.159	0.010	0.000	0.000	0.038	0.039	0.078	1.000
34,237	2,153	0	0	8,183	8,398	16,796	215,330
0	0	0	0	0	0	0	0

g Factors * Annual Tier 1 Block Amounts in aMW (see Step 3) * Hours in Fiscal Year

N/A	N/A	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	

o their Net Requirement. Not applicable to customers who elected flat Tier 1 block within-month shape.

46.0	3.0	0.0	0.0	11.0	11.0	23.0	214,654
46.0	3.0	0.0	0.0	11.0	11.0	23.0	
46.0	3.0	0.0	0.0	11.0	11.0	23.0	

; calculated per 1.2.14 of Exhibit C multiplied by the diurnal shaping factor, divided by the hours in the month,
: monthly MWh amounts calculated per 1.2.14 of Exhibit C divided by the hours in the month,
gawatt-hours established in cell O55 will be different than the megawatt-hours calculated in cell O50.

34,178	2,160	0	0	8,184	8,184	16,560	214,654

113,627	106,167	105,248	100,646	103,796	103,535	101,104	1,225,094
183.8	175.8	171.9	159.6	161.8	156.7	163.8	N/A
85,636	82,985	85,752	82,985	85,752	85,752	82,985	927,715
2,846	3,802	8,002	6,729	3,668	3,477	3,046	64,848
25,145	19,380	11,494	10,932	14,376	14,306	15,073	232,531

d.) TRL Forecast (energy and peak) goes into section 1.1 of Exhibit A. If NLSL see page 3 for additional calculations.
Ieed to add New Resources if customer has Above-RHWM Load before calculating Net Requirements.

0	0	0	0	0	0	0	0
0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1,459	1,413	1,460	1,413	1,460	1,460	1,413	17,196
1.963	1.963	1.963	1.963	1.963	1.963	1.963	

ed Resources (ie Hydro Resources) and does not have enough (or any) Above-RHWM Load,
esources were not added to serve Above-RHWM Load, then Unspecified Resource Amounts will be added.

23,686	17,966	10,034	9,518	12,916	12,846	13,659	215,335

d plus T2 Amounts. Net Requirements goes into section 1.2 of Exhibit A.

March	April	May	June	July	August	September	ANNUAL
85,636	82,985	85,752	82,985	85,752	85,752	82,985	927,715
42,751	41,372	42,751	41,372	42,751	42,751	41,372	503,359
42,885	41,613	43,001	41,613	43,001	43,001	41,613	424,356
85,636	82,985	85,752	82,985	85,752	85,752	82,985	927,715
-4,194	-29,566	-34,850	-31,355	-19,615	-18,575	-11,293	-197,950
-5.645	-41.064	-46.841	-43.549	-26.364	-24.966	-15.685	
2,846	3,802	8,002	6,729	3,668	3,477	3,046	64,848
3.830	5.281	10.755	9.346	4.930	4.673	4.231	

nounts to match the NLSL forecast keeping the total dedicated amounts the same.

[redacted]

ces and have a Preliminary Net Requirement in the second year of a Rate Period
n Fiscal Year prior to the removal of any resources in accordance with section 10.

2022	2022	2022	2022	2022	2022	2022

3	4	5	6	7	8	9	Annual
432	416	400	416	400	432	400	
311	304	344	304	344	312	320	
113,627	106,167	105,248	100,646	103,796	103,535	101,104	1,225,094
183.772	175.781	171.924	159.600	161.786	156.652	163.785	
85,636	82,985	85,752	82,985	85,752	85,752	82,985	927,715
7,040	33,368	42,852	38,084	23,283	22,052	14,339	262,798
0	0	0	0	0	0	0	0
42,751	41,372	42,751	41,372	42,751	42,751	41,372	503,359
0.159	0.010	0.000	0.000	0.038	0.039	0.078	1.000
0.581	0.578	0.538	0.578	0.538	0.581	0.556	
0.440	0.422	0.462	0.422	0.441	0.441	0.444	
0.019	0.133	0.173	0.154	0.089	0.084	0.051	1.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PEND OREILLE PUD, page 4

March	April	May	June	July	August	September	ANNUAL
432	416	400	416	400	432	400	4912
311	304	344	304	344	312	320	3848
2,961,839	2,307,314	3,495,710	3,952,933	3,505,339	3,425,259	2,999,685	37,328,957
1,860,906	1,436,906	1,691,935	1,590,174	1,757,589	1,660,955	1,700,508	21,681,545

$1,998,417	$1,998,417	$1,998,417	$1,998,417	$1,998,417	$1,998,417	$1,998,417	
($329,943)	($329,943)	($329,943)	($329,943)	($329,943)	($329,943)	($329,943)	
$0	$0	$0	$0	$0	$0	$0	
$27.57	$20.71	$16.28	$17.15	$36.83	$35.87	$28.15	
$28.44	$25.66	$16.30	$10.62	$21.36	$26.85	$28.95	
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
0.36490%	0.36490%	0.36490%	0.36490%	0.36490%	0.36490%	0.36490%	

0.36490%	0.36490%	0.36490%	0.36490%	0.36490%	0.36490%	0.36490%	
9,064	-7,171	-12,756	-14,424	-8,391	-7,747	-1,746	
7,516	-4,331	-6,174	-5,803	-2,629	-2,629	1,155	

$729,222	$729,222	$729,222	$729,222	$729,222	$729,222	$729,222	$8,750,664
($120,396)	($120,396)	($120,396)	($120,396)	($120,396)	($120,396)	($120,396)	($1,444,752)
$249,901	($148,519)	($207,665)	($247,376)	($309,040)	($277,877)	($49,146)	($16,448)
$213,742	($111,140)	($100,634)	($61,623)	($56,165)	($70,584)	$33,433	$637,764
$0	$0	$0	$0	$0	$0	$0	$0
$1,072,469	$349,167	$300,527	$299,827	$243,621	$260,365	$593,113	$7,927,228

10,808	8,419	12,756	14,424	12,791	12,499	10,946	136,213
6,790	5,243	6,174	5,803	6,413	6,061	6,205	79,116
19,872	1,248	0	0	4,400	4,752	9,200	120,192
14,306	912	0	0	3,784	3,432	7,360	94,462

aMW
24.581
0.000
24.504
24.504

139.851
N/A
105.904
7.403
26.544
0.000
1.963

24.581

aMW
105.904
57.461
48.442
105.904
-22.597
7.403

[redacted]

aMW
139.851
105.904
30.000
0.000
57.461

aMW

7,599.543	6736
5,634.497	

28
21
24
25

From: April Owen

Sent: Mon Aug 02 17:05:45 2021

To: Normandeau,Mike (BPA) - PSE-RONAN

Subject: [EXTERNAL] POPUD/Ponderay Newsprint site question

Importance: Normal

Mike,

You and I had a discussion a little while back where you mentioned that some load studies might be needed before the Newsprint mill could restart at its former load. Did you get resolution on that? The plan is still for operations to begin on 10/1, but that would obviously be a problem if BPA were requiring additional grid studies for the former mill load amount.

I'm around for a bit this evening and should also be in by 7:00 PST if you want to give me a call. Let me know as well if this is a question that I should be presenting to Adelle Harris on the transmission side.

Thanks Mike!

April.

April Owen

Director, Audit, Finance & Power Supply

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington Ave

Newport, WA 99156
509.447.9321 | www.popud.org

Pend Oreille County Public Utility District #1

From: Normandeau,Mike (BPA) - PSE-RONAN

Sent: Tue Aug 03 07:58:56 2021

To: April Owen

Subject: RE: POPUD/Ponderay Newsprint site question

Importance: Normal

From a power perspective, there shouldn't be any issues once we assign the net requirement. I can't speak for Transmission services. I know there is a meeting set up with the PUD for next week (I believe) to discuss whether studies are needed or not. I have a call in a few minutes but will be sure to give you a call right after the meeting concludes.

Mike

From: April Owen <aowen@popud.org>
Sent: Monday, August 2, 2021 6:06 PM
To: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Subject: [EXTERNAL] POPUD/Ponderay Newsprint site question

Mike,

You and I had a discussion a little while back where you mentioned that some load studies might be needed before the Newsprint mill could restart at its former load. Did you get resolution on that? The plan is still for operations to begin on 10/1, but that would obviously be a problem if BPA were requiring additional grid studies for the former mill load amount.

I'm around for a bit this evening and should also be in by 7:00 PST if you want to give me a call. Let me know as well if this is a question that I should be presenting to Adelle Harris on the transmission side.

Thanks Mike!
April.

April Owen
Director, Audit, Finance & Power Supply

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Newport, WA 99156
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From: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2

Sent: Tue Aug 03 15:11:27 2021

To: April Owen

Subject: New Load Ponderay Renewable Fiber

Importance: Normal

Attachments: LLIP_BP_v.3.pdf

Hi April,

I hope I didn't ramble too much in my voice message. I've attached the Line Load Interconnection Request (LLIR) business practice to this email. It will give you a better idea of the timelines, but as I said on the phone, BPA is currently reviewing the LLIR to determine if a System Impact Study is necessary. This will give us a better idea of the timelines to expect.

Please let me know if you would like to be added to the Aug. 18 call that is scheduled with Pend Oreille and I will have the invite forwarded to you.

As always, if you have additional questions, feel free to give me a call.

Adelle L. Harris

Transmission Account Executive

Dark Fiber / Commercial Wireless Program Manager

TSE/TPP-2

'(360) 619-6090 | '[redacted] y alharris@bpa.gov

Bonneville Power Administration

From: April Owen

Sent: Thu Aug 05 17:15:00 2021

To: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2

Subject: [EXTERNAL] RE: POPD transmission study questions

Importance: Normal

Thank you Adelle!

From: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2 <alharris@bpa.gov>
Sent: Thursday, August 5, 2021 5:04 PM
To: April Owen <aowen@popud.org>
Subject: RE: POPD transmission study questions

CAUTION: This email originated from outside of the POPUD. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi April,

From the information I was able to gather, it sounds like we won't know if a System Impact Study (SIS) is needed until we meet with Pend Oreille later this month so a timeframe is difficult to nail down at this point. However if it is determined that a SIS is not needed, then BPA will move forward with a Facilities Study. An environmental study may be required as well. So an October 1 start date is looking extremely difficult at this point.

My understanding is that there is no particular threshold that triggers the need for a study; any new load is required to go through the study process and even the mill load is considered new at this point because it's been offline for more than a year.

For your second question regarding a difference in physical vs. contractual energy, I am still looking for an answer, but have a call scheduled with someone in the morning that I am hopeful will be able to answer the question.

Stay tuned.

Adelle

From: April Owen <aowen@popud.org>
Sent: Thursday, August 5, 2021 9:53 AM
To: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2 <alharris@bpa.gov>
Subject: [EXTERNAL] POPD transmission study questions

Adelle,

Thank you again for our conversation this morning. I wanted to clarify with you for my notes that the most probable path at this point is that studies will be needed before the mill can restart production, and that those studies may take four months or longer. I understand that more will be clarified at the initial LLIP meeting scheduled on August 18th.

Another question came up as I was thinking through the process: Is there a particular threshold that triggers the need for a transmission study? What if we have, for example, 5 cryptomining customers that each add 5 MW during the year? Does that need to be studied or is it a single customer threshold? Is it tied directly to whether there is a BPA interconnection? What if Ponderay added 9.9 of cryptoming load (just under the New Large Single Load designation)? Just want to make sure that we are working through the process correctly.

Thanks again for the help, Adelle!

April.

April Owen

Director, Audit, Finance & Power Supply

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Pend Oreille County Public Utility District #1

From: April Owen

Sent: Fri Aug 06 09:37:44 2021

To: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2

Subject: [EXTERNAL] POPD tagging example.xlsm

Importance: Normal

Attachments: POPD tagging example.xlsm

Adelle,

Attached are our tags from Wednesday. At this point, Shell does not actually send us power back as they are covering our load with power we receive from Boundary. It is a net tagging transaction, which I believe is typical. However, we are selling Box Canyon generation as a specified source so that power resource would continue to be tagged out in full regardless of our “net need” at the time. I’m guessing that if the mill starts up, the tagging would look similar to the example attached, except the green “out” energy would be replaced by an “in” resource to serve the entire increase in load.

I admittedly am still new to the tagging world, so this is my assumption since we just started working with specified source this year. There may be some tagging rules that I have not yet encountered! Please let me know what further questions you may have.

Thanks,

April.

April Owen

Director, Audit, Finance & Power Supply

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Hourly Profile
Date : Yesterday (08/04/2021)
Tag State: ALL IMPLEMENTED TAGS
Show Market Prices: No

Tag ID	Tag Code	GCA	LCA	CPSE	ag Start Tim	ag Stop Tim	Source	Sink	PSE Contact
SCL_POPD1	ABE6660	SCL	AVA	POPD1	08/04/202	08/05/202	SCL	POPDImpo	Diana Jackson
SCL_POPD1	ABE6661	SCL	AVA	POPD1	08/04/202	08/05/202	SCL	POPDImpo	Diana Jackson
SCL_POPD1	ABE6662	SCL	AVA	POPD1	08/04/202	08/05/202	SCL	POPDImpo	Diana Jackson
SCL_POPD1	ABE6663	SCL	AVA	POPD1	08/04/202	08/05/202	SCL	POPD	Diana Jackson
AVA_BPAP	2058852	AVA	BPAT	BPAP01	08/04/202	08/05/202	POPD	BPAPOWEI	Hamedah Dhalai
AVA_CORP	2482861	AVA	BPAT	CORPW	08/04/202	08/05/202	POPD	Halsey_Pul	Luke Johnson
AVA_CORP	2482863	AVA	GCPD	CORPW	08/04/202	08/04/202	POPD	SENA_GCP	Luke Johnson
AVA_CORP	2482916	AVA	CISO	CORPW	08/04/202	08/05/202	POPDBoxG	NP15	Luke Johnson
AVA_CORP	2482917	AVA	GCPD	CORPW	08/04/202	08/05/202	POPDBoxG	SENA_GCP	Luke Johnson
AVA_CORP	2482973	AVA	GCPD	CORPW	08/04/202	08/05/202	POPDBoxG	SENA_GCP	BrianConradi
Total MWh:									

Shell contract summary: Shell purchases Box Canyon generation and Boundary entitlement power, and the District purchases bac
For tagging purposes, the Boundary energy is used to serve the District's load so there is no tagging of power from Shell into the D

The District does not know yet how this would transact if the mill were to start operations, as it would depend on how the load is
source, it is likely that tagging would continue for Box as above and other power would come in from the market to supply.

POPD Notes	HE1	HE2	HE3	HE4	HE5	HE6	HE7	HE8	HE9
Seattle City Light Boundary product to	19	19	19	19	19	19	23	23	23
POPD	5	5	5	5	5	5	0	0	0
	2	2	2	2	2	2	7	7	7
	2	2	2	2	2	3	2	3	3
Albeni Backwater	1	1	1	1	1	1	1	1	1
Excess power to Shell per contract	5	5	5	5	5	5	20	20	20
	0	0	0	0	0	0	5	5	5
Box Canyon power to Shell.	35	35	35	35	35	35	35	34	34
This is scheduled to match Box generation.	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	0	0	0
	70	70	70	70	70	71	93	93	93

k power to serve load (based on block schedule).
istrict, only power out to Shell.

supplied. Because we are selling Box as specified

HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22
23	23	23	23	23	23	23	23	23	23	23	23	23
0	0	0	0	0	0	0	0	0	0	0	0	0
7	7	7	7	7	7	7	7	7	7	7	7	7
3	4	3	3	3	3	3	3	3	3	3	3	3
1	1	1	1	1	1	1	1	1	1	1	1	1
20	20	20	20	20	20	20	20	20	20	20	20	20
5	5	5	5	5	5	5	5	5	5	5	5	5
34	0	0	0	0	0	0	33	33	33	33	33	33
0	35	35	35	35	33	33	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
93	95	94	94	94	92	92	92	92	92	92	92	92

HE23	HE24	Total MWh
19	19	520
5	5	40
2	2	128
3	3	67
1	1	24
5	5	360
0	0	80
0	0	545
33	33	272
0	0	6
68	68	2042

Pend Oreille PUD
Schedule

Loads are (+)
Resources are (-)

Date		-19			-26	0			
8/4/2021		-23		1	-30	18		35	
Wednesday									
August									

	POPUD			SENA			SCL	BPA	SCL	AVA	AVA	AVA	AVA		
Hour Ending	PNC	GS	**Total Load**	Shell Firm	Shell Outgoing	Excess Boundary	BBW	Albeni BW	Boundary	PS Purch (-)	PS Sale (+)	AVA PS Purch	AVA PS Sale	Box Estimate	Balanced?
8/4/21 1:00	1	20	**21**	-19	5	-2	-2	1	-26	0		-	**1**	35	Y
8/4/21 2:00	1	19	**20**	-19	5	-2	-2	1	-26	0		-	**2**	35	Y
8/4/21 3:00	1	19	**20**	-19	5	-2	-2	1	-26	0		-	**2**	35	Y
8/4/21 4:00	1	19	**20**	-19	5	-2	-2	1	-26	0		-	**2**	35	Y
8/4/21 5:00	1	20	**21**	-19	5	-2	-2	1	-26	0		-	**1**	35	Y
8/4/21 6:00	1	20	**21**	-19	5	-2	-3	1	-26	0		-	**2**	35	Y
8/4/21 7:00	1	22	**23**	-23	25	-	-2	1	-30	-18		-	**1**	35	Y
8/4/21 8:00	1	23	**24**	-23	25	-	-3	1	-30	-18		-	**1**	35	Y
8/4/21 9:00	1	24	**25**	-23	25	-	-3	1	-30	-18		-	-	35	Y
8/4/21 10:00	1	26	**27**	-23	25	-	-3	1	-30	-18		**-2**	-	35	Y
8/4/21 11:00	1	26	**27**	-23	25	-	-4	1	-30	-18		**-1**	-	35	Y
8/4/21 12:00	1	27	**28**	-23	25	-	-3	1	-30	-18		**-3**	-	35	Y
8/4/21 13:00	1	28	**29**	-23	25	-	-3	1	-30	-18		**-4**	-	35	Y
8/4/21 14:00	1	29	**30**	-23	25	-	-3	1	-30	-18		**-5**	-	35	Y
8/4/21 15:00	1	30	**31**	-23	25	-	-3	1	-30	-18		**-6**	-	35	Y
8/4/21 16:00	1	30	**31**	23	25		3	1	30	18		**-6**	-	35	Y
8/4/21 17:00	1	32	**33**	-23	25	-	-3	1	-30	-18		**-8**	-	35	Y
8/4/21 18:00	1	31	**32**	-23	25	-	-3	1	-30	-18		**-7**	-	35	Y
8/4/21 19:00	1	30	**31**	-23	25	-	-3	1	-30	-18		**-6**	-	35	Y
8/4/21 20:00	1	29	**30**	-23	25	-	-3	1	-30	-18		**-5**	-	35	Y
8/4/21 21:00	1	28	**29**	-23	25	-	-3	1	-30	-18		**-4**	-	35	Y
8/4/21 22:00	1	26	**27**	-23	25	-	-3	1	-30	-18		**-2**	-	35	Y
8/4/21 23:00	1	23	**24**	-19	5	-2	-3	1	-26	0		**-1**	-	35	Y
8/5/21 0:00	1	22	**23**	-19	5	-2	-3	1	-26	0		-	-	35	Y
Totals	24	603	627	-520	440	-16	-67	24	-688	-288	0	-60	12	840	
			HLH	-368	400	0	-48	16	-480	-288	0	-59	2	560	
			LLH	-152	40	-16	-19	8	-208	0	0	-1	10	280	

	Real Time									Shell T-120 Schedule				
	Manual input			Input when Purch/Sale made									Net	
Hour Ending	RT Load (+)	RT Box (-)	**+5< needs a purchase, -5> needs a sale**	RT Purch Enter as (-)	RT Sale Enter as (+)	Operator	AVA Operator	Balanced?	Timestamp	Boundary Schedule	Box Schedule	Curtailment		Hour Ending
8/4/21 1:00	20	36	**-1**					Y	9:51 PM	26	36		62	1:00
8/4/21 2:00	19	36	**-1**					Y	10:52 PM	26	36		62	2:00
8/4/21 3:00	19	36	**-1**					Y	11:52 PM	26	36		62	3:00
8/4/21 4:00	19	36	**-1**					Y	12:52 AM	26	36		62	4:00
8/4/21 5:00	20	36	**-1**					Y	1:52 AM	26	36		62	5:00
8/4/21 6:00	21	36	**0**					Y	2:53 AM	26	36		62	6:00
8/4/21 7:00	22	35	**-1**					Y	3:53 AM	30	35		65	7:00
8/4/21 8:00	23	34	**-1**					Y	4:53 AM	30	34		64	8:00
8/4/21 9:00	24	34	**-1**					Y	5:53 AM	30	34		64	9:00
8/4/21 10:00	25	34	**-2**					Y	6:19 PM	30	34		64	10:00
8/4/21 11:00	26	35	**-1**					Y	6:19 PM	30	35		65	11:00
8/4/21 12:00	28	35	**0**					Y	6:19 PM	30	35		65	12:00
8/4/21 13:00	26	35	**-3**					Y	6:19 PM	30	35		65	13:00
8/4/21 14:00	29	35	**-1**					Y	6:19 PM	30	35		65	14:00
8/4/21 15:00	31	33	**0**					Y	6:19 PM	30	33		63	15:00
8/4/21 16:00	30	33	**-1**					Y	6:19 PM	30	33		63	16:00
8/4/21 17:00	31	33	**-2**					Y	6:19 PM	30	33		63	17:00
8/4/21 18:00	31	33	**-1**					Y	6:19 PM	30	33		63	18:00
8/4/21 19:00	30	33	**-1**					Y	6:19 PM	30	33		63	19:00
8/4/21 20:00	29	33	**-1**					Y	6:20 PM	30	33		63	20:00
8/4/21 21:00	27	33	**-2**					Y	6:20 PM	30	33		63	21:00
8/4/21 22:00	25	33	**-2**					Y	6:54 PM	30	33		63	22:00
8/4/21 23:00	24	33	**0**					Y	7:52 PM	26	33		59	23:00
8/5/21 0:00	22	33	**-1**					Y	8:52 PM	26	33		59	0:00
	601	823	-26	0	0	0				688	823		1511	

Total Tagged:
1586 **2042**

Operators:
C. Chaney
R. Clark
R. Douglas
S. Ellsworth
D. Kramer

AVA Operators:
Tanner Bachman
Wayne Brower
Mike Dillon
Daniel Friend
Michael Jacobson
Ian Korns
Jared Schmautz
Taylor Brandon
Eric Williams

PBL
Emails to:
presched@bpa.gov

Shell
Email to:
SysOps@popud.org
BoxCanyonHydroOps
christopher@energywestllc.com
jeff@energywestllc.com
chris.nichol@shell.com
hilary.bell@shell.com
lisa.hiler@shell.com

Market Schedule
Email to:
aowen@popud.org
Robert.Follini@avistacorp.com
ken.sentman@avistacorp.com
craig.wilson@avistacorp.com
ryan.erickson@avistacorp.com
cwillenbrock@popud.org

Final Preschedule
Email to:
craig.wilson@avistacorp.com
ken.sentman@avistacorp.com
robert.follini@avistacorp.com
jennifer.frank@avistacorp.com
megan.baker@avistacorp.com

February March April May June July August September October November December

Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Holiday

Shell

	HLH	LLH
January	47	44
February	46	43
March	38	37
April	30	29
May	23	21
June	22	19
July	22	18
August	23	19
September	23	20
October	30	28
November	39	36
December	47	44

Boundary

	HLH	LLH
January	-60	-55
February	-68	-66
March	-57	-57
April	-44	-43
May	-36	-33
June	-33	-30
July	-32	-27
August	-30	-26
September	-30	-28
October	-45	-45
November	-51	-46
December	-55	-51

Avista Purchases

	HLH	LLH
January	0	0
February	0	0
March	0	0
April	0	0
May	12	0
June	15	0
July	16	0
August	18	0
September	18	0
October	0	
November	0	
December	0	

Avista Sales

	HLH	LLH
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0
October	0	
November	0	
December	0	

Pend Oreille PUD
Schedule

Loads are (+)
Resources are (-)

Date

8/4/2021
Wednesday
August

	Amounts per current contracts					Calculations			Tags
Hour Ending	Shell Firm	Boundary Baseline	Boundary Resource	SENA purchase of BDY for firm	AVA sale for BDY baseline	SENA "use" of BDY for Firm	POPD Bdy for baseline	Excess Boundary	Shell Firm Contract
Entity From:	SENA	POPD	SCL	POPD	AVA	SCL	SCL	POPD	SCL
To Entity:	POPD	SENA	POPD	POPD	POPD	POPD-SENA	POPD-SENA	AVA (PS)	POPD-SENA
8/4/21 1:00 LLH	-19	24	-26	-	-	-19	-5	-2	-19
8/4/21 2:00 LLH	-19	24	-26	-	-	-19	-5	-2	-19
8/4/21 3:00 LLH	-19	24	-26	-	-	-19	-5	-2	-19
8/4/21 4:00 LLH	-19	24	-26	-	-	-19	-5	-2	-19
8/4/21 5:00 LLH	-19	24	-26	-	-	-19	-5	-2	-19
8/4/21 6:00 LLH	-19	24	-26	-	-	-19	-5	-2	-19
8/4/21 7:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 8:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 9:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 10:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 11:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 12:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 13:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 14:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 15:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 16:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 17:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 18:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 19:00 HLH	-23	48	-30	-	-18	-23	-7	-	-23

8/4/21 20:00	HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 21:00	HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 22:00	HLH	-23	48	-30	-	-18	-23	-7	-	-23
8/4/21 23:00	LLH	-19	24	-26	-	-	-19	-5	-2	-19
8/5/21 0:00	LLH	-19	24	-26	-	-	-19	-5	-2	-19
Totals		-520	960	-688	0	-288	-520	-152	-16	-520
HLH		-368	768	-480	0	-288	-368	-112	0	-368
LLH		-152	192	-208	0	0	-152	-40	-16	-152
		-	-	-	-	-	-	-	-	-

1	2	3	4	5	6	7	8	9
	Shell HLH	Shell LLH	Boundary HLH	Boundary LLH	Bdy Baseline HLH	Bdy Baseline LLH	Bdy Baseline for firm HLH	Bdy Baseline for firm LLH
January	47	44	60	55	48	24	47	24
February	46	43	68	66	48	23	46	23
March	38	37	57	57	48	17	38	17
April	30	29	44	43	48	14	30	14
May	23	21	36	33	48	13	23	13
June	22	19	33	30	48	21	22	19
July	22	18	32	27	48	26	22	18
August	23	19	30	26	48	24	23	19
September	23	20	30	28	48	24	23	20
October	30	28	45	45	48	13	30	13
November	39	36	51	46	48	20	39	20
December	47	44	55	51	48	24	47	24

		Checks		
Remaining Shell	Excess Boundary	Check SENA	Check BDY Resource	Check BDY Excess
SCL	SCL			
POPD-SENA	POPD-AVA			
-5	-2	-	-	-
-5	-2	-	-	-
-5	-2	-	-	-
-5	-2	-	-	-
-5	-2	-	-	-
-5	-2	-	-	-
-	-7	-	-	-
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-	-7	-	-	-
-	-7	-	-	-
-	-7	-	-	-
-5	-2	-	-	-
-5	-2	-	-	-
-40	-128	-		-
	-			
0	-112	0		
-40	-16	0		
-	-	-		

10	11	12	13	14	15	16
Bdy Baseline above Firm to Shell (HLH)	Excess Bdy HLH	Excess Bdy LLH	Shell Sale LLH	Shell Sale Price	AVA Purchase HLH	AVA Purchase price
1	12	11	-	-	-	-
2	20	23	-	-	-	-
10	9	20	-	-	-	-
14	-	14	15	$22.50	-	-
13	-	12	8	$10.25	12	$20.25
11	-	9	-	-	15	$25.25
10	-	1	-	-	16	$67.00
7	-	2	-	-	18	$91.00
7	-	4	-	-	18	$67.50
15	-	17	15	$28.00	-	-
9	3	10	16	$29.50	-	-
1	7	7	20	$33.00	-	-

NWWA Planning Area
Seattle / Tacoma / Olympia
Olympic Peninsula
SW Washington Coast
Centralia / Chehalis
WILSWA Planning Area
Portland
Vancouver
Longview
Hood River / The Dalles
North Oregon Coast
SWOR Planning Area
Salem / Albany
Eugene
South Oregon Coast
Northern Planning Area
Okanogan
Mid-C
Klickitat
Central Planning Area
Tri-Cities
Umatilla / Boardman
Fossil / DeMoss
Walla Walla
Pendelton / Lagrande
Southern Planning Area
Central Oregon
Northern California
Eastern Planning Area
Spokane / Colville / Boundary
North Idaho
NW Montana
Idaho Planning Area
SE Idaho (LVPL) / NW Wyoming
South Idaho / Burley

The abbreviations for the planning areas is as follows.

NWWA = Northwest Washington,
WILSWA = Willamette Valley Southwest Washington
SWOR = Southwest Oregon

The abbreviations for the contingencies include;

- BUS – a bus outage
- BKF or BKR – Breaker failure
- 3TM – three terminal
- XFMR or TXF – Transformer
- CAP – Capacitor outage
- RECTR or RCTR – Reactor
- IBO – Inadvertent breaker opening
- BSB – Bus Sectionalizing breaker
- CTR or CTW – Common tower
- ADJ – Adjacent Circuits (common Right of Way)
- GEN – Generator
- LIN or LINE – Line outage
- SNT – Shunt device (usually for a shunt capacitor group or shunt reactor)
- LSO – Line Section Outage
- PX – Extreme outage category

Study Team	NERC Category
Seat/Tacoma	P1-2
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Seat/Tacoma	P2-3,P4
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Contingency
P1-2: 3TM Covington-Chehalis 230 kV
P1-2: 3TM Sedro Wooley-Horse Ranch-Bothell 230 kV
P1-2: 3TM Tacoma-Covington #2 230 kV
P1-2: 4TM Monroe-Snohomish #1 and #2 Horse Ranch 230 kV
P1-2: Bothell-Canal #1 115 kV
P1-2: Bothell-Diablo #1 230 kV
P1-2: Bothell-Diablo #2 230 kV
P1-2: Bothell-Diablo #3 230 kV
P1-2: Bothell-North #1 115 kV
P1-2: Bothell-Sammamish 230 kV
P1-2: Bothell-Shoreline #1 115 kV
P1-2: Bothell-Shoreline #2 115 kV
P1-2: Bothell-SnoKing #1 230 kV
P1-2: Bothell-SnoKing #2 230 kV
P1-2: Bothell-University #1 115 kV
P1-2: Bothell-Viewland #1 115 kV
P1-2: Broad St-Canal #1 115 kV
P1-2: Broad St-University #1 115 kV
P1-2: Canal-Viewland #1 115 kV
P1-2: Chehalis-Mayfield 230 kV
P1-2: Chehalis-Mossy Rk 230 kV
P1-2: Chehalis-Olympia 230 kV
P1-2: Chief Joe-Snohomish #3 345 kV
P1-2: Chief Joe-Snohomish #4 345 kV
P1-2: Covington-Berrydale 1&2 230 kV
P1-2: Covington-Betas Rd 230 kV
P1-2: Covington-Creston 230 kV
P1-2: Covington-Duwamish 230 kV
P1-2: Covington-Maple Valley #2 230 kV
P1-2: Covington-White River #1 230 kV
P1-2: Covington-White River #2 230 kV
P1-2: Cowlitz Falls-Glenoma 230 kV
P1-2: Custer-Bellingham 230 kV
P1-2: Custer-Intalco #1 230 kV
P1-2: Custer-Intalco #2 230 kV
P1-2: Custer-Murray 230 kV
P1-2: Duwamish-Creston 230 kV
P1-2: Duwamish-Delridge 230 kV
P1-2: East Pine-Denny #1 115 kV
P1-2: Longview-Chehalis #1&3 230 kV
P1-2: Maple Valley-Duwamish #1 230 kV
P1-2: Maple Valley-East Pine #1 230 kV
P1-2: Maple Valley-Mass #1 230 kV
P1-2: Maple Valley-Talbot Hill #1 230 kV
P1-2: Maple Valley-Talbot Hill #2 230 kV
P1-2: Mass-South 230 kV

P1-2: Monroe-Novelty Hill 230 kV
P1-2: North Mountain-Snohomish #1 230 kV
P1-2: North-University #1 115 kV
P1-2: Olympia-Coulee 287 kV
P1-2: Olympia-Satsop #2 230 kV
P1-2: Olympia-Shelton #3 230 kV
P1-2: Olympia-Shelton #4 230 kV
P1-2: Olympia-Shelton #5 230 kV
P1-2: Olympia-St Clair 230 kV
P1-2: Rocky Reach-Maple Valley #1 345 kV
P1-2: Sammamish-Lakeside #1 115 kV
P1-2: Sammamish-Lakeside #2 115 kV
P1-2: Sammamish-Maple Valley #1 230 kV
P1-2: Sammamish-Novelty Hill #1 115 kV
P1-2: Sammamish-Novelty Hill #2 230 kV
P1-2: Satsop-Aberdeen #2 230 kV
P1-2: Satsop-Aberdeen #3 230 kV
P1-2: Satsop-Grays Harbor 230 kV
P1-2: Satsop-Shelton #1 230 kV
P1-2: Sedro Wooley-Bellingham 230 kV
P1-2: Sedro Wooley-Horse Ranch 230 kV
P1-2: Sedro Wooley-Marchpoint 230 kV
P1-2: Snohomish-Bothell #1 230 kV
P1-2: Snohomish-Bothell #2 230 kV
P1-2: Snohomish-Murray 230 kV
P1-2: SnoKing-Maple Valley #1 230 kV
P1-2: Snoking-Maple Valley #2 230 kV
P1-2: South Tacoma-Canyon 230 kV
P1-2: South Tacoma-Frederickson 230 kV
P1-2: South Tacoma-Southwest 230 kV
P1-2: South Tacoma-St Clair 230 kV
P1-2: South Tacoma-White River 230 kV
P1-2: South-Creston 230 kV
P1-2: South-Delridge 230 kV
P1-2: South-East Pine #1 230 kV
P1-2: South-Talbot Hill 230 kV
P1-2: Tacoma-Covington #3 230 kV
P1-2: Tacoma-Covington #4 230 kV
P1-2: Tacoma-Cowlitz 230 kV
P1-2: Tacoma-Southwest 230 kV
P1-2: Talbot Hill-Berrydale #1 115 kV
P1-2: Talbot Hill-Berrydale #3 230 kV
P1-2: Talbot Hill-Lakeside #1 115 kV
P1-2: Talbot Hill-Lakeside #2 115 kV
P1-2: Talbot Hill-OBrien 230 kV
P1-2: White River-Alderton 230 kV
P1-2: White River-Cascade 230 kV

P1-2_3TM Monroe-Echolake 500
P1-2_ChiefJoe-Monroe 500
P1-2_Coulee-Olympia 300
P1-2_Custer-Ingledow #1 500
P1-2_Custer-Ingledow #2 500
P1-2_Custer-Monroe #1 500
P1-2_Custer-Monroe #2 500
P1-2_EchoLake-MapleValley 500
P1-2_Echolake-Schultz 500
P1-2_Olympia-Paul 500
P1-2_Paul-Raver 500
P1-2_Raver-Covington #1 500
P1-2_Raver-Covington #2 500
P1-2_Raver-Covington #3 230
P1-2_Raver-Echolake #1 500
P1-2_Raver-Schultz #1 500
P1-2_Raver-Schultz #3 500
P1-2_Raver-Schultz #4 500
P1-2_Raver-Tacoma 500
P1-3: Bellingham #1 230/115 kV
P1-3: Bellingham 230/115 kV #2
P1-3: Berrydale 230/115 kV
P1-3: Bothell 230/115 kV #1
P1-3: Bothell 230/115 kV #2
P1-3: Bothell 230/115 kV #3
P1-3: Bothell 230/115 kV #4
P1-3: Cowlitz 230/115 kV #8
P1-3: Cowlitz 230/115 kV #9
P1-3: East Pine 230/115 kV #1
P1-3: March Point 230/115 kV #3
P1-3: Mass 230/115 kV #1
P1-3: Mass 230/115 kV #2
P1-3: Mass 230/115 kV #3
P1-3: Murray 230/115 kV
P1-3: Northeast 230/115 kV #2
P1-3: Northeast 230/115 kV #3
P1-3: Novelty Hill 230/115 kV
P1-3: OBrien 230/115 kV #1
P1-3: OBrien 230/115 kV #2
P1-3: Olympia 230/115 kV #1
P1-3: Olympia 230/115 kV #2
P1-3: Olympia 287/230 kV #3
P1-3: Portal Way #1 230/115 kV
P1-3: Sammamish 230/115 kV #1
P1-3: Sammamish 230/115 kV #2
P1-3: Sedro Wooley 230/115 kV #1
P1-3: Sedro Wooley 230/115 kV #2

P1-3: Snohomish 230/115 kV #1
P1-3: Snohomish 230/115 kV #2
P1-3: Snohomish 230/115 kV #3
P1-3: Snohomish 345/230 kV #5
P1-3: Snohomish 345/230 kV #6
P1-3: Snoking 230/115 kV #1
P1-3: SnoKing 230/115 kV #2
P1-3: SnoKing 230/115 kV #3
P1-3: Southwest 230/115 kV #1
P1-3: Southwest 230/115 kV #2
P1-3: St Clair 230/115 kV
P1-3: Talbot Hill 230/115 kV #1
P1-3: Talbot Hill 230/115 kV #2
P1-3: White River 230/115 kV #1
P1-3: White River 230/115 kV #2
P1-3_Covington #4 500/230
P1-3_Covington #5 500/230
P1-3_Custer #1 500/230
P1-3_Custer #2 500/230
P1-3_Maple Valley #1 345/230
P1-3_Maple Valley #2 500/230
P1-3_Monroe #1 500/230
P1-3_Raver 500/230
P1-3_Snoking 500/230
P1-3_Tacoma 500/230
P2-1_Echolake-Snoking tap 500
P2-1_Maple Valley-Klahanie 230 kV
P2-1_Monroe-Snoking Tap 500
P2-1_Sammamish-Klahanie 230 kV
P2-1_Snoking-Snoking Tap 500
P2-2_Bus_Aberdeen_115_NA
P2-2_BUS_Bellingham 115
P2-2_BUS_Bellingham 230
P2-2_BUS_Bothell 230 Sect. 1
P2-2_BUS_BOTHELL BUS 1 FAILURE
P2-2_Bus_Chehalis_230_NA
P2-2_BUS_Chief J 230 Bus Sec 1
P2-2_BUS_Chief J 230 Bus Sec 2
P2-2_Bus_Cosmopolis_115_NA
P2-2_BUS_Covington 230 East Sect.
P2-2_BUS_Covington 230 Mid Sect.
P2-2_BUS_Covington 230 West Sect.
P2-2_Bus_Elma_115_NA
P2-2_Bus_Holcomb_115_NA
P2-2_BUS_Maple Valley 230 Sect. 1 and 2
P2-2_BUS_Maple Valley 230 Sect. 3
P2-2_BUS_MONROE 230

P2-2_BUS_MURRAY 115
P2-2_BUS_MURRAY 230
P2-2_Bus_Naselle_115_NA
P2-2_Bus_Olympia East_230_NA
P2-2_Bus_Olympia Middle_230_NA
P2-2_Bus_Olympia West_230_NA
P2-2_Bus_Raymond_115_NA
P2-2_BUS_Snohomish 115 East Sect. 1
P2-2_BUS_Snohomish 115 Middle Sect. 2
P2-2_BUS_Snohomish 115 West Sect. 3
P2-2_BUS_Snohomish 230 Sect. 1
P2-2_BUS_Snohomish 230 Sect. 2
P2-2_BUS_Snohomish 230 Sect. 3
P2-2_BUS_Snohomish 230 Sect. 4
P2-2_BUS_Snoking 115 Sect. 1
P2-2_BUS_Snoking 115 Sect. 2
P2-2_BUS_Snoking 115 Sect. 3
P2-2_BUS_SnoKing 230 Middle Sect. 2
P2-2_BUS_SnoKing 230 North Sect. 1
P2-2_BUS_SnoKing 230 South Sect. 3
P2-2_Bus_South Elma_115_NA
P2-2_BUS_Tacoma 230 North Sect.
P2-2_BUS_Tacoma 230 South Sect.
P2-3,P4_BKF_240-120 Creston, Covington-Creston-Duwamish 230
P2-3,P4_BKF_240-125 Creston, Covington-Creston-South 230
P2-3,P4_BKF_3153 Sedro-Fredonia-March Pt. (3T) and Sedro-Custer-Murray (3T) 230
P2-3,P4_BKF_4220 Raver-Covington 2 500 and Raver Reactor 3 and 4
P2-3,P4_BKF_4268 Monroe-Custer 1 500 and Custer 500/230 TFX 1 (+Custer Shunt)
P2-3,P4_BKF_4272 Monroe-Custer 1 500 and Custer-Ingledow 1 500
P2-3,P4_BKF_4276 Custer-Ingledow 1 500 and Custer 500/230 TFX 2
P2-3,P4_BKF_4293 Schultz-Raver 4 500 and Raver-Covington 2 500
P2-3,P4_BKF_4296 Schultz-Raver 4 (+Raver Reactor 2)
P2-3,P4_BKF_4299 Raver-Covington 1 500 and Raver Reactor 3 and 4
P2-3,P4_BKF_4302 Schultz-Raver 3 500 and Raver-Covington 1 500
P2-3,P4_BKF_4305 Schultz-Raver 3 500 and Raver Reactor 2
P2-3,P4_BKF_4308 Tacoma-Raver 1 500 and Raver Reactor 3 and 4
P2-3,P4_BKF_4311 Tacoma-Raver 1 500 and Raver-EchoLake 500
P2-3,P4_BKF_4314 Raver-EchoLake 500 and Raver Reactor 2
P2-3,P4_BKF_4482 Custer-Ingledow 2 500 and Custer 500/230 TFX 1 (+Custer Shunt)
P2-3,P4_BKF_4486 Custer-Ingledow 2 500 and Custer 500/230 TFX 2
P2-3,P4_BKF_4494 Monroe-Custer 2 500 and Custer 500/230 TFX 1 (+Custer Shunt)
P2-3,P4_BKF_4496 Monroe-Custer 2 500 and Custer 500/230 TFX 2
P2-3,P4_BKF_4513 (+Monroe Cap3+Monroe Cap4)
P2-3,P4_BKF_4516 Custer-Monroe 1 500 (+Monroe Cap)
P2-3,P4_BKF_4519 Cust-Mon 1 and (+Monroe Cap)
P2-3,P4_BKF_4522 Monroe-Echo Lake 500 (3TM) (+Monroe Cap3)
P2-3,P4_BKF_4526 Monroe-Echo Lake 500 (3TM) (+Monroe Cap2)

P2-3,P4_BKF_4554 Paul-Olympia 500, Paul-Tono TFX and Reactor 1
P2-3,P4_BKF_4598 Chief Joe-Monroe 500 (+Chief Jo PH6)
P2-3,P4_BKF_4672 Monroe-Custer 2 500 (+Monroe Cap2)
P2-3,P4_BKF_4714 Monroe-Custer 2 500 (+Monroe Cap3)
P2-3,P4_BKF_4789 Raver-Covington 3 230 and Raver Reactor 3 and 4
P2-3,P4_BKF_4792 Raver-Covington 3 230 and Raver Reactor 2
P2-3,P4_BKF_4849 Schultz-Raver 1 500 and Raver Reactor 2
P2-3,P4_BKF_4858 Schultz-Raver 1 500 and Raver Reactor 3 and 4
P2-3,P4_BKF_4876 Raver-Paul 1 500 and Raver Reactor 3 and 4
P2-3,P4_BKF_4914 Raver Reactor 2 and Caps 1, 2 and 3
P2-3,P4_BKF_4921 Raver Reactor 3 and 4 and Caps 1, 2 and 3
P2-3,P4_BKF_5050 Monroe, Monroe 500/230 TXF (+Monroe Cap3)
P2-3,P4_BKF_5053 Monroe, Monroe 500/230 TXF (+Monroe Cap2)
P2-3,P4_BKF_5072 EchoLake-Maple Valley 500
P2-3,P4_BKF_5075 Schultz-Echo Lake 500 (+Echo Lake Caps)
P2-3,P4_BKF_5078 Schultz-Echo Lake 500
P2-3,P4_BKF_5111 Monroe-Snoking-EchoLake 500 (+Echo Lake Caps)
P2-3,P4_BKF_5114 Raver-Echo Lake 500 and Monroe-EchoLake 500
P2-3,P4_BKF_5117 Raver-Echo Lake 500
P2-3,P4_BKF_5121 Echo Lake-Maple Valley 500 (+Echo Lake Caps)
P2-3,P4_BKF_5176 Vantage-Schultz 500 (+Schultz Shunt)
P2-3,P4_BKF_5502 Chief Joe-Monroe 500 (+Monroe Cap2)
P2-3,P4_BKF_5505 Chief Joe-Monroe 500 (+Monroe Cap3)
P2-3,P4_BKF_7023 Horse Ranch 230 BUS
P2-3,P4_BKF_A1074 Tacoma S 230 BUS and PSE Christop Tap 230
P2-3,P4_BKF_A1087 South Tacoma 230, Cowltpwr and Olympia lines
P2-3,P4_BKF_A1090 South Tacoma 230, Olympia and Fredrickson (LLP) lines
P1-2: 3TM Covington-Chehalis 230 kV
P1-2: 3TM Sedro Wooley-Horse Ranch-Bothell 230 kV
P1-2: 3TM Tacoma-Covington #2 230 kV
P1-2: 4TM Monroe-Snohomish #1 and #2 Horse Ranch 230 kV
P1-2: Bothell-Canal #1 115 kV
P1-2: Bothell-Diablo #1 230 kV
P1-2: Bothell-Diablo #2 230 kV
P1-2: Bothell-Diablo #3 230 kV
P1-2: Bothell-North #1 115 kV
P1-2: Bothell-Sammamish 230 kV
P1-2: Bothell-Shoreline #1 115 kV
P1-2: Bothell-Shoreline #2 115 kV
P1-2: Bothell-SnoKing #1 230 kV
P1-2: Bothell-SnoKing #2 230 kV
P1-2: Bothell-University #1 115 kV
P1-2: Bothell-Viewland #1 115 kV
P1-2: Broad St-Canal #1 115 kV
P1-2: Broad St-University #1 115 kV
P1-2: Canal-Viewland #1 115 kV
P1-2: Chehalis-Mayfield 230 kV

P1-2: Chehalis-Mossy Rk 230 kV
P1-2: Chehalis-Olympia 230 kV
P1-2: Chief Joe-Snohomish #3 345 kV
P1-2: Chief Joe-Snohomish #4 345 kV
P1-2: Covington-Berrydale 1&2 230 kV
P1-2: Covington-Betas Rd 230 kV
P1-2: Covington-Creston 230 kV
P1-2: Covington-Duwamish 230 kV
P1-2: Covington-Maple Valley #2 230 kV
P1-2: Covington-White River #1 230 kV
P1-2: Covington-White River #2 230 kV
P1-2: Cowlitz Falls-Glenoma 230 kV
P1-2: Custer-Bellingham 230 kV
P1-2: Custer-Intalco #1 230 kV
P1-2: Custer-Intalco #2 230 kV
P1-2: Custer-Murray 230 kV
P1-2: Duwamish-Creston 230 kV
P1-2: Duwamish-Delridge 230 kV
P1-2: East Pine-Denny #1 115 kV
P1-2: Longview-Chehalis #1&3 230 kV
P1-2: Maple Valley-Duwamish #1 230 kV
P1-2: Maple Valley-East Pine #1 230 kV
P1-2: Maple Valley-Mass #1 230 kV
P1-2: Maple Valley-Talbot Hill #1 230 kV
P1-2: Maple Valley-Talbot Hill #2 230 kV
P1-2: Mass-South 230 kV
P1-2: Monroe-Novelty Hill 230 kV
P1-2: North Mountain-Snohomish #1 230 kV
P1-2: North-University #1 115 kV
P1-2: Olympia-Coulee 287 kV
P1-2: Olympia-Satsop #2 230 kV
P1-2: Olympia-Shelton #3 230 kV
P1-2: Olympia-Shelton #4 230 kV
P1-2: Olympia-Shelton #5 230 kV
P1-2: Olympia-St Clair 230 kV
P1-2: Rocky Reach-Maple Valley #1 345 kV
P1-2: Sammamish-Lakeside #1 115 kV
P1-2: Sammamish-Lakeside #2 115 kV
P1-2: Sammamish-Maple Valley #1 230 kV
P1-2: Sammamish-Novelty Hill #1 115 kV
P1-2: Sammamish-Novelty Hill #2 230 kV
P1-2: Satsop-Aberdeen #2 230 kV
P1-2: Satsop-Aberdeen #3 230 kV
P1-2: Satsop-Grays Harbor 230 kV
P1-2: Satsop-Shelton #1 230 kV
P1-2: Sedro Wooley-Bellingham 230 kV
P1-2: Sedro Wooley-Horse Ranch 230 kV

P1-2: Sedro Wooley-Marchpoint 230 kV
P1-2: Snohomish-Bothell #1 230 kV
P1-2: Snohomish-Bothell #2 230 kV
P1-2: Snohomish-Murray 230 kV
P1-2: SnoKing-Maple Valley #1 230 kV
P1-2: Snoking-Maple Valley #2 230 kV
P1-2: South Tacoma-Canyon 230 kV
P1-2: South Tacoma-Frederickson 230 kV
P1-2: South Tacoma-Southwest 230 kV
P1-2: South Tacoma-St Clair 230 kV
P1-2: South Tacoma-White River 230 kV
P1-2: South-Creston 230 kV
P1-2: South-Delridge 230 kV
P1-2: South-East Pine #1 230 kV
P1-2: South-Talbot Hill 230 kV
P1-2: Tacoma-Covington #3 230 kV
P1-2: Tacoma-Covington #4 230 kV
P1-2: Tacoma-Cowlitz 230 kV
P1-2: Tacoma-Southwest 230 kV
P1-2: Talbot Hill-Berrydale #1 115 kV
P1-2: Talbot Hill-Berrydale #3 230 kV
P1-2: Talbot Hill-Lakeside #1 115 kV
P1-2: Talbot Hill-Lakeside #2 115 kV
P1-2: Talbot Hill-OBrien 230 kV
P1-2: White River-Alderton 230 kV
P1-2: White River-Cascade 230 kV
P1-2_3TM Monroe-Echolake 501
P1-2_ChiefJoe-Monroe 501
P1-2_Coulee-Olympia 301
P1-2_Custer-Ingledow #1 501
P1-2_Custer-Ingledow #2 501
P1-2_Custer-Monroe #1 501
P1-2_Custer-Monroe #2 501
P1-2_EchoLake-MapleValley 501
P1-2_Echolake-Schultz 501
P1-2_Olympia-Paul 501
P1-2_Paul-Raver 501
P1-2_Raver-Covington #1 501
P1-2_Raver-Covington #2 501
P1-2_Raver-Covington #3 231
P1-2_Raver-Echolake #1 501
P1-2_Raver-Schultz #1 501
P1-2_Raver-Schultz #3 501
P1-2_Raver-Schultz #4 501
P1-2_Raver-Tacoma 501
P1-3: Bellingham #1 230/115 kV
P1-3: Bellingham 230/115 kV #3

P1-3: Berrydale 230/115 kV
P1-3: Bothell 230/115 kV #5
P1-3: Bothell 230/115 kV #6
P1-3: Bothell 230/115 kV #7
P1-3: Bothell 230/115 kV #8
P1-3: Cowlitz 230/115 kV #10
P1-3: Cowlitz 230/115 kV #11
P1-3: East Pine 230/115 kV #2
P1-3: March Point 230/115 kV #4
P1-3: Mass 230/115 kV #4
P1-3: Mass 230/115 kV #5
P1-3: Mass 230/115 kV #6
P1-3: Murray 230/115 kV
P1-3: Northeast 230/115 kV #4
P1-3: Northeast 230/115 kV #5
P1-1: GEN Nippon
P1-2: LINE Fairmount-Discovery Tap-PT Mil 115kV
P1-2: LINE Fairmount-HapyValy-Port Ang.#2 230kV
P1-2: LINE Fairmount-Irondale-PUD Tap2 115kV
P1-2: LINE Fairmount-Port Angeles #1 230kV
P1-2: LINE HapyValy-Prairie-Blyn 115kV
P1-2: LINE Kitsap N.-Station X 115kV
P1-2: LINE Kitsap S.-Bangor 115kV
P1-2: LINE Olympia-Chehalis 230kV
P1-2: LINE Olympia-S. Elma 115kV
P1-2: LINE Olympia-Satsop #2 230kV
P1-2: LINE Olympia-Shelton #1 115kV
P1-2: LINE Olympia-Shelton #2 115kV
P1-2: LINE Olympia-Shelton #3 230kV
P1-2: LINE Olympia-Shelton #4 230kV
P1-2: LINE Olympia-Shelton #5 230kV
P1-2: LINE Oympia-Coulee 300kV
P1-2: LINE Paul-Olympia 500kV
P1-2: LINE Paul-Satsop 500kV
P1-2: LINE Port Ang.-Monroe-Dung.Jct. 115kV
P1-2: LINE Port Angeles-Sappho 115kV
P1-2: LINE Satsop-Shelton 230kV
P1-2: LINE Shelton-Fairmount #1 115kV
P1-2: LINE Shelton-Fairmount #2 115kV
P1-2: LINE Shelton-Fairmount #3 230kV
P1-2: LINE Shelton-Fairmount #4 230kV
P1-2: LINE Shelton-Kitsap #2 115kV
P1-2: LINE Shelton-Kitsap #3 230kV
P1-2: LINE Shelton-Kitsap #4 230kV
P1-2: LINE Shelton-S.Bremerton 230kV
P1-2: LINE Station X-Station H 115kV
P1-3: XFMR Fairmount 230/115kV

P1-3: XFMR Olympia 230/115kV CKT 1
P1-3: XFMR Olympia 230/115kV CKT 2
P1-3: XFMR Port Angeles 115/69kV CKT 1
P1-3: XFMR Port Angeles 115/69kV CKT 2
P1-3: XFMR Shelton 230/115kV
P1-4: CAP Fairmount C2 230kV
P1-4: CAP Fairmount C3 115kV
P1-4: CAP Fairmount C3 230kV
P1-4: CAP Fairmount C4 115kV
P1-4: CAP Kitsap #C1 115kV
P1-4: CAP Kitsap #C3 115kV
P1-4: CAP Olympia E #C3 115kV
P1-4: CAP Olympia W #C1 230kV
P1-4: CAP Olympia W #C2 230kV
P1-4: CAP Port Angeles C1 115kV
P1-4: CAP Port Angeles C1 69kV
P1-4: CAP Port Angeles C2 115kV
P1-4: CAP Port Angeles C2 69kV
P1-4: CAP Sappho C1 69kV
P1-4: CAP Shelton C1 115kV
P1-4: CAP Shelton C2 115kV
P1-4: CAP Shelton C2 230kV
P1-4: RECTR Fairmount #R1 230kV
P1-4: RECTR Olympia E #R1 230kV
P2-1: IBO Fairmount-Port Angeles #2 230kV (open at Fairmnt)
P2-1: IBO Fairmount-Port Angeles #2 230kV (open at PA)
P2-1: IBO Olympia-Shelton #1 115kV (open at Olympia)
P2-1: IBO Olympia-Shelton #1 115kV (open at Shelton)
P2-1: IBO Olympia-Shelton #2 115kV (open at Olympia)
P2-1: IBO Olympia-Shelton #2 115kV (open at Shelton)
P2-1: IBO Shelton-Fairmount #1 115kV (open at Fairmount)
P2-1: IBO Shelton-Fairmount #1 115kV (open at Shelton)
P2-1: IBO Shelton-Fairmount #2 115kV (open at Fairmount)
P2-1: IBO Shelton-Fairmount #2 115kV (open at Shelton)
P2-1: IBO Shelton-Kitsap #2 115kV (open at Kitsap S)
P2-1: IBO Shelton-Kitsap #2 115kV (open at Shelton)
P2-2: BUS Fairmount 115kV
P2-2: BUS Kitsap N 115kV
P2-2: BUS Kitsap S 115kV
P2-2: BUS OLY E 230
P2-2: BUS OLY W 230
P2-2: BUS OLYMPIA 230
P2-2: BUS OLYMPIA E 115
P2-2: BUS OLYMPIA W 115
P2-2: BUS Port Angeles 115kV
P2-2: BUS Port Angeles 69kV
P2-2: BUS Shelton 115kV

P2-3: BKF FAIRMONT (A1608) 230kV
P2-3: BKF FAIRMONT (A1610) 230kV
P2-3: BKF FAIRMONT (A1613) 230kV
P2-3: BKF FAIRMONT (A1619) 230kV
P2-3: BKF FAIRMONT (A1622) 230kV
P2-3: BKF FAIRMONT (A1625) 230kV
P2-3: BKF FAIRMONT (A1627) 230kV
P2-3: BKF FAIRMONT (A1632) 230kV
P2-3: BKF SHELTON (A1661) 230kV
P2-3: BKF SHELTON (A1664) 230kV
P2-3: BKF SHELTON (A1667) 230kV
P2-3: BKF SHELTON (A1751) 230kV
P2-3: BKF SHELTON (A1754) 230kV
P2-3: BKF SHELTON (A1757) 230kV
P2-3: BKF SHELTON (A278) 230kV
P2-3: BKF SHELTON (A77) 230kV
P2-3: BKF SHELTON (A79) 230kV
P2-3: BKF SHELTON (A83) 230kV
P2-3: BKF SHELTON (A936) 230kV
P2-3: BKF SHELTON (A941) 230kV
P2-3: BKF SHELTON (A971) 230kV
P2-3: BKF SHELTON (A976) 230kV
P2-3: BKF SHELTON (A990) 230kV
P2-4: BSB Kitsap 115KV (B969)
P2-4: BSB Olympia 115kV (B652)
P7-1: CTR Olympia-Shelton #2 & #5 115kV & 230kV
P7-1: CTR Olympia-Shelton #3 & #4 230kV
P7-1: CTR Olympia-Shelton #5 / Satsop-Shelton #1
P7-1: CTR Paul-Satsop 500kV / Olympia-Satsop #2 230Kv
P7-1: CTR Shelton-Fairmount #3 & #4 230kV
P7-1: CTR Shelton-Kitsap #2 115 & Shelton-S.Bremerton 230
P1-1 GEN_Cosmo Specialty Fibers
P1-1 GEN_Grays Harbor Energy
P1-1 GEN_Sierra Pacific
P1-1 GEN_Wynoochee
P1-2 LIN_Aberdeen - Valley #1 115 kV
P1-2 LIN_Allston - Driscoll #2 115 kV
P1-2 LIN_Chehalis - Holcomb - Raymond #1 115 kV
P1-2 LIN_Chehalis - Longview #1 & #2 115 kV
P1-2 LIN_Chehalis - Olympia #1 230 kV
P1-2 LIN_Cosmopolis - Aberdeen #1 115 kV
P1-2 LIN_Cosmopolis - Highland #1 115 kV
P1-2 LIN_Driscoll - Naselle #1 115 kV
P1-2 LIN_Holcomb - Naselle #1 115 kV
P1-2 LIN_Longview - Allston #1 230 kV
P1-2 LIN_Longview - Allston #2 230 kV
P1-2 LIN_Naselle - Tartlett #1 115 kV

P1-2 LIN_Naselle - Tartlett #2 115 kV
P1-2 LIN_Olympia - Grand Coulee #1 287 kV
P1-2 LIN_Olympia - Satsop #2 230 kV
P1-2 LIN_Olympia - Shelton #3 230 kV
P1-2 LIN_Olympia - Shelton #4 230 kV
P1-2 LIN_Olympia - Shelton #5 230 kV
P1-2 LIN_Olympia - South Elma #1 115 kV
P1-2 LIN_Paul - Olympia #1 500 kV
P1-2 LIN_Paul - Satsop #1 500 kV
P1-2 LIN_Raymond - Cosmopolis #1 115 kV
P1-2 LIN_Raymond - Henkle St #1 115 kV
P1-2 LIN_Raymond - Willapa River #1 115 kV
P1-2 LIN_Satsop - Aberdeen #2 230 kV
P1-2 LIN_Satsop - Aberdeen #3 230 kV
P1-2 LIN_Satsop - Shelton #1 230 kV
P1-2 LIN_Satsop Park - Aberdeen - Cosmopolis #1 115 kV
P1-2 LIN_South Elma - Elma #1 115 kV
P1-2 LIN_South Elma - Satsop Park #1 115 kV
P1-3 TXF_Olympia #1 230/115 kV
P1-3 TXF_Olympia #2 230/115 kV
P1-3 TXF_Shelton #1 230/115 kV
P1-4 SNT_Cosmopolis #C1 115 kV
P1-4 SNT_Naselle #G1 115 kV
P1-4 SNT_Olympia #G2 230 kV
P1-4 SNT_Olympia #G3 115 kV
P1-4 SNT_Olympia #R1 230 kV
P2-1 LSO_Aberdeen - Aberdeen Tap #1 115 kV
P2-1 LSO_Allston - Delena Tap #2 115 kV
P2-1 LSO_Chehalis - Longview Tap #1 115 kV
P2-1 LSO_Chehalis - Longview Tap #2 115 kV
P2-1 LSO_Chehalis - Pe Ell Tap #1 115 kV
P2-1 LSO_Cosmopolis - Aberdeen Tap #1 115 kV
P2-1 LSO_Driscoll - Cathlamet Tap #1
P2-1 LSO_Driscoll - Mist Tap #2 115 kV
P2-1 LSO_Holcomb - Oxbow Tap #1 115 kV
P2-1 LSO_Longview - Longview Tap #1 115 kV
P2-1 LSO_Naselle - Grays River Tap #1 115 kV
P2-1 LSO_Naselle - Oxbow Tap #1 115 kV
P2-1 LSO_Satsop Park - Aberdeen Tap #1 115 kV
P2-2 BUS_Aberdeen 115 kV
P2-2 BUS_Chehalis 115 kV
P2-2 BUS_Chehalis 230 kV
P2-2 BUS_Cosmopolis 115 kV
P2-2 BUS_Elma 115 kV
P2-2 BUS_Highlands 115 kV
P2-2 BUS_Holcomb 115 kV
P2-2 BUS_Naselle 115 kV

P2-2 BUS_Olympia 230 kV
P2-2 BUS_Olympia East 115 kV
P2-2 BUS_Olympia East 230 kV
P2-2 BUS_Olympia West 115 kV
P2-2 BUS_Olympia West 230 kV
P2-2 BUS_Raymond 115 kV
P2-2 BUS_Satsop Park 115 kV
P2-2 BUS_South Elma 115 kV
P2-3 BKF_Satsop A616 230 kV
P2-3 BKF_Satsop A625 230 kV
P2-3 BKF_Satsop A681 230 kV
P2-4 BSB_B652 Olympia 115 kV
P7 CTR_Longview - Allston #1 230 kV / Longview - Allston #2 230 kV
P7 CTR_Naselle - Tartlett #1 115 kV / Naselle - Tartlett #2 115 kV
P7 CTR_Olympia - Shelton #3 230 kV / Olympia - Shelton #4 230 kV
P7 CTR_Paul - Satsop #1 500 kV / Olympia - Satsop #2 230 kV
P7 CTR_Satsop - Aberdeen #2 230 kV / Satsop - Aberdeen #3 230 kV
P7 CTR_Satsop - Aberdeen #3 230 kV / Satsop Park - Cosmopolis #1 115 kV
P1.2_Chehalis-Raymond 115kV_Line
P1.2_Mayfield-MossyRock 230kV
P1.2_MossyRock P.H-Glenoma 230kV
P1.2_SilvrCk-Glenoma 69kV
P1.3_Chehalis #1 230/69kV
P1.3_Chehalis #2 230/69kV
P1.3_Chehalis 230/115kV
P1.3_Glenoma 230/69kV
P1.3_Mayfield #1 230/13.8kV
P1.3_Mayfield #2 230/13.8kV
P1.3_MossyRock #1 230/13.8kV
P1.3_MossyRock #2 230/13.8kV
P1.3_SilvrCK 230/69kV
P2.1_Chehalis-Centralia_#1 69kV
P2.1_Chehalis-Centralia_#2 69kV
P2.2_Chehalis 230kV
P2.2_Chehalis 69kV
P2.2_Silver Creek 230kV
P2.2_Silver Creek 69kV
P4.2_BKR_1521 MossyRock-Glenoma 230kV line/Cowfalls Gen
P4.2_BKR_1522 MossyRock-Glenoma 230kV line/Cowfalls Gen
P4.2_BKR_20100 MossyRock Gen Unit #1
P4.2_BKR_20101 MossyRock-Chehalis 230kV line/MossyRock Gen Unit #1
P4.2_BKR_20102_MossyRock-Glenoma/MossyRock-Chehalis 230kV lines
P4.2_BKR_20103 MossyRock-Mayfield 230kV line/MossyRock Gen Unit #2
P4.2_BKR_20114 MossyRock-Glenoma/MossyRock-Mayfield 230kV lines
P4.2_BKR_20118 MossyRock Gen Unit #2
P4.2_BKR_2070 Mayfield-Silver Creek 230kv Line/Silver Creek 230kV Bus/ Mayfield Gen
P4.2_BKR_2071 MossyRock-Mayfield/Mayfield Total Gen

P4.2_BKR_2072 MossyRock-Mayfield 230kV line
P4.2_BKR_2073 Mayfield-SilverCreek 230kV line/ Silver Creek 230kV bus

Study Team	NERC Category	Contingency
Seat/Tacoma	P0	!Flat Line
Seat/Tacoma	P1-2	P1_3TM_Echo Lake-Snoking-Monroe 500
Seat/Tacoma	P1-4	P1-4_SHUNT_Snohomish 115 Cap Group 2
Seat/Tacoma	P1-4	P1-4_SHUNT_Snohomish 230 Cap Group 3
Seat/Tacoma	P1-4	P1-4_SHUNT_Murray 115 Cap Group 1
Seat/Tacoma	P1-4	P1-4_SHUNT_Snoking 230 Cap Group 1
Seat/Tacoma	P2-2	P2-2_BUS_Covington 230 East Sect.
Seat/Tacoma	P2-2	P2-2_BUS_Maple Valley 230 Sect. 3
Seat/Tacoma	P2-2	P2-2_BUS_Snohomish 230 Sect. 1
Seat/Tacoma	P2-2	P2-2_BUS_SnoKing 230 North Sect. 1
Seat/Tacoma	P2-2	P2-2_BUS_Tacoma 230 North Sect.
Seat/Tacoma	P2-3,P4	P2-3,P4_BKF_4311 Tacoma-Raver 1 500 and Raver-EchoLake 500
Seat/Tacoma	P2-3,P4	P2-3,P4_BKF_4526 Monroe-Echo Lake 500 (3TM) (+Monroe Cap2)
Seat/Tacoma	P2-3,P4	P2-3,P4_BKF_5114 Raver-Echo Lake 500 and Monroe-EchoLake 500
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_A1080 Tacoma 230
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_A1140 MapleValley 230 BUS
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_A174 Snohomish 230 Bus Sec 2 and 3
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_A197 Snohomish 230 Bus Sec 3 and 4
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_A201 Snohomish 230 Bus Sec 1 and 2
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_A1195 Snoking 230 Bus Sec 1 and 2
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_A1196 Snoking 230 Bus Sec 2 and 3
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_B492 Snohomish 115 Bus Sec 2 and 3
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_B1567 Snoking 115 Bus Sec 2 and 3
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_B1575 Snoking 115 Bus Sec 1 and 2
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_B1735 Snohomish 115 Bus Sec 1 and 2
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_A93 Covington Mid and West 230
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_A92 Covington Mid and East 230
Seat/Tacoma	P7	P7_CTR_SCHULTZ-ECHO LAKE and SCHULTZ-RAVER 1 500
Seat/Tacoma	PX	PX_ADJ_Chief Joe-MONROE 500 and Chief Joe-SNOHOMISH 3 345
Seat/Tacoma	PX	PX_ADJ_CUSTER-INGLEDOW 1 and 2 500 (69)
Seat/Tacoma	PX	2PV
Seat/Tacoma	PX	CUS-ING 1&2 (3P) with Alberta Separation
Seat/Tacoma	P2-2	P2-2 BUS_Maple VAlley 230 East Sect. 3 1Ph

Seat/Tacoma	P2-3,P4	P2-3,P4_BKF_4526 Monroe-Echo Lake 500 (3TM) (+Monroe Cap2) Delayed
Seat/Tacoma	P2-4,P4-6	P2-4,P4-6_BSB_A1140 MapleValley 230 BUS_1PH
Seat/Tacoma	PX	CUS-MON 1&2 (3P) (N-S)
Seat/Tacoma	PX	CUS-MON 1&2 (3P) (S-N)
Seat/Tacoma	PX	Alberta Separation
Seat/Tacoma	PX	PX_???_Chief Joe-Monroe 1 500 and Chief Joe-Sickler 1 500
Seat/Tacoma	PX	PX_???_Grand Coulee-Schults 1&2 500
SW Wash Coast	P1-2	P1-2: LINE Satsop-Aberdeen #2 230kV (3P @ Aberdeen)
SW Wash Coast	P1-2	P1-2: LINE Satsop-Aberdeen #2 230kV (3P @ Satsop)
SW Wash Coast	P2-2	P2-2: BUS Aberdeen 115kV (3P @ Aberdeen)
SW Wash Coast	P4-5	P4-5: BKF A625 Satsop 230kV - Aberdeen 2 & 500/230 XFMR (1P @ Satsop)
SW Wash Coast	P4-5	P4-5: BKF A616 Satsop 230kV - Aberdeen 3 & Olympia 2 (1P @ Satsop)
SW Wash Coast	PX	P6: Paul-Olympia #1 & Paul-Satsop #1 500kV (3P @ Paul)
Centralia/Chehalis	P1-2	Ch P1.2 Chehalis-Mossy Rock 230 @ Mossy Rock
Centralia/Chehalis	P1-2	Ch P1.2 Chehalis-Mossy Rock 230 @ Mossy Rock
Centralia/Chehalis	P4-2	Ch P4.2 Chehalis-Mossy Rock 230 Breaker Failure @ Mossy Rock
Olympic Peninsula	P1-2	P1-2: LINE Fairmount-Port Angeles #1 230 kV 3ph
Olympic Peninsula	P2-1	P2-1: IBO Fairmount-Port Angeles #2 230 kV (FMNT end) NF
Olympic Peninsula	P4-5	P4-5: BKF FAirmount 230 kV (A1610) SLG
Olympic Peninsula	P4-5	P4-5: BKF Fairmount 230 kV (A1627) SLG
Olympic Peninsula	P4-6	P4-6: BSB BFR Kitsap B969 115kV SLG
Olympic Peninsula	P5-2	P5-2: LINE Shelton-Fairmount #3 230 kV SLG
Olympic Peninsula	PX	PX-X: Paul-Olympia and Paul-Satsop 500kV NF w/ caps
Olympic Peninsula	PX	PX-X: Paul-Olympia #1 500 kV and Paul-Satsop #1 500 kV NF

Study Team	NERC Categ	Name
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - DeMoss 115
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - Harvalum 230
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - Quenett #1 230
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - Quenett #2 230
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - Spring Creek #1 230
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - The Dalles 115
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - The Dalles PH #1 115
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - The Dalles PH #2 115
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - The Dalles PH #3 230
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - The Dalles PH #4 230
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - The Dalles PH #5 230
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - The Dalles PH #6 230
HoodRiver/TheDalles	P1-2	P1-2 LIN_Big Eddy - Troutdale 230
HoodRiver/TheDalles	P1-2	P1-2 LIN_Bonneville PH - Alcoa 1 & 2 115
HoodRiver/TheDalles	P1-2	P1-2 LIN_Bonneville PH - Hood River 115
HoodRiver/TheDalles	P1-2	P1-2 LIN_Bonneville PH - North Camas #1 115
HoodRiver/TheDalles	P1-2	P1-2 LIN_Chenoweth - Goldendale 115
HoodRiver/TheDalles	P1-2	P1-2 LIN_Chenoweth - Rivertrail #1 115 kV
HoodRiver/TheDalles	P1-2	P1-2 LIN_Chenoweth - Rivertrail #2 115 kV
HoodRiver/TheDalles	P1-2	P1-2 LIN_Discovery - Chenoweth #1 115
HoodRiver/TheDalles	P1-2	P1-2 LIN_Hood River - The Dalles 115
HoodRiver/TheDalles	P1-2	P1-2 LIN_The Dalles - Discovery 115
HoodRiver/TheDalles	P1-3	P1-3 TXF_Big Eddy 500/230 #2
HoodRiver/TheDalles	P1-3	P1-3 TXF_Big Eddy 500/230 #5
HoodRiver/TheDalles	P1-3	P1-3 TXF_BigEddy 230/115 #1
HoodRiver/TheDalles	P1-3	P1-3 TXF_BigEddy 230/115 #7
HoodRiver/TheDalles	P1-3	P1-3 TXF_Bonneville PH 115/13.8 T1-2
HoodRiver/TheDalles	P1-3	P1-3 TXF_Bonneville PH 115/13.8 T9-10
HoodRiver/TheDalles	P1-3	P1-3 TXF_Chenoweth 230/115 #1
HoodRiver/TheDalles	P1-3	P1-3 TXF_Chenoweth 230/115 #2
HoodRiver/TheDalles	P1-3	P1-3 TXF_Three Mile 115/69
HoodRiver/TheDalles	P1-3	P1-3 TXF_Tucker 115/69 #1
HoodRiver/TheDalles	P1-3	P1-3 TXF_Tucker 115/69 #2

HoodRiver/TheDalles	P1-4	P1-4 SNT_Big Eddy 230 C1
HoodRiver/TheDalles	P1-4	P1-4 SNT_Big Eddy 230 C2
HoodRiver/TheDalles	P1-4	P1-4 SNT_North Bonneville Annex 115 C1
HoodRiver/TheDalles	P1-4	P1-4 SNT_North Bonneville Annex 115 C2
HoodRiver/TheDalles	P2-1	P2-1 LSO_Big Eddy B1696 (The Dalles) 115
HoodRiver/TheDalles	P2-1	P2-1 LSO_Bonneville PH XW102 (Hood River) 115
HoodRiver/TheDalles	P2-1	P2-1 LSO_Bonneville PH XW174 (North Camas) 115
HoodRiver/TheDalles	P2-1	P2-1 LSO_Bonneville PH XW176 (Alcoa 1 & 2) 115
HoodRiver/TheDalles	P2-1	P2-1 LSO_Hood River B1680 (Bonneville PH) 115
HoodRiver/TheDalles	P2-1	P2-1 LSO_N Camas (Bonneville PH) 115
HoodRiver/TheDalles	P2-1	P2-1 LSO_The Dalles B1110 (Big Eddy) 115
HoodRiver/TheDalles	P2-2	P2-2 BUS_Big Eddy 115
HoodRiver/TheDalles	P2-2	P2-2 BUS_Big Eddy 230 Sect 1
HoodRiver/TheDalles	P2-2	P2-2 BUS_Big Eddy 230 Sect 2
HoodRiver/TheDalles	P2-2	P2-2 BUS_Big Eddy 230 Sect 3 & 4
HoodRiver/TheDalles	P2-2	P2-2 BUS_Bonneville PH 115
HoodRiver/TheDalles	P2-2	P2-2 BUS_Chenoweth 115
HoodRiver/TheDalles	P2-2	P2-2 BUS_Discovery NW 115
HoodRiver/TheDalles	P2-2	P2-2 BUS_Hood River 115
HoodRiver/TheDalles	P2-2	P2-2 BUS_N Camas 115
HoodRiver/TheDalles	P2-2	P2-2 BUS_The Dalles 115
HoodRiver/TheDalles	P4-2	P4-2 BKF_Big Eddy B1696 (The Dalles) 115
HoodRiver/TheDalles	P4-2	P4-2 BKF_Bonneville PH (Alcoa) 115
HoodRiver/TheDalles	P4-2	P4-2 BKF_Bonneville PH (Hood River) 115
HoodRiver/TheDalles	P4-2	P4-2 BKF_Bonneville PH (N Camas) 115
HoodRiver/TheDalles	P4-2	P4-2 BKF_Hood River B1680 (Bonneville PH) 115
HoodRiver/TheDalles	P4-2	P4-2 BKF_The Dalles (Big Eddy) 115
HoodRiver/TheDalles	P7-1	P7-1 CTR_Bonneville PH - North Camas #1 115 / Bonneville PH - Alcoa 1 & 2 115
Longview	P1-1	P1-1 GEN_CHEM#2U1
Longview	P1-1	P1-1 GEN_CHEM#4U1
Longview	P1-1	P1-1 GEN_CHEM#5U1
Longview	P1-1	P1-1 GEN_COFF13BU1
Longview	P1-1	P1-1 GEN_LVF22U1
Longview	P1-1	P1-1 GEN_LVF23U1

Longview	P1-1	P1-1 GEN_LVF89U2
Longview	P1-1	P1-1 GEN_MERWIN1U1
Longview	P1-1	P1-1 GEN_MERWIN2U1
Longview	P1-1	P1-1 GEN_MERWIN3U1
Longview	P1-1	P1-1 GEN_SWIFT1-1U1
Longview	P1-1	P1-1 GEN_SWIFT1-2U1
Longview	P1-1	P1-1 GEN_SWIFT1-3U1
Longview	P1-1	P1-1 GEN_SWIFT2-1U1
Longview	P1-1	P1-1 GEN_SWIFT2-2U1
Longview	P1-1	P1-1 GEN_YALEGENU1
Longview	P1-1	P1-1 GEN_YALEGENU2
Longview	P1-1	P1-1: GEN_CHEM#2U1
Longview	P1-1	P1-1: GEN_CHEM#4U1
Longview	P1-1	P1-1: GEN_CHEM#5U1
Longview	P1-1	P1-1: GEN_COFF13BU1
Longview	P1-1	P1-1: GEN_LVF22U1
Longview	P1-1	P1-1: GEN_LVF23U1
Longview	P1-1	P1-1: GEN_LVF89U2
Longview	P1-1	P1-1: GEN_MERWIN1U1
Longview	P1-1	P1-1: GEN_MERWIN2U1
Longview	P1-1	P1-1: GEN_MERWIN3U1
Longview	P1-1	P1-1: GEN_SWIFT1-1U1
Longview	P1-1	P1-1: GEN_SWIFT1-2U1
Longview	P1-1	P1-1: GEN_SWIFT1-3U1
Longview	P1-1	P1-1: GEN_SWIFT2-1U1
Longview	P1-1	P1-1: GEN_SWIFT2-2U1
Longview	P1-1	P1-1: GEN_YALEGENU1
Longview	P1-1	P1-1: GEN_YALEGENU2
Longview	P1-2	P1-2 Allston-Longview #1 230 kV
Longview	P1-2	P1-2 Allston-Longview #2 230kV
Longview	P1-2	P1-2 Allston-Longview #3 Annex 230 kV
Longview	P1-2	P1-2 Allston-Longview #4 115kV
Longview	P1-2	P1-2 Cardwell-Cowlitz 115kV
Longview	P1-2	P1-2 Chehalis-Longview #1 and #3 230kV

Longview	P1-2	P1-2 Chemical-CoffinRk-Norpac 230kV
Longview	P1-2	P1-2 Chemical-Longview 230kV
Longview	P1-2	P1-2 Cowlitz-Cardwell 115kV
Longview	P1-2	P1-2 Cowlitz-Longview 115kV
Longview	P1-2	P1-2 CPUD 7th Ave-E.Kelso 115kV
Longview	P1-2	P1-2 CPUD 7th Ave-Wash.Way 115kV
Longview	P1-2	P1-2 CPUD and PAC Ariel-Cardwell-Merwin 115kV
Longview	P1-2	P1-2 CPUD BakersCrn-OliveWay 115kV
Longview	P1-2	P1-2 CPUD Cardwell-Meeker 115kV
Longview	P1-2	P1-2 CPUD Cardwell-PortKal 115kV
Longview	P1-2	P1-2 CPUD Cardwell-S.Kelso 115kV
Longview	P1-2	P1-2 CPUD CastlRock-Gardners 115kV
Longview	P1-2	P1-2 CPUD CastlRock-John St 115kV
Longview	P1-2	P1-2 CPUD CR69-Vader 69 kV
Longview	P1-2	P1-2 CPUD E.Kelso-S.Kelso 115kV
Longview	P1-2	P1-2 CPUD E.Kelso-Shawn 115kV
Longview	P1-2	P1-2 CPUD E.Kelso-W.Kelso 115kV
Longview	P1-2	P1-2 CPUD Gardners-Grn Mtn 115kV
Longview	P1-2	P1-2 CPUD Gardners-Lexington 115kV
Longview	P1-2	P1-2 CPUD John St-Lexington 115kV
Longview	P1-2	P1-2 CPUD Kal.Engy-Longview 230kV
Longview	P1-2	P1-2 CPUD KalInd-NWdLnd 115kV
Longview	P1-2	P1-2 CPUD KalInd-PortKal 115kV
Longview	P1-2	P1-2 CPUD Lexington-Shawn 115kV
Longview	P1-2	P1-2 CPUD Lexington-W Kelso 115kV
Longview	P1-2	P1-2 CPUD Meeker-NWdLnd 115kV
Longview	P1-2	P1-2 CPUD MintFarm-OliveWay 115kV
Longview	P1-2	P1-2 CPUD NWdLnd-WWdLnd 115kV
Longview	P1-2	P1-2 CPUD OceanBch-OliveWay 115kV
Longview	P1-2	P1-2 CPUD OceanBch-W.Kelso 115kV
Longview	P1-2	P1-2 Hycom-Longview Annex 230kV
Longview	P1-2	P1-2 Hycom-Norpac 230kV
Longview	P1-2	P1-2 Longview-Cowlitz #1 115kV
Longview	P1-2	P1-2 Longview-Lexington 115kV

Longview	P1-2	P1-2 LongviewN-MintFarm 115kV
Longview	P1-2	P1-2 Longview-Wash.Way 115kV
Longview	P1-2	P1-2 PAC Merwin-View Tap 115kV
Longview	P1-2	P1-2: Lewis River - North Woodland 115 kV
Longview	P1-2	P1-2: N-1 Allston-Longview #1 230 kV
Longview	P1-2	P1-2: N-1 Allston-Longview #2 230kV
Longview	P1-2	P1-2: N-1 Allston-Longview #3 Annex 230 kV
Longview	P1-2	P1-2: N-1 Allston-Longview #4 115kV
Longview	P1-2	P1-2: N-1 Cardwell-Cowlitz 115kV
Longview	P1-2	P1-2: N-1 Chehalis-Longview #1 and #3 230kV
Longview	P1-2	P1-2: N-1 Chemical-CoffinRk-Norpac 230kV
Longview	P1-2	P1-2: N-1 Chemical-Longview 230kV
Longview	P1-2	P1-2: N-1 Cowlitz-Cardwell 115kV
Longview	P1-2	P1-2: N-1 Cowlitz-Longview 115kV
Longview	P1-2	P1-2: N-1 CPUD 7th Ave-E.Kelso 115kV
Longview	P1-2	P1-2: N-1 CPUD 7th Ave-Wash.Way 115kV
Longview	P1-2	P1-2: N-1 CPUD and PAC Ariel-Cardwell-Merwin 115kV
Longview	P1-2	P1-2: N-1 CPUD BakersCrn-OliveWay 115kV
Longview	P1-2	P1-2: N-1 CPUD Cardwell-Meeker 115kV
Longview	P1-2	P1-2: N-1 CPUD Cardwell-PortKal 115kV
Longview	P1-2	P1-2: N-1 CPUD Cardwell-S.Kelso 115kV
Longview	P1-2	P1-2: N-1 CPUD CastlRock-Gardners 115kV
Longview	P1-2	P1-2: N-1 CPUD CastlRock-John St 115kV
Longview	P1-2	P1-2: N-1 CPUD CR69-Vader 69 kV
Longview	P1-2	P1-2: N-1 CPUD E.Kelso-S.Kelso 115kV
Longview	P1-2	P1-2: N-1 CPUD E.Kelso-Shawn 115kV
Longview	P1-2	P1-2: N-1 CPUD E.Kelso-W.Kelso 115kV
Longview	P1-2	P1-2: N-1 CPUD Gardners-Grn Mtn 115kV
Longview	P1-2	P1-2: N-1 CPUD Gardners-Lexington 115kV
Longview	P1-2	P1-2: N-1 CPUD John St-Lexington 115kV
Longview	P1-2	P1-2: N-1 CPUD Kal.Engy-Longview 230kV
Longview	P1-2	P1-2: N-1 CPUD KalInd-NWdLnd 115kV
Longview	P1-2	P1-2: N-1 CPUD KalInd-PortKal 115kV
Longview	P1-2	P1-2: N-1 CPUD Lexington-Shawn 115kV

Longview	P1-2	P1-2: N-1 CPUD Lexington-W Kelso 115kV
Longview	P1-2	P1-2: N-1 CPUD Meeker-NWdLnd 115kV
Longview	P1-2	P1-2: N-1 CPUD MintFarm-OliveWay 115kV
Longview	P1-2	P1-2: N-1 CPUD NWdLnd-WWdLnd 115kV
Longview	P1-2	P1-2: N-1 CPUD OceanBch-OliveWay 115kV
Longview	P1-2	P1-2: N-1 CPUD OceanBch-W.Kelso 115kV
Longview	P1-2	P1-2: N-1 Hycom-Norpac 230kV
Longview	P1-2	P1-2: N-1 Lexington-Longview 115kV
Longview	P1-2	P1-2: N-1 Lexington-Ross 230kV
Longview	P1-2	P1-2: N-1 Longview-Cowlitz #1 115kV
Longview	P1-2	P1-2: N-1 Longview-Lexington 115kV
Longview	P1-2	P1-2: N-1 LongviewN-MintFarm 115kV
Longview	P1-2	P1-2: N-1 Longview-Wash.Way 115kV
Longview	P1-2	P1-2: N-1 NDP-Longview Annex 230kV
Longview	P1-2	P1-2: N-1 PAC Merwin-View Tap 115kV
Longview	P1-2	P1-2: PAC Cherry Grove - View - Merwin 115 kV
Longview	P1-2	P1-2: PAC Merwin-Ariel-Lewis River 115 kV
Longview	P1-3	P1-3 Allston 230/115 kV Xfr
Longview	P1-3	P1-3 CPUD CastlRock-CR69 115/69kV
Longview	P1-3	P1-3 Lexington 230/115kV
Longview	P1-3	P1-3 Longview 230/115kV #1 (Post-Project)
Longview	P1-3	P1-3 Longview 230/115kV #3
Longview	P1-3	P1-3: N-1 Allston 230/115 kV Xfr
Longview	P1-3	P1-3: N-1 CPUD CastlRock-CR69 115/69kV
Longview	P1-3	P1-3: N-1 Lexington 230/115kV
Longview	P1-3	P1-3: N-1 Longview 230/115kV #1 (Post-Project)
Longview	P1-3	P1-3: N-1 Longview 230/115kV #3
Longview	P1-4	P1-4 SHUNT_FIBRE89-146C1
Longview	P1-4	P1-4 SHUNT_FIBRE89-146C2
Longview	P1-4	P1-4 SHUNT_LONGVIEW_C1
Longview	P1-4	P1-4 SHUNT_LONGVIEW_C2
Longview	P1-4	P1-4 SHUNT_NORPACC1
Longview	P1-4	P1-4 SHUNT_NORPACC2
Longview	P1-4	P1-4 SHUNT_NORPACC3

Longview	P1-4	P1-4 SHUNT_NORPACC4
Longview	P1-4	P1-4 SHUNT_NORPACC5
Longview	P1-4	P1-4 SHUNT_NORPACC6
Longview	P1-4	P1-4: SHUNT_FIBRE89-146C1
Longview	P1-4	P1-4: SHUNT_FIBRE89-146C2
Longview	P1-4	P1-4: SHUNT_LONGVIEW_C1
Longview	P1-4	P1-4: SHUNT_LONGVIEW_C2
Longview	P1-4	P1-4: SHUNT_NORPACC1
Longview	P1-4	P1-4: SHUNT_NORPACC2
Longview	P1-4	P1-4: SHUNT_NORPACC3
Longview	P1-4	P1-4: SHUNT_NORPACC4
Longview	P1-4	P1-4: SHUNT_NORPACC5
Longview	P1-4	P1-4: SHUNT_NORPACC6
Longview	P2-2	P2-2 BUS 7th Ave 115kV
Longview	P2-2	P2-2 BUS Allston 115kV
Longview	P2-2	P2-2 BUS BakersCrn 115kV
Longview	P2-2	P2-2 BUS Cardwell 115kV
Longview	P2-2	P2-2 BUS Chemical 230kV
Longview	P2-2	P2-2 BUS CheryPPL
Longview	P2-2	P2-2 BUS Cowlitz 115kV
Longview	P2-2	P2-2 BUS E.Kelso 115kV
Longview	P2-2	P2-2 BUS Gardners 115kV
Longview	P2-2	P2-2 BUS Hycom 230kV
Longview	P2-2	P2-2 BUS John St 115kV
Longview	P2-2	P2-2 BUS Kal Ind 115kV
Longview	P2-2	P2-2 BUS Lexington 115kV
Longview	P2-2	P2-2 BUS Lexington 230kV
Longview	P2-2	P2-2 BUS Longview 230kV
Longview	P2-2	P2-2 BUS Longview 230kV #2 (Post-Project)
Longview	P2-2	P2-2 BUS Longview 230kV (Post-Project)
Longview	P2-2	P2-2 BUS Longview Annex 230kV
Longview	P2-2	P2-2 BUS Longview North 115kV
Longview	P2-2	P2-2 BUS Longview South 115kV
Longview	P2-2	P2-2 BUS Meeker 115kV

Longview	P2-2	P2-2 BUS Mint Farm 115kV
Longview	P2-2	P2-2 BUS Norpac 230kV
Longview	P2-2	P2-2 BUS NWdLnd 115kV
Longview	P2-2	P2-2 BUS Olive Way 115kV
Longview	P2-2	P2-2 BUS Port Kal 115kV
Longview	P2-2	P2-2 BUS S.Kelso 115kV
Longview	P2-2	P2-2 BUS W.Kelso 115kV
Longview	P2-2	P2-2 BUS Wash.Way 115kV
Longview	P2-2	P2-2: Bus 20th & Ocean Beach 115 kV
Longview	P2-2	P2-2: BUS 7th Ave 115kV
Longview	P2-2	P2-2: BUS Allston 115kV
Longview	P2-2	P2-2: BUS BakersCrn 115kV
Longview	P2-2	P2-2: BUS Cardwell 115kV
Longview	P2-2	P2-2: BUS Chemical 230kV
Longview	P2-2	P2-2: BUS CheryPPL
Longview	P2-2	P2-2: BUS Cowlitz 115kV
Longview	P2-2	P2-2: BUS E.Kelso 115kV
Longview	P2-2	P2-2: BUS Gardners 115kV
Longview	P2-2	P2-2: BUS Hycom 230kV
Longview	P2-2	P2-2: BUS John St 115kV
Longview	P2-2	P2-2: BUS Kal Ind 115kV
Longview	P2-2	P2-2: Bus Lewis River 115 kV
Longview	P2-2	P2-2: BUS Lexington 115kV
Longview	P2-2	P2-2: BUS Lexington 230kV
Longview	P2-2	P2-2: BUS Longview 230kV
Longview	P2-2	P2-2: BUS Longview 230kV #2 (Post-Project)
Longview	P2-2	P2-2: BUS Longview 230kV (Post-Project)
Longview	P2-2	P2-2: BUS Longview Annex 230kV
Longview	P2-2	P2-2: BUS Longview North 115kV
Longview	P2-2	P2-2: BUS Longview South 115kV
Longview	P2-2	P2-2: BUS Meeker 115kV
Longview	P2-2	P2-2: BUS Mint Farm 115kV
Longview	P2-2	P2-2: BUS Norpac 230kV
Longview	P2-2	P2-2: BUS NWdLnd 115kV

Longview	P2-2	P2-2: BUS Olive Way 115kV
Longview	P2-2	P2-2: BUS Port Kal 115kV
Longview	P2-2	P2-2: BUS S.Kelso 115kV
Longview	P2-2	P2-2: Bus Shawnee 115 kV
Longview	P2-2	P2-2: BUS W.Kelso 115kV
Longview	P2-2	P2-2: BUS Wash.Way 115kV
Longview	P2-4	P2-4 BSB Longview 115kV
Longview	P2-4	P2-4 BSB Longview 230kV
Longview	P2-4	P2-4 BSB Longview 230kV (Post-Project)
Longview	P2-4	P2-4 BSB Longview Annex 230kV (Post-Project)
Longview	P2-4	P2-4: BSB Longview 115kV
Longview	P2-4	P2-4: BSB Longview 230kV
Longview	P2-4	P2-4: BSB Longview 230kV (Post-Project)
Longview	P2-4	P2-4: BSB Longview Annex 230kV (Post-Project)
Longview	P7-1	P7-1 CTR Allston-Longview #1 and #2 230kV
Longview	P7-1	P7-1 CTR Allston-Longview #3 230kV and #4 115kV
Longview	P7-1	P7-1: CTR Allston-Longview #1 and #2 230kV
Longview	P7-1	P7-1: CTR Allston-Longview #3 230kV and #4 115kV
NORC	P1-2	P1-2_LINE_Allston-Clatsop_230
NORC	P1-2	P1-2_LINE_Allston-Driscoll_230
NORC	P1-2	P1-2_LINE_Allston-Driscoll_No2_115
NORC	P1-2	P1-2_LINE_Astoria-Driscoll_115
NORC	P1-2	P1-2_LINE_Astoria-Tillamook_115
NORC	P1-2	P1-2_LINE_Boyer-GrandRonde_115
NORC	P1-2	P1-2_LINE_Boyer-Tillamook_115
NORC	P1-2	P1-2_LINE_Carlton-Sherwood_230
NORC	P1-2	P1-2_LINE_Carlton-Tillamook_230
NORC	P1-2	P1-2_LINE_ForestGrove-Tillamook_115
NORC	P1-2	P1-2_LINE_GrandRonde-Salem_115
NORC	P1-2	P1-2_LINE_Tillamook-Boyer_115
NORC	P1-4	P1-4_CAP_Astoria_115
NORC	P1-4	P1-4_CAP_Hebo_115
NORC	P1-4	P1-4_CAP_Naselle_115
NORC	P1-4	P1-4_CAP_Tillamook_115

NORC	P2-2	P2-2_BUS_Allston_115
NORC	P2-2	P2-2_BUS_AllstonE_230
NORC	P2-2	P2-2_BUS_AllstonW_230
NORC	P2-2	P2-2_BUS_Astoria_115
NORC	P2-2	P2-2_BUS_Boyer_115
NORC	P2-2	P2-2_BUS_Carlton_230
NORC	P2-2	P2-2_BUS_Driscoll_230
NORC	P2-2	P2-2_BUS_ForestGrove_115
NORC	P2-2	P2-2_BUS_GrandRonde_115
NORC	P2-2	P2-2_BUS_Salem_115
NORC	P2-2	P2-2_BUS_Tillamook_115
NORC	P2-3	P2-3_BKR_2A2-Astoria_115
NORC	P2-3	P2-3_BKR_2A5-Lewis&Clark_115
NORC	P2-3	P2-3_BKR_2A8-Lewis&Clark_115
NORC	P2-3	P2-3_BKR_A1264-Driscoll_230
NORC	P2-3	P2-3_BKR_A1268-Driscoll_230
NORC	P2-3	P2-3_BKR_A1358-Allston-W_230
NORC	P2-3	P2-3_BKR_A1364-Allston-E_230
NORC	P2-3	P2-3_BKR_A1365-Allston-E_230
NORC	P2-3	P2-3_BKR_A315-Carlton_230
NORC	P2-3	P2-3_BKR_B1093-Tillamook_115
NORC	P2-3	P2-3_BKR_B1094-Tillamook_115
NORC	P2-3	P2-3_BKR_B1097-Tillamook_115
NORC	P2-3	P2-3_BKR_B1098-Tillamook_115
NORC	P2-3	P2-3_BKR_B1100-Tillamook_115
NORC	P2-3	P2-3_BKR_B1875-Boyer_115
NORC	P2-3	P2-3_BKR_B1900-Allston_115
NORC	P2-3	P2-3_BKR_B1924-Allston_115
NORC	P2-3	P2-3_BKR_B2061-Driscoll_115
NORC	P2-3	P2-3_BKR_B2064-Driscoll_115
NORC	P2-3	P2-3_BKR_B2067-Driscoll_115
NORC	P2-3	P2-3_BKR_W126-GrandRonde_115
NORC	P2-3	P2-3_BKR_W152-GrandRonde_115
NORC	P2-4	P2-4_BSB_Allston_230

NORC	P7-1	P7_CTW_Allston-Clatsop&Allston-Driscoll_230
NORC	P7-1	P7_CTW_Driscoll-Cathlamet&Driscoll-Astoria_115
NORC	P7-1	P7_CTW_ForestGrove-Tillamook_115&Carlton-Tillamook_230
NORC	P1-3	XFMR_AllstonE_Allston_230_115
NORC	P1-3	XFMR_Clatsop_LewisClark_230_115
NORC	P1-3	XFMR_Tillamook_230_115
P-A	P1-2	P1-2 Napavine - Allston 500kV
P-A	P1-2	P1-2 Paul - Allston #2 500kV
P-A	P1-2	P1-2 Paul - Napavine 500kV
P-A	P1-2	P1-2 Paul - Olympia 500kV
P-A	P1-2	P1-2 Paul - Satsop 500kV
P-A	P1-2	P1-2 Paul BPA - Raver BPA 500kV
P-A	P4-2	P4-2 BKF 4532 Raver-Paul & CENTR PH2 500kV
P-A	P4-2	P4-2 BKF 4536 Paul-Tono & CENTR PH2 500kV
P-A	P4-2	P4-2 BKF 4544 Paul-Tono & CENTR PH1 500kV
P-A	P4-2	P4-2 BKF 4550 Paul-Allston #2 & Paul-Olympia 500kV
P-A	P4-2	P4-2 BKF 4552 Paul-Napavine & CENTR PH1 500kV
P-A	P4-2	P4-2 BKF 4554 Paul-Tono & Paul-Olympia 500kV
P-A	P4-2	P4-2 BKF 4818 Paul-Tono & Paul-Satsop 500kV
P-A	P4-2	P4-2 Napavine 5226, 5229, or 5232 BPA 500kV
Portland	P1-1	P1-1_ADAIR#115U1
Portland	P1-2	P1-2 7th Ave-E.Kelso 115kV
Portland	P1-2	P1-2 7th Ave-Wash.Way 115kV
Portland	P1-2	P1-2 Allston - Clatsop 230 kV
Portland	P1-2	P1-2 Allston - Driscoll 115kV
Portland	P1-2	P1-2 Allston - Driscoll 230kV
Portland	P1-2	P1-2 Allston - Longview #1 230 kV
Portland	P1-2	P1-2 Allston - Longview #2 230kV
Portland	P1-2	P1-2 Allston - Longview #3 Annex 230 kV
Portland	P1-2	P1-2 Allston - Longview #4 115kV
Portland	P1-2	P1-2 Allston - St. Helens 115 kV
Portland	P1-2	P1-2 BakersCrn-OliveWay 115kV
Portland	P1-2	P1-2 Cardwell-Meeker 115kV
Portland	P1-2	P1-2 Cardwell-Merwin 115kV

Portland	P1-2	P1-2 Cardwell-PortKal 115kV
Portland	P1-2	P1-2 Cardwell-S.Kelso 115kV
Portland	P1-2	P1-2 Carlton-McMinnville 115kV
Portland	P1-2	P1-2 Carlton-Tillamook 230kV
Portland	P1-2	P1-2 CastlRock-Gardners 115kV
Portland	P1-2	P1-2 CastlRock-John St 115kV
Portland	P1-2	P1-2 Covington - Chehalis 230kV
Portland	P1-2	P1-2 CR69-Vader 69 kV
Portland	P1-2	P1-2 Drsicoll - Astroia 115kV
Portland	P1-2	P1-2 E.Kelso-S.Kelso 115kV
Portland	P1-2	P1-2 E.Kelso-Shawn 115kV
Portland	P1-2	P1-2 E.Kelso-W.Kelso 115kV
Portland	P1-2	P1-2 Evergreen - Horizon 230 kV
Portland	P1-2	P1-2 Forest Grove-McMinnville 115kV
Portland	P1-2	P1-2 Forest Grove-Tillamook 115kV
Portland	P1-2	P1-2 Gardners-Grn Mtn 115kV
Portland	P1-2	P1-2 Gardners-Lexington 115kV
Portland	P1-2	P1-2 Harborton - Evergreen 230kV
Portland	P1-2	P1-2 Harborton-Trojan #1 230kV
Portland	P1-2	P1-2 Harborton-Trojan #2 230kV
Portland	P1-2	P1-2 Hazell Dell - River Road - St.Johns 115kV
Portland	P1-2	P1-2 Holcomb - Naselle 115kV
Portland	P1-2	P1-2 John St-Lexington 115kV
Portland	P1-2	P1-2 Kal.Engy-Longview 230kV
Portland	P1-2	P1-2 KalInd-NWdLnd 115kV
Portland	P1-2	P1-2 KalInd-PortKal 115kV
Portland	P1-2	P1-2 Keeler - Forest Grove #1 115kV
Portland	P1-2	P1-2 Keeler - Forest Grove #2 115kV
Portland	P1-2	P1-2 Keeler - Pearl 500kV
Portland	P1-2	P1-2 Keeler-Oregon City 115kV
Portland	P1-2	P1-2 Lewis River - Ariel 115 kV
Portland	P1-2	P1-2 Lexington BPA Transformer 230/115kV
Portland	P1-2	P1-2 Lexington BPA-Woodland BPA-Ross BPA 230kV
Portland	P1-2	P1-2 Lexington-OlsonRd 115kV

Portland	P1-2	P1-2 Lexington-Shawn 115kV
Portland	P1-2	P1-2 Longview - Cowlitz #1 115kV
Portland	P1-2	P1-2 Meeker-NWdLnd 115kV
Portland	P1-2	P1-2 Merwin - Ariel 115kV
Portland	P1-2	P1-2 Merwin - View 115kV
Portland	P1-2	P1-2 Midway - North Bonneville 230 kV
Portland	P1-2	P1-2 MintFarm-OliveWay 115kV
Portland	P1-2	P1-2 Naselle - Driscoll 115kV
Portland	P1-2	P1-2 NWdLnd-WWdLnd 115kV
Portland	P1-2	P1-2 OceanBch-OliveWay 115kV
Portland	P1-2	P1-2 OceanBch-W.Kelso 115kV
Portland	P1-2	P1-2 Olympia - Chehalis 230kV
Portland	P1-2	P1-2 PAC Blue Lake - Gresham 230kV
Portland	P1-2	P1-2 PAC Cherry Grove - Hazell Dell 115kV
Portland	P1-2	P1-2 PAC Troutdale - BPA Troutdale #1 230kV
Portland	P1-2	P1-2 PAC Troutdale - BPA Troutdale #2 230kV
Portland	P1-2	P1-2 PAC Troutdale - Gresham 230kV
Portland	P1-2	P1-2 PAC Troutdale - Linneman 230kV
Portland	P1-2	P1-2 PAC Troutdale-CCPUD Runyan 115kV
Portland	P1-2	P1-2 PGE Carver - Gresham 230 kV
Portland	P1-2	P1-2 PGE Carver - McLoughlin #1 230 kV
Portland	P1-2	P1-2 PGE Carver - McLoughlin #2 230 kV
Portland	P1-2	P1-2 PGE Gresham - Linneman 230 kV
Portland	P1-2	P1-2 PGE Harborton-Rivergate 230kV
Portland	P1-2	P1-2 PGE Harborton-St Marys 230 kV
Portland	P1-2	P1-2 PGE Horizon - Keeler 230 kV
Portland	P1-2	P1-2 PGE Keeler - Rivergate 230 kV
Portland	P1-2	P1-2 PGE Keeler - St Marys 230 kV
Portland	P1-2	P1-2 PGE Sherwood - Carlton 230kV
Portland	P1-2	P1-2 PGE Sherwood - Murray Hill #1 230kV
Portland	P1-2	P1-2 PGE Sherwood - Murray Hill #2 230kV
Portland	P1-2	P1-2 PGE St. Marys-Murray Hill 230kV
Portland	P1-2	P1-2 PGE StHelens-PGE Harborton 115kV
Portland	P1-2	P1-2 PGE Troutdale-Blue Lake #1 230kV

Portland	P1-2	P1-2 Ross - Alcoa 230 kV
Portland	P1-2	P1-2 Ross - Rivergate 230 kV
Portland	P1-2	P1-2 Ross - Sifton 115kV
Portland	P1-2	P1-2 Ross - St. John's 230kV
Portland	P1-3	P1-3_ALCOA230-ALCOA115C8
Portland	P1-3	P1-3_ALLSTNE230-ALLSTON115C3
Portland	P1-3	P1-3_ALLSTON500-ALLSTNE230C2
Portland	P1-3	P1-3_ALLSTON500-ALLSTNW230C1
Portland	P1-3	P1-3_BALDMT69-BALDMT115C1
Portland	P1-3	P1-3_BLUELAKE115-BLUELAKE230C1
Portland	P1-3	P1-3_BLUELAKE2115-BLUELAKE230C2
Portland	P1-3	P1-3_BON010213.8-BONNVILE115C1
Portland	P1-3	P1-3_BON030413.8-BONPH1230C1
Portland	P1-3	P1-3_BON050613.8-BONPH2230C1
Portland	P1-3	P1-3_BON070813.8-BONPH2230C1
Portland	P1-3	P1-3_BON091013.8-BONNVILE115C1
Portland	P1-3	P1-3_CANEMAH115-CANEMAH_W59.8C2
Portland	P1-3	P1-3_CANEMAH115-CANEMAH59.8C1
Portland	P1-3	P1-3_CARLTON230-CARLTON115C1
Portland	P1-3	P1-3_CARVER115-CARVER230C1
Portland	P1-3	P1-3_CARVERB115-CARVER230C1
Portland	P1-3	P1-3_CENTURY115-CENTURY59.8C1
Portland	P1-3	P1-3_CHEMAWA230-CHEMAWA115C2
Portland	P1-3	P1-3_CHEMAWA59.8-CHEMAWA115C1
Portland	P1-3	P1-3_CLATSOP230-LWSCLARK115C1
Portland	P1-3	P1-3_COLUMBIA69-COLUMPG115C1
Portland	P1-3	P1-3_CORNELUS115-CORNELUS59.8C1
Portland	P1-3	P1-3_DAYTON115-DAYTON59.8C1
Portland	P1-3	P1-3_EVERGREEN115-EVERGREEN230C1
Portland	P1-3	P1-3_EVERGREEN115-EVERGREEN230C2
Portland	P1-3	P1-3_FARADAY115-FARADAY13.8C1
Portland	P1-3	P1-3_FARADAY115-FARADAY59.8C1
Portland	P1-3	P1-3_GRESHAM230-GRESHAMA115C1
Portland	P1-3	P1-3_GRESHAM230-GRESHAMB115C1

Portland	P1-3	P1-3_GRNDROND115-GRNDROND59.8C1
Portland	P1-3	P1-3_HARBORTN115-HARBORTN230C1
Portland	P1-3	P1-3_HOGAN115-HOGAN59.8C1
Portland	P1-3	P1-3_HORIZN1115-HORIZN230C1
Portland	P1-3	P1-3_HORIZN2115-HORIZN230C2
Portland	P1-3	P1-3_HORIZN3115-HORIZN230C3
Portland	P1-3	P1-3_KEELERE230-KEELER115C3
Portland	P1-3	P1-3_KEELERW230-KEELER_E115C1
Portland	P1-3	P1-3_KNOTT59.8-KNOTT115C1
Portland	P1-3	P1-3_LEXINGTN230-LEXINGTN115C1
Portland	P1-3	P1-3_LKHARIET35-LKHARIET115C1
Portland	P1-3	P1-3_MCLGHLNB115-MCLOUGLN230C1
Portland	P1-3	P1-3_MCLOUGE5230-MCLGHLNA115C1
Portland	P1-3	P1-3_MNTFRMG18-MINTFARM230C1
Portland	P1-3	P1-3_MNTFRMS13.8-MINTFARM230C1
Portland	P1-3	P1-3_MONITOR230-MONITOR59.8C1
Portland	P1-3	P1-3_MURRAYH115-MURRAYH230C1
Portland	P1-3	P1-3_NORTHFK115-NORTHFK13.8C1
Portland	P1-3	P1-3_OAKGROVE_W115-OAKGROVE111C1
Portland	P1-3	P1-3_OAKGROVE115-OAKGROVE11C2
Portland	P1-3	P1-3_ORECITY59.8-ORECITY115C1
Portland	P1-3	P1-3_ORENCO115-ORENCO_N59.8C1
Portland	P1-3	P1-3_ORENCO115-ORENCO59.8C2
Portland	P1-3	P1-3_PEARL500-PEARLE230C1
Portland	P1-3	P1-3_PEARL500-PEARLW230C2
Portland	P1-3	P1-3_RIVRGATE230-RIVRGTA115C1
Portland	P1-3	P1-3_RIVRGATE230-RIVRGTB115C1
Portland	P1-3	P1-3_ROSS_E230-ROSS115C1
Portland	P1-3	P1-3_ROSS_E230-ROSS345C4
Portland	P1-3	P1-3_ROSS_W230-ROSS115C2
Portland	P1-3	P1-3_SALEM230-SALEM115C1
Portland	P1-3	P1-3_SHERWOOD230-SHERWDA115C1
Portland	P1-3	P1-3_SHERWOOD230-SHERWDB115C1
Portland	P1-3	P1-3_SIFTON1230-SIFTON115C2

Portland	P1-3	P1-3_SIFTON2230-SIFTON115C1
Portland	P1-3	P1-3_STJOHNS230-STJOHNS115C1
Portland	P1-3	P1-3_STJOHNS59.8-STJOHNS115C5
Portland	P1-3	P1-3_STMARYS230-STMARYSC115C1
Portland	P1-3	P1-3_STMARYSA115-STMARYS230C1
Portland	P1-3	P1-3_STMARYSB115-STMARYS230C1
Portland	P1-3	P1-3_TILLAMOK230-TILLAMOK115C2
Portland	P1-3	P1-3_TROUTDAL115-TROUTPP1230C1
Portland	P1-3	P1-3_TROUTDAL500-TROUTDW230C8
Portland	P1-3	P1-3_TROUTDAL69-TROUTPP1230C2
Portland	P1-3	P1-3_TROUTPP1230-TROUTDAL69C1
Portland	P1-3	P1-3_TUCKER169-HOODRVR115C1
Portland	P1-3	P1-3_TUCKER269-HOODRVR115C1
Portland	P1-3	P1-3_WAUNA230-WAUNA13.8C1
Portland	P1-4	P1-4_ALCOAC1115
Portland	P1-4	P1-4_BUTLER1115
Portland	P1-4	P1-4_BUTLER2115
Portland	P1-4	P1-4_CHEMAWAC 115
Portland	P1-4	P1-4_CHEMAWAC1230
Portland	P1-4	P1-4_CHEMAWAC2230
Portland	P1-4	P1-4_ESUBSTA1 115
Portland	P1-4	P1-4_EVERGREEN1115
Portland	P1-4	P1-4_EVERGREEN2115
Portland	P1-4	P1-4_HARBORTN1115
Portland	P1-4	P1-4_HEBO+C 115
Portland	P1-4	P1-4_KEELERWc1230
Portland	P1-4	P1-4_KEELERWc2230
Portland	P1-4	P1-4_KEELERWr2230
Portland	P1-4	P1-4_LONGVIEW2C1230
Portland	P1-4	P1-4_LONGVIEW2C2230
Portland	P1-4	P1-4_MCMINVILC 115
Portland	P1-4	P1-4_N_BONN_ANX+C1115
Portland	P1-4	P1-4_N_BONN_ANX+C2115
Portland	P1-4	P1-4_NASELLEC1115

Portland	P1-4	P1-4_NASELLEC2115
Portland	P1-4	P1-4_NASELLEC3115
Portland	P1-4	P1-4_ORECITYC 115
Portland	P1-4	P1-4_PEARLEC 230
Portland	P1-4	P1-4_RIVRGTA1 115
Portland	P1-4	P1-4_SELLWOOD1 115
Portland	P1-4	P1-4_SPRNGBRK1 115
Portland	P1-4	P1-4_STHELENS1 115
Portland	P1-4	P1-4_STMARYSA1 115
Portland	P1-4	P1-4_STMARYSB1 115
Portland	P1-4	P1-4_STMARYSC1 115
Portland	P1-4	P1-4_SUNSETPG1 115
Portland	P1-4	P1-4_TILLAMOKC1115
Portland	P1-4	P1-4_TILLAMOKC2115
Portland	P1-4	P1-4_TROUTDWC1230
Portland	P1-4	P1-4_TROUTDWC2230
Portland	P1-4	P1-4_TROUTDWC3230
Portland	P1-4	P1-4_URBAN_M21 115
Portland	P1-4	P1-4_WSTPRT1 115
Portland	P2-2	P2-2 Allston East BPA 230kV
Portland	P2-2	P2-2 BUS Alcoa 115kV
Portland	P2-2	P2-2 BUS Allston East 230kV
Portland	P2-2	P2-2 BUS Allston West 230kV
Portland	P2-2	P2-2 BUS Carlton 115kV
Portland	P2-2	P2-2 BUS Carlton 230kV
Portland	P2-2	P2-2 BUS Chehalis 115kV
Portland	P2-2	P2-2 BUS Chehalis 230kV
Portland	P2-2	P2-2 BUS Driscoll 115kV
Portland	P2-2	P2-2 BUS Driscoll 230kV
Portland	P2-2	P2-2 BUS Forest Grove 115kV
Portland	P2-2	P2-2 BUS Keeler East 115kV
Portland	P2-2	P2-2 BUS Keeler East 230kV
Portland	P2-2	P2-2 BUS Keeler West 115kV
Portland	P2-2	P2-2 BUS Keeler West 230kV

Portland	P2-2	P2-2 BUS LongeviewS 230kV
Portland	P2-2	P2-2 BUS LongviewM 230kV
Portland	P2-2	P2-2 BUS McMinneville 115kV
Portland	P2-2	P2-2 BUS Naselle 115kV
Portland	P2-2	P2-2 BUS Oregon City 115kV
Portland	P2-2	P2-2 BUS Pearl East 230kV
Portland	P2-2	P2-2 BUS Pearl West 230kV
Portland	P2-2	P2-2 BUS PGE St. Helens 115kV
Portland	P2-2	P2-2 BUS St. Johns 115kV
Portland	P2-2	P2-2 BUS Troutdale East 230kV
Portland	P2-2	P2-2 BUS Troutdale West 230kV
Portland	P2-2	P2-2 Sherwood A 115 (PGE)
Portland	P2-2	P2-2 Sherwood B 115 kV (PGE)
Portland	P2-2	P2-2 Trojan East 230kV
Portland	P2-2	P2-2 Trojan West 230kV
Portland	P2-3	P2-3 Harborton V242 230kV
Portland	P2-3	P2-3 Horizon V112 230kV
Portland	P2-3	P2-3 Horizon V212 230kV
Portland	P2-3	P2-3 Murrayhill V312 230kV
Portland	P4-6	P2-4_P4-6 BSB Keeler 115kV
Portland	P4-6	P2-4_P4-6 BSB Longview 115kV
Portland	P4-6	P2-4_P4-6 BSB Longview 230kV
Portland	P4-6	P2-4_P4-6 BSB N.Bonneville 230kV
Portland	P4-6	P2-4_P4-6 BSB Troutdale 230kV
Portland	P4-2	P4-2 Pearl 4280 BPA 500kV
Portland	P7-1	P7-1 CTR BONN PH 2-NBONN 4 230kV AND BONN PH 2-NBONN 4 230kV
Portland	P7-1	P7-1 CTR BONN PH-Alcoa 1&2 AND BONN PH-N Camas 1 115kV
Portland	P7-1	P7-1 CTR Carlton-McMinnville 115kV AND Forest Grove-McMinnville 115kV
Portland	P7-1	P7-1 CTR Carlton-Tillamook 230kV AND Forest Grove-Tillamook 115kV
Portland	P7-1	P7-1 CTR Chemawa-Salem 1 230kV AND Chemawa-Salem 2 115kV
Portland	P7-1	P7-1 CTR Naselle-Tarlett 1 115kV AND Naselle-Tarlett 2 115kV
Portland	P7-1	P7-1 CTR North Camas-Sifton 1 115kV AND BONN PH 1-North Camas 1 115kV
Portland	P7-1	P7-1 CTR PAC Troutdale-BPA Troutdale #1 and #2 230kV
Portland	P7-1	P7-1 CTR PAC Troutdale-Gresham #1 & #2 230kV

Portland	P7-1	P7-1 CTR PGE Harborton-Evergreen 230kV & Harborton-St Marys 230kV
Portland	P7-1	P7-1 CTR PGE Murrayhill - Sherwood 230 kV (1 & 2)
Portland	P7-1	P7-1 CTR Sifton-Ast/Sifton-Lacamas 115 kV
Portland, P-A	P7-1	P7-1 CTR Driscoll-Naselle 1 115kV AND Driscoll-Astoria 1 115kV
Portland, P-A	P7-1	P7-1 CTR Lexington-Longview 230kV AND Longview-Chehalis 1 AND 3 230kV
Portland, SOA	P1-2	P1-2 Allston - Trojan #1 230 kV
Portland, SOA	P1-2	P1-2 Allston - Trojan #2 230kV
Portland, SOA	P1-2	P1-2 Allston BPA Transformer 230/115kV
Portland, SOA	P1-2	P1-2 Allston BPA-Keeler BPA 500kV
Portland, SOA	P1-2	P1-2 PGE Trojan-Harborton #1 230kV
Portland, SOA	P1-2	P1-2 PGE Trojan-Harborton #2 230 kV
Portland, SOA	P1-2	P1-2 StHelens-PGE StJohns 115kV
Portland, SOA	P1-3	P1-3_KEELER500-KEELERE230C2
Portland, SOA	P1-4	P1-4_KEELERC 500
Portland, SOA	P4-6	P2-4_P4-6 BSB Keeler 230kV
Portland, SOA	P4-6	P2-4_P4-6 BSB Ross 230kV
Portland, SOA	P7-1	P7-1 CTR Allston-Trojan #1 and #2 230kV
Portland, SOA	P7-1	P7-1 CTR Longview-Allston #1 and #2 230kV
Portland, SOA	P7-1	P7-1 CTR Longview-Allston #3 230kV and #4 115kV
Portland, SOA	P7-1	P7-1 CTR PGE Harborton-Trojan #1 & #2 230kV
Portland, SOA	P7-1	P7-1 CTR PGE Keeler-StMarys/Keeler-Rivergate 230kV
Portland, SOA	P7-1	P7-1 CTR St Johns-Keeler 2 115kV AND St Johns-St Helens 1 115kV
Portland, SOA	P7-1	P7-1 CTR Trojan-Allston #1 & #2 230kV
Portland, SOA	PX	PX N-1-2 Allston BPA-Keeler BPA 500kV & Harborton-Trojan #1 & #2 230kV
Portland, SOA	PX	PX N-1-2 Allston-Keeler 500kV + Harborton-Evergreen + Harborton-St Marys 230kV
Portland, SOA, P-A	P4-6	P2-4_P4-6 BSB Allston 230kV
Portland, SOA, P-A	P4-2	P4-2 BKF 4502 Napavine-Allston & Keeler-Allston 500kV
Portland, SOA, P-A	P4-2	P4-2 BKF 4690 Paul-Allston #2 & Allston 500/230 #2
Portland, SOA, P-A	PX	PX N-1-2 Allston-Keeler & Paul-Allston & Napavine-Allston 500kV
Portland, SOA, WOCS	P1-2	P1-2 Pearl BPA - Keeler BPA 500kV
Portland, SOA, WOCS	P1-2	P1-2 Pearl-Sherwood #1 and #2 230 kV
Portland, SOA, WOCS	P1-4	P1-4_PEARLC 500
Portland, SOA, WOCS	P4-6	P2-4_P4-6 BSB Pearl 230kV
Portland, SOA, WOCS	P4-2	P4-2 BKF 4322, 4324, or 4394 Keeler 500kV

Portland, SOA, WOCS	P4-2	P4-2 BKF 4394 Keeler-Allston & Pearl-Keeler (+ Keeler caps) 500kV
Portland, SOA, WOCS	PX	PX Keeler-Allston & Pearl TX #1 500kV
Portland, SOA, WOCS	PX	PX N-1-2 Keeler BPA-Pearl BPA 500kV & Harborton-Trojan #1 & #2 230kV
Portland, WOCS	P1-2	P1-2 Ashe-Marion 500kV
Portland, WOCS	P1-2	P1-2 Big Eddy - Knight 500 kV
Portland, WOCS	P1-2	P1-2 Big Eddy - McLoughlin 230 kV
Portland, WOCS	P1-2	P1-2 Big Eddy - Ostrander 500kV
Portland, WOCS	P1-2	P1-2 Big Eddy - Troutdale 230 kV
Portland, WOCS	P1-2	P1-2 Big Eddy-Chemawa 230kV
Portland, WOCS	P1-2	P1-2 Buckley-Marion 500kV
Portland, WOCS	P1-2	P1-2 John Day-Marion 500kV
Portland, WOCS	P1-2	P1-2 Knight - Ostrander 500 kV
Portland, WOCS	P1-2	P1-2 Knight - Wautoma 500 kV
Portland, WOCS	P1-2	P1-2 Marion - Pearl 500 kV
Portland, WOCS	P1-2	P1-2 McNary BPA-Ross BPA 345kV
Portland, WOCS	P1-2	P1-2 NBonneville-Troutdale #1 230kV
Portland, WOCS	P1-2	P1-2 NBonneville-Troutdale #2 230kV
Portland, WOCS	P1-2	P1-2 Pearl - Ostrander 500kV
Portland, WOCS	P1-3	P1-3_OSTRNDER500-OSTRNDER230C1
Portland, WOCS	P1-4	P1-4_OSTRNDERC1500
Portland, WOCS	P1-4	P1-4_OSTRNDERC2500
Portland, WOCS	P1-4	P1-4_OSTRNDERC3500
Portland, WOCS	P1-4	P1-4_OSTRNDERR1500
Portland, WOCS	P1-4	P1-4_OSTRNDERR2500
Portland, WOCS	P4-2	P4-2 BKF 4194 John Day-Big Eddy #1/RockCk-John Day 500 kV
Portland, WOCS	P4-2	P4-2 BKF 4202 Big Eddy-John Day #2/Ostrander 500 kV
Portland, WOCS	P4-2	P4-2 BKF 4205 Big Eddy-Ostrander 500 kV/Celilo #1 500 kV
Portland, WOCS	P4-2	P4-2 BKF 4209 Big Eddy-Knight & Big Eddy 500/230 #5
Portland, WOCS	P4-2	P4-2 BKF 4212 Big Eddy 500/230 #5/Celilo #1 500 kV
Portland, WOCS	P4-2	P4-2 BKF 4365 Marion-Lane 500kV (+Marion S Bus Shunts)
Portland, WOCS	P4-2	P4-2 BKF 4368 Marion-John Day & Marion-Lane 500
Portland, WOCS	P4-2	P4-2 BKF 4374 Marion-Alvey 500kV (+Marion S Bus Shunts)
Portland, WOCS	P4-2	P4-2 BKF 4377 Marion-Ashe/Alvey 500kV
Portland, WOCS	P4-2	P4-2 BKF 4383 Marion-Santiam 500kV (+Marion S Bus Shunts)

Portland, WOCS	P4-2	P4-2 BKF 4386 Marion-Buckley/Santiam 500kV
Portland, WOCS	P4-2	P4-2 BKF 4432 Ostrander-Troutdale (+ Ostrander W Bus caps) 500kV
Portland, WOCS	P4-2	P4-2 BKF 4433 Ostrander-Troutdale 500 kV (+Ostrander W Bus Caps)
Portland, WOCS	P4-2	P4-2 BKF 4439 Ostrander-Knight (+ Ostrander E Bus reactors) 500 kV
Portland, WOCS	P4-2	P4-2 BKF 4442 Ostrander-McLoughlin 230 kV / Knight 500kV
Portland, WOCS	P4-2	P4-2 BKF 4445 Ostrander-McLoughlin 230 kV (+Ostrander W Bus Caps)
Portland, WOCS	P4-2	P4-2 BKF 4448 Ostrander-Big Eddy (+ Ostrander E Bus reactors) 500kV
Portland, WOCS	P4-2	P4-2 BKF 4450 Ostrander-Pearl 500 kV / Big Eddy - Ostrander 500 kV
Portland, WOCS	P4-2	P4-2 BKF 4475 Pearl-Marion 500kV & Pearl 500/230 TX 2
Portland, WOCS	P4-2	P4-2 BKF 4510 Pearl-Marion/Pearl TX #1 (+ Pearl E Bus caps) 500kV
Portland, WOCS	P4-2	P4-2 BKF 4860 Big Eddy-Knight 500 kV/Celilo #2 500 kV
Portland, WOCS	P4-2	P4-2 BKF 4867 Big Eddy 500/230 #2/Celilo #1 500 kV
Portland, WOCS	P4-2	P4-2 BKF 4870 Big Eddy - John Day #1 & Big Eddy 500/230 #2
Portland, WOCS	P4-2	P4-2 BKF 4872 John Day-Big Eddy #1/Celilo #2 500 kV
Portland, WOCS	P4-2	P4-2 BKF 4946 Pearl - Marion 500 kV (+Marion S Bus Shunts)
Portland, WOCS	P4-2	P4-2 BKF 5134 Ostrander-Pearl/Ostrander W Bus Caps 500kV
Portland, WOCS	P4-2	P4-2 BKF 5139 Ostrander - Troutdale (+ Ostrander E Bus reactors) 500kV
Portland, WOCS	P4-2	P4-2 BKF 5452 Pearl-Ostrander/Pearl TX #1 (+ Pearl E Bus caps) 500kV
Portland, WOCS	P4-2	P4-2 BKF 5455 Pearl-Ostrander/Pearl #2 500/230kV
Portland, WOCS	P7-1	P7-1 CTR Ashe-Marion 2 500 AND Ashe-Slatt 1 500
Portland, WOCS	P7-1	P7-1 CTR Ashe-Marion 2 500 AND Buckley-Marion 1 500
Portland, WOCS	P7-1	P7-1 CTR Ashe-Marion 2 500 AND Slatt-Buckley 1 500
Portland, WOCS	P7-1	P7-1 CTR Big Eddy-Troutdale 1 AND Big Eddy-Chemawa 1 230kV
Portland, WOCS	PX	PX ADJ BIG EDDY-PARKDALE-TROUTDALE,BIG EDDY-CHEMAWA 230
Portland, WOCS	PX	PX ADJ Ostrander-Pearl 500kV / Big Eddy-Chemawa 230kV
Portland, WOCS	PX	PX Pearl-Keeler & Pearl 500/230 #1(+Pearl caps) 500kV
SOA	P0	P0 All Lines in Service
SOA	P1-2	P1-2 Allston BPA-St. Helens PGE 115 kV
SOA	P1-2	P1-2 Astoria PAC-Tillamook BPA
SOA	P1-2	P1-2 Clatsop BPA-Lewis & Clark PAC 115 kV
SOA	P1-2	P1-2 Keeler BPA-Pearl BPA 500 kV
SOA	P1-2	P1-2 Merwin PAC-View Tap CPU 115 kV
SOA	P1-2	P1-2 Ross BPA-Lexington BPA 230 kV
SOA	P6	P6 P1-2 Allston BPA-Keeler BPA 500 kV + P1-2 Keeler BPA-Pearl BPA 500 kV

SOA	P6	P6 P1-2 Allston BPA-Keeler BPA 500 kV + P1-2 Ross BPA-Lexington BPA 230 kV
SOA	P6	P6 P1-2 Allston BPA-Keeler BPA 500 kV + P1-2 Trojan PGE-St. Marys/Harborton #1 PGE 230 kV
SOA	P6	P6 P1-2 Allston BPA-Keeler BPA 500 kV + P1-3 Keeler BPA 500/230 kV
SOA	P6	P6 P1-2 Keeler BPA-Pearl BPA 500 kV + P1-2 Ross BPA-Lexington BPA 230 kV
SOA	P6	P6 P1-2 Keeler BPA-Pearl BPA 500 kV + P1-2 Trojan PGE-St. Marys/Harborton #1 PGE 230 kV
SOA	P6	P6 P1-2 Keeler BPA-Pearl BPA 500 kV + P1-3 Keeler BPA 500/230 kV
SOA	P6	P6 P1-2 Ross BPA-Lexington BPA 230 kV + P1-2 Trojan PGE-St. Marys/Harborton #1 PGE 230 kV
SOA	P6	P6 P1-2 Ross BPA-Lexington BPA 230 kV + P1-3 Keeler BPA 500/230 kV
SOA	P6	P6 P1-2 Trojan PGE-St. Marys/Harborton #1 PGE 230 kV + P1-3 Keeler BPA 500/230 kV
SOA	P7-1	P7 Allston-Trojan #1 & #2 230 kV
SOA	P7-1	P7 Harborton-Rivergate 230 kV + Harborton-Rivergate 115kV
SOA	P7-1	P7 Keeler-St. Marys 230 kV + Harborton-Evergreen 230 kV
SOA	P7-1	P7 Trojan-St. Marys/Harborton #1 230 kV + Trojan-Harborton #2 230 kV
Vancouver	P1-1	P1-1 River Road GEN
Vancouver	P1-2	P1-2 119th st-Sifton 115 kV
Vancouver	P1-2	P1-2 3TM Hazell Dell - River Road - St.Johns 115kV
Vancouver	P1-2	P1-2 Alcoa - River Road 115kV
Vancouver	P1-2	P1-2 Alcoa-Pioneer 115 kV
Vancouver	P1-2	P1-2 Bonneville PH - Alcoa 115 kV
Vancouver	P1-2	P1-2 Bonneville PH1 - N. Camas 115 kV
Vancouver	P1-2	P1-2 Cherry Grove - Hazell Dell 115kV (PAC)
Vancouver	P1-2	P1-2 Cherry Grove-119th St
Vancouver	P1-2	P1-2 Hazeldell-Pioneer
Vancouver	P1-2	P1-2 Joe Ast-Runyan 115 kV
Vancouver	P1-2	P1-2 Knott-Hllywood 115
Vancouver	P1-2	P1-2 Lacamas-Waftertech 115 kV
Vancouver	P1-2	P1-2 Lexington-Longview 115kV
Vancouver	P1-2	P1-2 Lexington-Ross 230kV
Vancouver	P1-2	P1-2 Longview - Lexington 115kV
Vancouver	P1-2	P1-2 McNary-Ross 345 KV
Vancouver	P1-2	P1-2 Merwin-Cardwell 115kV
Vancouver	P1-2	P1-2 Merwin-Lewis River 115 kV
Vancouver	P1-2	P1-2 N Bonneville - Sifton - Ross #1 230 kV
Vancouver	P1-2	P1-2 N Bonneville - Sifton - Ross #2 230kV

Vancouver	P1-2	P1-2 N Bonneville - Troutdale #1 230 kV
Vancouver	P1-2	P1-2 N Bonneville - Troutdale #2 230kV
Vancouver	P1-2	P1-2 Ostrander-Big Eddy 500 KV
Vancouver	P1-2	P1-2 Ostrander-Knight 500 KV
Vancouver	P1-2	P1-2 Ostrander-Pearl 500 KV
Vancouver	P1-2	P1-2 Pioneer-Cherry Grove
Vancouver	P1-2	P1-2 Ross - Lexington 230kV
Vancouver	P1-2	P1-2 Ross-Alcoa 115 kV
Vancouver	P1-2	P1-2 Ross-Hazel Dell 115 kV
Vancouver	P1-2	P1-2 Runyan-Troutdale 115 kV (PAC)
Vancouver	P1-2	P1-2 Sifton-Joe Ast 115 kV
Vancouver	P1-2	P1-2 Sifton-Lacamas 115 kV
Vancouver	P1-2	P1-2 Sifton-N. Camas
Vancouver	P1-2	P1-2 Silicon-Sifton #1 115 kV
Vancouver	P1-2	P1-2 Silicon-Sifton #3 115 kV
Vancouver	P1-2	P1-2 St Johns-Bloss
Vancouver	P1-2	P1-2 St Johns-Knott 115
Vancouver	P1-2	P1-2 St.Johns PACW-St.Johns BPA 115
Vancouver	P1-2	P1-2 Troutdale PAC-Troutdale BPA 230KV
Vancouver	P1-2	P1-2 Troutdale-Gresham 230KV
Vancouver	P1-2	P1-2 Troutdale-Gresham 230KV #2
Vancouver	P1-2	P1-2 Troutdale-Hemlock Tap 115
Vancouver	P1-2	P1-2 Troutdale-Knott 115
Vancouver	P1-2	P1-2 Troutdale-Ostrander 500KV
Vancouver	P1-2	P1-2 Waftertech-Runyan 115 kV
Vancouver	P1-3	P1-3 Alcoa 230/115 kV
Vancouver	P1-3	P1-3 Rivergate (PGE) 230/115 Bank A
Vancouver	P1-3	P1-3 Ross #1 230/115kV
Vancouver	P1-3	P1-3 Ross #2 230/115kV
Vancouver	P1-3	P1-3 Ross 345/230 kV Xfr
Vancouver	P1-3	P1-3 Sifton #1 230/115 kV
Vancouver	P1-3	P1-3 Sifton #2 230/115kV
Vancouver	P1-3	P1-3 St Johns 230/115
Vancouver	P1-3	P1-3 Troutdale (BPA) 500/230 KV

Vancouver	P1-3	P1-3 Troutdale 230/115 (PAC)
Vancouver	P2-1	P2-1 Ross-Sifton TP1 230KV
Vancouver	P2-1	P2-1 Ross-Sifton TP2 230KV
Vancouver	P2-1	P2-1 Sifton-North Bonneville East 230KV
Vancouver	P2-1	P2-1 Sifton-North Bonneville West 230KV
Vancouver	P2-2	P2-2 BUS Bonneville PH1 115 kV
Vancouver	P2-2	P2-2 BUS N. Bonneville Annex 115kV
Vancouver	P2-2	P2-2 BUS N.Bonneville East 230kV
Vancouver	P2-2	P2-2 BUS N.Bonneville West 230kV
Vancouver	P2-2	P2-2 BUS Ross 115kV
Vancouver	P2-2	P2-2 BUS Ross East 230kV
Vancouver	P2-2	P2-2 BUS Ross West 230kV
Vancouver	P2-2	P2-2 BUS Sifton 115kV
Vancouver	P4-2	P4-2 BKF Alcoa B1893 115 kV
Vancouver	P4-2	P4-2 BKF Alcoa B224 115 kV
Vancouver	P4-2	P4-2 BKF Alcoa B234 115 kV
Vancouver	P4-2	P4-2 BKF Alcoa B236 115 kV
Vancouver	P4-2	P4-2 BKF Alcoa B238 115 kV
Vancouver	P4-2	P4-2 BKF Cherry Grove B1 115 kV
Vancouver	P4-2	P4-2 BKF Cherry Grove B2 115 kV
Vancouver	P4-2	P4-2 BKF Cherry Grove B3 115 kV
Vancouver	P4-2	P4-2 BKF Cherry Grove B4 115 kV
Vancouver	P4-2	P4-2 BKF Hazeldell PCB 1 BF
Vancouver	P4-2	P4-2 BKF Hazeldell PCB 2
Vancouver	P4-2	P4-2 BKF Hazeldell PCB 3
Vancouver	P4-2	P4-2 BKF Hazeldell PCB 4
Vancouver	P4-2	P4-2 BKF North Camas PCB 1
Vancouver	P4-2	P4-2 BKF North Camas PCB 2
Vancouver	P4-2	P4-2 BKF North Camas PCB 3
Vancouver	P4-2	P4-2 BKF North Camas PCB 4
Vancouver	P4-2	P4-2 BKF Runyan PCB 1
Vancouver	P4-2	P4-2 BKF Runyan PCB 2
Vancouver	P4-2	P4-2 BKF Runyan PCB 3
Vancouver	P4-2	P4-2 BKF Runyan PCB 5

Vancouver	P4-2	P4-2 BKF Troutdale 2P112
Vancouver	P4-2	P4-2 BKF Troutdale 2P113 (BF)
Vancouver	P4-2	P4-2 BKF Troutdale 2P114 (BF)
Vancouver	P4-6	P4-6 BSB Longview 230kV
Vancouver	P4-6	P4-6 BSB N.Bonneville 230kV
Vancouver	P4-6	P4-6 BSB Ross 230kV
Vancouver	P6	P6-1-1 ADJ N.Bonneville-Ross #1 and #2 230kV
Vancouver	P6	P6-1-1 ADJ N.Bonneville-Troutdale #1 and #2 230kV
Vancouver	P7-1	P7-1 CTR Cherry-Pioneer & 119th 115 kV
Vancouver	P7-1	P7-1 CTR N. Sifton-Ast/Sifton-Lacamas 115 kV
Vancouver	P7-1	P7-1 CTR N.Bonneville-Ross #2/N.Bonneville-Troutdale #2 230kV
Vancouver	P7-1	P7-1 CTR Ross-Sifton 115 and Bonneville-Alcoa 115
Vancouver	P7-1	P7-1 CTR Runyan-Ast & Troutdale DBL CKT 115
Vancouver	P7-1	P7-1 CTR Sifton-Silicon DBL CKT 115
Vancouver, SOA	P7-1	P7-1 CTR Ross-Rivergate 230 kV / Ross-St. John's 230

Study Team	NERC Category	Name
All	P0	P0: flat run
HoodRiver/TheDalles	P1	P1-2 LIN_Bonneville PH - Alcoa 1 & 2 115
HoodRiver/TheDalles	P1	P1-2 LIN_Bonneville PH - Hood River 115
HoodRiver/TheDalles	P1	P1-2 LIN_Bonneville PH - North Camas #1 115
HoodRiver/TheDalles	P1	P1-2 LIN_Hood River - The Dalles 115
HoodRiver/TheDalles	P1	P1-3 TXF_BigEddy 230/115 #1
HoodRiver/TheDalles	P2	P2-2 BUS_Big Eddy 230 Sect 1
HoodRiver/TheDalles	P2	P2-2 BUS_Big Eddy 230 Sect 3 & 4
HoodRiver/TheDalles	P2	P2-2 BUS_Bonneville PH 115
HoodRiver/TheDalles	P2	P2-2 BUS_Chenoweth 115
HoodRiver/TheDalles	P2	P2-2 BUS_Hood River 115
HoodRiver/TheDalles	P2	P2-2 BUS_The Dalles 115
HoodRiver/TheDalles	P6	P6-1-1 LIN_Big Eddy - Quenett #1 230 + LIN_Big Eddy - Quenett #2 230
HoodRiver/TheDalles	P6	P6-2-2 TXF_BigEddy 230/115 #1 + TXF_BigEddy 230/115 #7
HoodRiver/TheDalles	P7	P7-1 CTR_Bonneville PH - North Camas #1 115 / Bonneville PH - Alcoa 1 & 2 115
Longview	P1	P1-2: Allston-Longview #3 230kV
Longview	P1	P1-2: Cardwell-Merwin 115kV
Longview	P1	P1-2: Longview-Lexington 230kV
Longview	P1	P1-2: Woodland - Ross E 230kV
Longview	P2	P2-2: Cardwell 115kV
Longview	P2	P2-4: Longview BFR
NORC	P5-5	Allston E 230 kV (Failed Bus Diff)
NORC	P4-6	Allston E 230 kV BSB Failure (with Wauna UVLS)
NORC	P1-2	Allston-Clatsop #1 230 kV 3PH
NORC	P1-2	P1-2: Allston-Clatsop #1 230 kV 3PH
NORC	P4-6	P4-6: Allston E 230 kV BSB Failure (with Wauna UVLS)
NORC	P5-2	P5-2: Allston-Driscoll #2 115 kV 3PH
NORC	P5-5	P5-5: Allston E 230 kV (Failed Bus Diff)
NORC	P5-5	P5-5: Tillamook 115 kV (Failed Bus Diff)
NORC	P7	P7: ForestGrove-Tillamook_115&Carlton-Tillamook_230
NORC	P5-5	Tillamook 115 kV (Failed Bus Diff)
PDX	P1	P1-2: Pearl - Ostrander 500kV @PERL
PDX	P2	P2-2: BUS Allston 115kV

PDX	P2	P2-2: BUS Keeler 115kV
PDX	P2	P2-2: BUS Keeler East 230kV
PDX	P2	P2-2: BUS Keeler West 230kV
PDX	P2	P2-2: Bus Pearl E 230kV
PDX	P2	P2-4: BSB Allston 230kV
PDX	P2	P2-4: BSB Keeler 230kV
PDX	P2	P2-4: BSB Pearl 230kV
PDX	P5	P5-5: BDF Carlton 115kV
PDX	P5	P5-5: BDF Chemawa 115kV
PDX	P5	P5-5: BDF McMinnville 115kV
PDX	P5	P5-5: BDF OregonCity 115kV
PDX	P5	P5-5: BDF Ross 115kV
PDX	Px	PX: BDF Allston 230kV 3PH
PDX	Px	PX: BDF Carlton 115kV 3PH
PDX	Px	PX: BDF Chemawa 115kV 3PH
PDX	Px	PX: BDF McMinnville 115kV 3PH
PDX	Px	PX: BDF OregonCity 115kV 3PH
PDX	Px	PX: BDF Ross 115kV 3PH
PDX	PX	PX: BUS Keeler 115kV 3PH delayed
PDX, LONG	P2	P2-2: BUS Longview 230kV
PDX, LONG	P2	P2-2: BUS Longview South 115kV
PDX, LONG	P2	P2-4: BSB Longview Annex 230kV
PDX, P-A	PX	PX: ADJ Paul-Allston #2/Paul-Napavine 500kV @ Allston w/SOCSS
PDX, SOA	P1	P1_2: Keeler - Allston 500kV @KEEL
PDX, SOA	P1	P1-2: Allston - Keeler 500kV @ALLS
PDX, SOA	P1	P1-2: Allston - Keeler 500kV @ALLS w RAS
PDX, SOA	P1	P1-2: Allston - Keeler 500kV @KEEL w RAS
PDX, SOA	P1	P1-2: Keeler - Allston 500kV @KEEL
PDX, SOA	P1	P1-2: Keeler - Pearl 500kV @KEEL
PDX, SOA	P2	P2-2: BUS Allston East 230kV
PDX, SOA	P2	P2-2: BUS Allston West 230kV
PDX, SOA	P4	P4-2: BKF 4394 Keeler - Allston/Pearl (+Keeler caps) 500 kV w/RAS
PDX, SOA	P5	P5-5: BDF Allston E 230kV
PDX, VAN	P2	P2-2: BUS Ross 115kV

PDX, VAN	P2	P2-2: BUS Ross East 230kV
PDX, VAN	P2	P2-4: BSB Ross 230 kV
PDX, VAN, SOA	P1	P1-2: Ross-Lexington 230kV @ROSS
PDX, WOCS	P1	P1-2: Pearl-Marion 500kV @PERL
PDX, WOCS	P2	P2-4: BSB Troutdale 230kV
PDX, WOCS	PX	PX: ADJ Pearl - Marion 500 kV / Pearl - Ostrander 500 kV @ Pearl
PDX, WOCS	PX	PX: Station Marion 500kV
Vancouver	P1	P1-2: 3TM Hazel Dell - River Road - St Johns 115 kV
Vancouver	P1	P1-2: Alcoa - Pioneer 115 kV
Vancouver	P1	P1-2: Alcoa - Ross 230 kV
Vancouver	P1	P1-2: Bonneville - Ross 230 kV
Vancouver	P1	P1-2: McNary - Ross 345 kV
Vancouver	P1	P1-2: Pearl - Ostrander 500 kV
Vancouver	P1	P1-2: River Rd - F Valley 115 kV
Vancouver	P1	P1-2: Ross - Rivergate 230 kV
Vancouver	P1	P1-2: Sifton - LaCamas 115 kV
Vancouver	P1	P1-2: Sifton - N Camas 115 kV
Vancouver	P1	P1-2: Troutdale - Runyan 115 kV
Vancouver	P1	P1-2: Woodland - Ross 230 kV
Vancouver	P2	P2-2: Bus Ross 115 kV
Vancouver	P2	P2-2: BUS Ross East 230 kV
Vancouver	P2	P2-2: BUS Sifton 115 kV
Vancouver	P4	P4-6: BSB Ross 230 kV

Study Team Area	NERC Category	Contingency Name Name
Eugene		P0
Eugene		P1-1: Carmen
Eugene		P1-1: Cougar
Eugene		P1-1: Dexter
Eugene		P1-1: Hills Creek
Eugene		P1-1: Leaburg
Eugene		P1-1: Lookout Point
Eugene		P1-1: Waltville
Eugene		P1-1: Weyco
Eugene		P1-2: ALVEY-CURRIN 115kV
Eugene		P1-2: Alvey-Dixonville 230kV
Eugene		P1-2: Alvey-Dixonville 500kV
Eugene		P1-2: Alvey-Hawkins 115kV
Eugene		P1-2: Alvey-Lane 230kV
Eugene		P1-2: Alvey-Marion 500kV
Eugene		P1-2: Alvey-McKenzie 230kV
Eugene		P1-2: Alvey-Santiam 230kV
Eugene		P1-2: ALVEY-SPRINGB 115kV
Eugene		P1-2: ALVEY-TENTHST 115kV
Eugene		P1-2: Bertleson-Eugene 115kV
Eugene		P1-2: BETHELE-EUGENE 115kV
Eugene		P1-2: CALYOUNG-WILAKENZ 115kV
Eugene		P1-2: Carmen Smith & Trailbridge PH
Eugene		P1-2: Carmen-Cougar-Thurston 115kV
Eugene		P1-2: COBURG-MCKENZEW 115kV
Eugene		P1-2: Cougar PH
Eugene		P1-2: CURRIN-HAYDNBSS 115kV
Eugene		P1-2: CURRIN-LAUREL 115kV
Eugene		P1-2: CURRIN-WILAKENZ 115kV
Eugene		P1-2: CURRIN-WILLAMET-OAKWAY 115kV
Eugene		P1-2: DANEBO-LANE 115kV
Eugene		P1-2: Dexter PH
Eugene		P1-2: Diamond Hill-McKenzie 230kV
Eugene		P1-2: Eugene-Alderwood 115kV
Eugene		P1-2: Eugene-Dillard-Alvey 115kV
Eugene		P1-2: Eugene-Greenberry
Eugene		P1-2: Eugene-Lane 115kV
Eugene		P1-2: EUGENE-RIVERRD 115kV
Eugene		P1-2: Fry-Calapoya 230kV
Eugene		P1-2: Hawkins-Willow Creek 115kV
Eugene		P1-2: HAYDNBSS-HAYDBSUB 69kV + XFMR
Eugene		P1-2: HAYDNBSS-WEYRHSR3 115kV
Eugene		P1-2: Hills Creek PH
Eugene		P1-2: HILYARD-MONROEE 115kV
Eugene		P1-2: JEFFRSON-WESTMORE 115kV

Eugene	P1-2: JESSEN-PRAIRIE 115kV
Eugene	P1-2: Lane-Marion 500kV + XFMR
Eugene	P1-2: Lane-Wendson 115kV
Eugene	P1-2: Lane-Wendson 230kV
Eugene	P1-2: LANE-WILLOWC 115kV
Eugene	P1-2: Leaburgs PH
Eugene	P1-2: Lookout Point 1 PH
Eugene	P1-2: Lookout Point 2 PH
Eugene	P1-2: Lookout Point 3 PH
Eugene	P1-2: Lookout Point-Alvey 115kV #1
Eugene	P1-2: Lookout Point-Alvey 115kV #2
Eugene	P1-2: Lookout Point-Hills Creek 115kV
Eugene	P1-2: Lookout Point-LOP PH1 115kV
Eugene	P1-2: Marion-Santiam 500kV
Eugene	P1-2: MCKENZEW-GATEWAYS 115KV
Eugene	P1-2: MCKENZEW-THURSTON 115kV
Eugene	P1-2: MCKENZEW-WILAKENZ 115kV
Eugene	P1-2: PRAIRIE-ENIDRD-SPRINGC 115kV
Eugene	P1-2: PRAIRIE-ST CLARA 115kV
Eugene	P1-2: Seneca PH
Eugene	P1-2: SENECA-BERTLSON 115kV
Eugene	P1-2: SENECA-WESTMORE 115kV
Eugene	P1-2: THURSTON-WALTVILE 69kV + XFMR
Eugene	P1-2: THURSTON-WEYRHSR1 115kV
Eugene	P1-2: Waltvile PH
Eugene	P1-2: WESTMORE-WILLOWC 115kV
Eugene	P1-2: Weyco 3 PH
Eugene	P1-2: Weyco 4 PH
Eugene	P1-2: WEYRHSR1-WEYRHSR3 115kV
Eugene	P1-2: Willow Creek - Bertleson 115kV
Eugene	P1-3: Alvey 230/115kV #3
Eugene	P1-3: Alvey 230/115kV #4
Eugene	P1-3: Alvey 500/230kV
Eugene	P1-3: Lane 230/115kV #1
Eugene	P1-3: Lane 230/115kV #2
Eugene	P1-3: MCKENZEW 230/115kV
Eugene	P1-4: Alvey 115kV C1
Eugene	P1-4: Alvey 115kV C2
Eugene	P1-4: Alvey 230kV C1
Eugene	P1-4: Alvey 230kV C2
Eugene	P1-4: Alvey 230kV C3
Eugene	P1-4: Alvey A476 (MOD Open) 230kV
Eugene	P1-4: Alvey R1 230kV
Eugene	P1-4: Lane 115kV
Eugene	P1-4: Lane 230 kV
Eugene	P2-1: Alvey-Mt Vernon Tap 115kV
Eugene	P2-1: Alvey-Dillard Tap 115kV

Eugene	P2-1: Alvey-Hideaway 115kV
Eugene	P2-1: Alvey-Pleasant Hill 115kV
Eugene	P2-1: CURRIN-WILM TAP 115kV
Eugene	P2-1: DILLARD-DILLARDT 115kV
Eugene	P2-1: Eugene-Dillard Tap 115kV
Eugene	P2-1: Lookout Pt-Dexter 115kV
Eugene	P2-1: Lookout Pt-Mt Vernon Tap 115kV
Eugene	P2-2: Alvey #1 115kV
Eugene	P2-2: Alvey #2 115kV
Eugene	P2-2: Alvey NORTH 230kV
Eugene	P2-2: Alvey SOUTH 230kV
Eugene	P2-2: Currin 115kV
Eugene	P2-2: Eugene 115kV
Eugene	P2-2: Lane #1 230kV
Eugene	P2-2: Lane #2 230kV
Eugene	P2-2: Lane 115kV
Eugene	P2-2: Lookout Point 115kV
Eugene	P2-2: Mckenzie 115kV
Eugene	P2-2: Wilakenz 115kV
Eugene	P2-3: Alvey 5081 500kV
Eugene	P2-3: Alvey 5084 500kV
Eugene	P2-3: Alvey 5087 500kV
Eugene	P2-3: Eugene B554 115kV
Eugene	P2-3: Lane B1608 115kV
Eugene	P2-3: Lookout Pt B564 115kV
Eugene	P2-3: Lookout Pt B568 115kV
Eugene	P2-3: McKenzie 6693 (1M35) 230kV
Eugene	P2-3: WILLOW C 5754 115kV
Eugene	P2-4: Alvey 115kV
Eugene	P2-4: Alvey 230kV
Eugene	P2-4: Lane 230kV
Salem	P1-1 GEN: Adair
Salem	P1-1 GEN: Big Cliff
Salem	P1-1 GEN: Detroit 1
Salem	P1-1 GEN: Detroit 2
Salem	P1-1 GEN: Evergreen Bio
Salem	P1-1 GEN: Foster 1
Salem	P1-1 GEN: Foster 2
Salem	P1-1 GEN: Green Peter 1
Salem	P1-1 GEN: Green Peter 2
Salem	P1-2 Line : ALBANY115-(HALSEYMILL115) EUGENE 1 115
Salem	P1-2 Line : ALBANY230-SANTIAM230C1
Salem	P1-2 Line : ASHE500-SLATT500
Salem	P1-2 Line : SALEM115-DALLAS115
Salem	P1-2 Line : SALEM115-FAIRMOUNT115
Salem	P1-2 LINE: Albany-Burnt Woods 115 kV
Salem	P1-2 LINE: Albany-Halsey Mill 115 kV

Salem	P1-2 LINE: Albany-Hazelwood (BPA/PAC) 115 kV
Salem	P1-2 LINE: Albany-Lebanon 115 kV
Salem	P1-2 LINE: Alvey-Diamond Hill (BPA/PAC) 230 kV
Salem	P1-2 LINE: Bethel-Culver (PGE) 115 kV
Salem	P1-2 LINE: Bethel-Mcloughlin(PGE) 230 kV
Salem	P1-2 LINE: Bethel-Round Butte (PGE) 230 kV
Salem	P1-2 LINE: Calapooya-Fry (PAC) 230 kV
Salem	P1-2 LINE: Chemawa-Big Eddy 230 kV
Salem	P1-2 LINE: Chemawa-Salem 230 kV
Salem	P1-2 LINE: Chemawa-Salem AL 115 kV
Salem	P1-2 LINE: Chemawa-Santiam 230 kV
Salem	P1-2 LINE: Diamond Hill-Fry (PAC) 230 kV
Salem	P1-2 LINE: Fry-Foster S.S. (PAC) 115 kV
Salem	P1-2 LINE: Fry-Mary's River (PAC) 115 kV
Salem	P1-2 LINE: Fry-Murder Creek (PAC) 115 kV
Salem	P1-2 LINE: Fry-Parrish Gap (PGE/PAC) 230 kV
Salem	P1-2 LINE: Hazelwood-Fry (PAC) 115 kV
Salem	P1-2 LINE: Hillcrest-Mill Creek (PGE) 115 kV
Salem	P1-2 LINE: Hillcrest-Oxford (PGE) 115 kV
Salem	P1-2 LINE: Lebanon-Foster S.S. 115 kV
Salem	P1-2 LINE: Liberty-Hillcrest (PGE) 115 kV
Salem	P1-2 LINE: Marion-Alvey 500 kV
Salem	P1-2 LINE: Marion-Ashe 500 kV
Salem	P1-2 LINE: Marion-Buckley 500 kV
Salem	P1-2 LINE: Marion-John Day 500 kV
Salem	P1-2 LINE: Marion-Lane 500 kV
Salem	P1-2 LINE: Marion-Pearl 500 kV
Salem	P1-2 LINE: Market-Bethel (PGE) 115 kV
Salem	P1-2 LINE: Market-Chemawa (PGE) 115 kV
Salem	P1-2 LINE: Mill Creek-Culver (PGE) 115 kV
Salem	P1-2 LINE: Oregon City-Chemawa 115 kV
Salem	P1-2 LINE: Oxford-Market (PGE) 115 kV
Salem	P1-2 LINE: ParishGp-Santiam
Salem	P1-2 LINE: Parrish Gap-Bethel (PGE) 230 kV
Salem	P1-2 LINE: Salem-Albany #1 115 kV
Salem	P1-2 LINE: Salem-Albany #2 115 kV
Salem	P1-2 LINE: Salem-Chemawa #2 115 kV
Salem	P1-2 LINE: Salem-Grand Ronde 115 kV
Salem	P1-2 LINE: Salem-Grand Ronde 115 kV (Post Conversion)
Salem	P1-2 LINE: Salem-Liberty (PGE) 115 kV
Salem	P1-2 LINE: Santiam-Alvey #1 & #2 230
Salem	P1-2 LINE: Santiam-Bethel 230 kV
Salem	P1-2 LINE: Santiam-Detroit 230 kV
Salem	P1-2 LINE: Santiam-Jones Canyon 230 kV
Salem	P1-2 LINE: Santiam-Toledo 230 kV
Salem	P1-3 :GRNDROND115-GRNDROND59.8C1
Salem	P1-3 XFMR: 3WT_FOSTER115_FOS014.2_FOS024.2 C 1

Salem	P1-3 XFMR: Albany 230/115
Salem	P1-3 XFMR: Alvey 500/230
Salem	P1-3 XFMR: Bethel C1 230/115 PGE
Salem	P1-3 XFMR: Bethel C2 230/115 PGE
Salem	P1-3 XFMR: Chemawa 230/115
Salem	P1-3 XFMR: Detriot C1 13.8/230 GSU
Salem	P1-3 XFMR: Detriot C2 13.8/230 GSU
Salem	P1-3 XFMR: Foster 100/115 GSU
Salem	P1-3 XFMR: Fry C1 230/115 PAC
Salem	P1-3 XFMR: Fry C2 230/115 PAC
Salem	P1-3 XFMR: Green Peter 13.8/115 GSU
Salem	P1-3 XFMR: ParishGp 230/69
Salem	P1-3 XFMR: Salem 230/115
Salem	P1-3 XFMR: Santiam 500/230
Salem	P1-3 XFMR: SANTIAMTX
Salem	P1-3: 3WT_FOSTER115_FOSTER_014.2_FOSTER_024.2 CT1
Salem	P1-4 Shunt :MARIONC1500
Salem	P1-4 Shunt :MARIONR1500
Salem	P1-4 Shunt :MARIONR2500
Salem	P1-4 SHUNT: Albany 115 50 MVar
Salem	P1-4 SHUNT: Albany 115 Cap 50 MVar
Salem	P1-4 SHUNT: Chemawa 115 Cap 24 MVar
Salem	P1-4 SHUNT: Chemawa 230 Cap 60 MVar
Salem	P1-4 SHUNT: Chemawa 230 Cap 75 MVar
Salem	P1-4 SHUNT: Fry 115 Cap 100 MVar (PAC)
Salem	P1-4 SHUNT: Lebanon 115 Cap 20 MVar
Salem	P1-4 SHUNT: Oregon City 115 Cap 20 MVar
Salem	P1-4 SHUNT: Santiam 230 Cap 115 MVar
Salem	P1-4 SHUNT: Santiam 230 Reac 180 MVar
Salem	P2-1:ADAIR#115-ADAIR115C2
Salem	P2-1:ADAIR#115-ALBANY115C2
Salem	P2-1:ADAIR#115-SOUTHM115C2
Salem	P2-1:AIRPORT#115-LEBANON115C1
Salem	P2-1:ALBANY115-BURNTWD115C1
Salem	P2-1:ALBANY115-CONSER#115C1
Salem	P2-1:ALBANY115-HALSEYMIL_1#115C1
Salem	P2-1:ALBANY115-HAZELWOD115C1
Salem	P2-1:ALBANY115-LOCHNER+115C1
Salem	P2-1:ALVEY_CAP500-MARION500C1
Salem	P2-1:ALVEY_JMP230-MARCOLA230C1
Salem	P2-1:ALVEY_JMP230-MARCSW2230C2
Salem	P2-1:ALVEY_S230-ALVEY_JMP230C2
Salem	P2-1:ASHER1500-MARION500C2
Salem	P2-1:BARNES115-HILLCRS#115C1
Salem	P2-1:BARNES115-LIBTYPG#115C1
Salem	P2-1:BETHEL115-BETHELSO115C1
Salem	P2-1:BETHEL115-MIDGRV#115C1

Salem	P2-1:BETHEL230-BET_SAN_CIO230C1
Salem	P2-1:BETHEL230-MONITOR230C1
Salem	P2-1:BETHEL230-PARISHGP230C1
Salem	P2-1:BETHEL230-ROUNDBN230C1
Salem	P2-1:BETHELSO115-CULVER115C1
Salem	P2-1:BIG_EDDY2230-CHEMAWA230C1
Salem	P2-1:BIGEDDY500-OSTRNDER500C1
Salem	P2-1:BUCHANAN115-DIXON115C1
Salem	P2-1:BUCKLEY500-MARION500C1
Salem	P2-1:CALAPOYA230-DIAHILL230C1
Salem	P2-1:CALAPOYA230-FRY230C1
Salem	P2-1:CHEMAWA115-FARGO115C2
Salem	P2-1:CHEMAWA115-HUGHES_S#115C2
Salem	P2-1:CHEMAWA115-INDIAN115C1
Salem	P2-1:CHEMAWA115-READ#115C1
Salem	P2-1:CHEMAWA230-SALEM230C1
Salem	P2-1:CHEMAWA230-SANTIAMEAST230C1
Salem	P2-1:CIRCBLVD115-FRY115C1
Salem	P2-1:CIRCLTP1115-CIRCLTP2115C1
Salem	P2-1:CIRCLTP1115-GRANTPP115C1
Salem	P2-1:CIRCLTP1115-HAZELWOD115C1
Salem	P2-1:CIRCLTP2115-BUCHANAN115C1
Salem	P2-1:CIRCLTP2115-CIRCBLVD115C1
Salem	P2-1:CONSER#115-SALEM115C1
Salem	P2-1:CONSER#115-WESTKFT115C1
Salem	P2-1:CROWFOOT115-LEBANONP115C1
Salem	P2-1:CROWFOOT115-SWEETHOM115C1
Salem	P2-1:CULVER115-TURNER#115C1
Salem	P2-1:DALLAS115-MONPAC115C1
Salem	P2-1:DETROIT230-SANTIAMEAST230C1
Salem	P2-1:DIXON115-MARYSRVR115C1
Salem	P2-1:EVRGNTAP69-EVRGNBIO69C1
Salem	P2-1:EVRGNTAP69-SCIO69C1
Salem	P2-1:FAIRMNT115-LIBTYPG115C1
Salem	P2-1:FAIRMNT115-SALEM115C1
Salem	P2-1:FARGO115-OREGON_CITY115C2
Salem	P2-1:FOSTER#115-GREENPT115C1
Salem	P2-1:FOSTER#115-LEBANON115C1
Salem	P2-1:FOSTER115-FOSTER#115C1
Salem	P2-1:FOSTER115-SWEETHOM115C1
Salem	P2-1:FROMAN+115-AIRPORT#115C1
Salem	P2-1:FROMAN+115-LOCHNER+115C1
Salem	P2-1:FRY115-LEBANONP115C1
Salem	P2-1:FRY115-MURDERCK115C1
Salem	P2-1:FRY115-OREMET115C1
Salem	P2-1:GRANTPP115-HILLVIEW115C1
Salem	P2-1:GRNDROND152#115-GRNDROND115C1

Salem	P2-1:GRNDROND152#115-GRNDROND126#115CDS
Salem	P2-1:GRNDROND152#115-SALEM115C1
Salem	P2-1:HALSEYMIL_1#115-HALSEYMIL_2#115C1
Salem	P2-1:HALSEYMIL_2#115-HARRISBURG+115C1
Salem	P2-1:HAZELWD69-QUEEN69C1
Salem	P2-1:HAZELWD69-VINE69C1
Salem	P2-1:HAZELWOD115-OREMET115C1
Salem	P2-1:HILLCRS#115-HILLCRST115C1
Salem	P2-1:HILLCRS#115-MILLCR115C1
Salem	P2-1:HILLCRST115-LIBTYPG#115C1
Salem	P2-1:HILLCRST115-OXFRDPG115C1
Salem	P2-1:HILLVIEW115-MARYSRVR115C1
Salem	P2-1:HUGHES_S#115-SALEM115C2
Salem	P2-1:INDIAN115-MIDGRV2115C1
Salem	P2-1:INDPNC69-MONPAC69C1
Salem	P2-1:INDPNC69-VINE69C1
Salem	P2-1:JEFFERSN69-PARISHGP69C1
Salem	P2-1:JEFFJCT69-JEFFTAP69C1
Salem	P2-1:JEFFJCT69-QUEEN69C1
Salem	P2-1:JEFFJCT69-SCIO69C1
Salem	P2-1:JEFFTAP69-JEFFERSN69C1
Salem	P2-1:JEFFTAP69-VINE69C1
Salem	P2-1:JOHNDAY500-MARION500C1
Salem	P2-1:LANE500-MARION500C1
Salem	P2-1:LIBTYPG115-LIBTYPG#115C1
Salem	P2-1:LYONS69-EVRGNTAP69C1
Salem	P2-1:LYONS69-SANTMSS69C1
Salem	P2-1:MARCOLA230-SANTIAM_JMP230C1
Salem	P2-1:MARION500-PEARL500C1
Salem	P2-1:MARION500-SANTIAM500C1
Salem	P2-1:MARKET115-MIDGRV#115C1
Salem	P2-1:MARKET115-SALEMAL#115C1
Salem	P2-1:MARKET115-UNVSTYPG115C1
Salem	P2-1:MIDGRV#115-MIDLGROV115C1
Salem	P2-1:MIDGRV2115-SALEMAL#115C1
Salem	P2-1:MIDLGROV115-MIDGRV2115C1
Salem	P2-1:MILLCR115-TURNER#115C1
Salem	P2-1:MONMOUTH115-MONPAC115C1
Salem	P2-1:MONMOUTH115-SALEM115C2
Salem	P2-1:MONMOUTH115-SOUTHM115C2
Salem	P2-1:MURDERCK115-WESTKFT115C1
Salem	P2-1:OSTRNDER500-KNIGHT500C1
Salem	P2-1:OSTRNDER500-PEARL500C1
Salem	P2-1:OSTRNDER500-TROUTDAL500C1
Salem	P2-1:OXFRDPG115-UNVSTYPG115C1
Salem	P2-1:READ#115-SALEM_AL#115C1
Salem	P2-1:SALEM_AL#115-SALEMAL#115C1

Salem	P2-1:SALEM115-DALLAS115C1
Salem	P2-1:SANTIAM_JMP230-SANTIAMWEST230C1
Salem	P2-1:SANTIAM69-SANTMSS69C1
Salem	P2-1:SANTIAMWEST230-BET_SAN_CIO230C1
Salem	P2-1:SANTIAMWEST230-SANTIAM#230C1
Salem	P2-1:SANTIAMWEST230-SANTIAMEAST230CBS
Salem	P2-1:SANTIAMWEST230-TUMBL_CREEK+230C1
Salem	P2-1:SANTIAMWEST230-WREN+230C1
Salem	P2-1:SANTMSS69-STAYTON69C1
Salem	P2-1:STAYTON69-PARISHGP69C1
Salem	P2-1:TURNER115-TURNER#115C1
Salem	P2-2 BUS : ADAIR#115
Salem	P2-2 BUS : AIRPORT#115
Salem	P2-2 BUS : ALBANY115
Salem	P2-2 BUS : ALBANY230
Salem	P2-2 BUS : ALVEY_S230
Salem	P2-2 BUS : BARNES115
Salem	P2-2 BUS : BETHEL115
Salem	P2-2 BUS : BETHEL230
Salem	P2-2 BUS : BETHEL59.8
Salem	P2-2 BUS : BETHELSO115
Salem	P2-2 BUS : BOYER115
Salem	P2-2 BUS : BUCHANAN115
Salem	P2-2 BUS : BURNTWD115
Salem	P2-2 BUS : CALAPOYA230
Salem	P2-2 BUS : CALAPOYA69
Salem	P2-2 BUS : CHEMAWA115
Salem	P2-2 BUS : CHEMAWA230
Salem	P2-2 BUS : CHEMAWA59.8
Salem	P2-2 BUS : CIRCBLVD115
Salem	P2-2 BUS : CONSER#115
Salem	P2-2 BUS : CROWFOOT115
Salem	P2-2 BUS : CULVER115
Salem	P2-2 BUS : DALLAS115
Salem	P2-2 BUS : DETROIT13.8
Salem	P2-2 BUS : DETROIT230
Salem	P2-2 BUS : DETROITTX1230
Salem	P2-2 BUS : DETROITTX2230
Salem	P2-2 BUS : DIAHILL230
Salem	P2-2 BUS : DIAHILL69
Salem	P2-2 BUS : DIXON115
Salem	P2-2 BUS : E_SPRING#230
Salem	P2-2 BUS : EVRGNBIO13.8
Salem	P2-2 BUS : EVRGNBIO69
Salem	P2-2 BUS : EVRGNTAP69
Salem	P2-2 BUS : FAIRMNT115
Salem	P2-2 BUS : FARGO115

Salem	P2-2 BUS : FOSTER#115
Salem	P2-2 BUS : FOSTER115
Salem	P2-2 BUS : FOSTX1100
Salem	P2-2 BUS : FROMAN+115
Salem	P2-2 BUS : FRY115
Salem	P2-2 BUS : FRY230
Salem	P2-2 BUS : GRANTPP115
Salem	P2-2 BUS : GREENPT115
Salem	P2-2 BUS : GRNDROND115
Salem	P2-2 BUS : HALSEYMILL_1115
Salem	P2-2 BUS : HALSEYMILL_2115
Salem	P2-2 BUS : HARRISBURG+115
Salem	P2-2 BUS : HAZELWD69
Salem	P2-2 BUS : HAZELWOD115
Salem	P2-2 BUS : HILLCRS#115
Salem	P2-2 BUS : HILLCRST115
Salem	P2-2 BUS : HILLVIEW115
Salem	P2-2 BUS : HUGHES_S#115
Salem	P2-2 BUS : INDIAN115
Salem	P2-2 BUS : INDPNC69
Salem	P2-2 BUS : JEFFERSN69
Salem	P2-2 BUS : JEFFJCT69
Salem	P2-2 BUS : JEFFTAP69
Salem	P2-2 BUS : LEBANON115
Salem	P2-2 BUS : LEBANONP115
Salem	P2-2 BUS : LIBTYPG115
Salem	P2-2 BUS : LOCHNER+115
Salem	P2-2 BUS : LYONS69
Salem	P2-2 BUS : MARCOLA230
Salem	P2-2 BUS : MARCSW2230
Salem	P2-2 BUS : MARKET115
Salem	P2-2 BUS : MARYSRVR115
Salem	P2-2 BUS : MCKENTP230
Salem	P2-2 BUS : MCKENZEW230
Salem	P2-2 BUS : MCLOUGLN230
Salem	P2-2 BUS : MIDGRV#115
Salem	P2-2 BUS : MIDGRV2115
Salem	P2-2 BUS : MIDLGROV115
Salem	P2-2 BUS : MILLCR115
Salem	P2-2 BUS : MONITOR230
Salem	P2-2 BUS : MONITOR59.8
Salem	P2-2 BUS : MONMOUTH115
Salem	P2-2 BUS : MONPAC115
Salem	P2-2 BUS : MONPAC69
Salem	P2-2 BUS : MURDERCK115
Salem	P2-2 BUS : ORECITY115
Salem	P2-2 BUS : OREMET115

Salem	P2-2 BUS : OXFRDPG115
Salem	P2-2 BUS : PARISHGP230
Salem	P2-2 BUS : PARISHGP69
Salem	P2-2 BUS : QUEEN69
Salem	P2-2 BUS : READ#115
Salem	P2-2 BUS : ROUNDBN230
Salem	P2-2 BUS : SALEM_AL#115
Salem	P2-2 BUS : SALEM115
Salem	P2-2 BUS : SALEM230
Salem	P2-2 BUS : SALEMAL#115
Salem	P2-2 BUS : SANT#230
Salem	P2-2 BUS : SANTIAM#230
Salem	P2-2 BUS : SANTIAM500
Salem	P2-2 BUS : SANTIAM69
Salem	P2-2 BUS : SANTIAMEAST230
Salem	P2-2 BUS : SANTIAMTX230
Salem	P2-2 BUS : SANTIAMWEST230
Salem	P2-2 BUS : SANTMSS69
Salem	P2-2 BUS : SCIO69
Salem	P2-2 BUS : SOUTHM115
Salem	P2-2 BUS : STAYTON69
Salem	P2-2 BUS : SWEETHOM115
Salem	P2-2 BUS : TOLEDO230
Salem	P2-2 BUS : TURNER#115
Salem	P2-2 BUS : TURNER115
Salem	P2-2 BUS : UNVSTYPG115
Salem	P2-2 BUS : VINE69
Salem	P2-2 BUS : WENDSON230
Salem	P2-2 BUS : WESTKFT115
Salem	P2-2 BUS : WREN+230
Salem	P2-2: PAC Wierich115
Salem	P2-3 PCB : A339 Chemawa230 - Chemawa115 230/115
Salem	P2-3 PCB : A514 Santiam-115 230/69/115
Salem	P2-3 PCB : A516 Santiam- Bethel 1 230
Salem	P2-3 PCB : A524 Santiam-Toledo (Via Wren) 230
Salem	P2-3 PCB : A528 Santiam-Jones Canyon 1 230
Salem	P2-3 PCB : A532 Santiam-Alvey1,2 230
Salem	P2-3 PCB : A534 Santiam- Chemawa 230
Salem	P2-3 PCB : A536 Santiam- Detroit PH 230
Salem	P2-3 PCB : A540 Santiam- Santiam Shunts 230
Salem	P2-3 PCB : A542 Santiam-Marion500 230/500
Salem	P2-3 PCB : A668 Chemawa - Salem 1 230
Salem	P2-3 PCB : A669 Chemawa - Chemawa Shunts 230
Salem	P2-3 PCB : A670 Chemawa - Big Eddy 1 230
Salem	P2-3 PCB : A676 Chemawa - Santam 1 230
Salem	P2-3 PCB : B101 Chemawa Chemawa Shunt 115
Salem	P2-3 PCB : B102 Chemawa Oregon City 2 115

Salem	P2-3 PCB : B104 Chemawa Salem 2 115
Salem	P2-3 PCB : B108 Chemawa115 Chemawa230 115/230
Salem	P2-3 PCB : B110 Chemawa Salem_Alumina 115
Salem	P2-3 PCB : B112 Chemawa Indian 115
Salem	P2-3 PCB : B114 Chemawa115 - Chemawa69 115/69
Salem	P2-3 PCB : B1272 Albany-Eugene 1 115
Salem	P2-3 PCB : B512 Albany-Hazelwood 115
Salem	P2-3 PCB : B514 Albany-Salem 1 115
Salem	P2-3 PCB : B516 Albany-Lebanon (Via Lochner, Froman) 115
Salem	P2-3 PCB : B518 Albany- Salem 2 115
Salem	P2-3 PCB : B52 Salem-Albany 2 115
Salem	P2-3 PCB : B520 Albany-Santiam 115/230/69
Salem	P2-3 PCB : B524 AlbanyUSDOEAlbanyResearc12.5_PAC115/12.5
Salem	P2-3 PCB : B526 Albany-Burnt Woods115
Salem	P2-3 PCB : B528 Albany-Albany Shunt 115
Salem	P2-3 PCB : B54 Salem-Chemawa 2 115
Salem	P2-3 PCB : B56 Salem-Grand Ronde 115
Salem	P2-3 PCB : B58 Salem-PACW Dallas 115
Salem	P2-3 PCB : B60 Salem-Albany 1 115
Salem	P2-3 PCB : B62 Salem-PGE 1 Fairmount 115
Salem	P2-3 PCB : B64 Salem-Chemawa230 115/230
Salem	P2-3 PCB : B67 Salem-Salem SEC 12.5 115/12.5
Salem	P2-3 PCB : L1112 Santiam-Stayton Consumers Power 69
Salem	P2-3 PCB : L1114 Santiam- Santiam 69/230/115
Salem	P2-3 PCB : L1114 Santiam-Santiam230, Albany 230/69/115
Salem	P2-3 PCB : L1116 Santiam69 -PACW Stayton, Lyons69
Salem	P2-3 PCB : L40 Chemawa PGE Dayton_Wallace69
Salem	P2-3 PCB : L42Chemawa69 Chemawa115 69/115
Salem	P2-3 PCB : L44 Chemawa PGE Salem_McClain69
Salem	P2-3 PCB : L46 Chemawa PGE Claxtar 69
Salem	P2-3 PCB : L55 Chemawa PGE Waconda 69
Salem	P2-3 PCB : 4012 Marion-Marion Shunt R1 500
Salem	P2-3 PCB : 4020 Marion-Marion R2, Cap1 500
Salem	P2-3 PCB : 4331 Marion-Marion Cap1, R2 500
Salem	P2-3 PCB : 4355 Marion-Pearl 1 and Marion R1 500
Salem	P2-3 PCB : 4365 Marion-Lane 1 and Marion Cap1, R2 500
Salem	P2-3 PCB : 4368 Marion-John Day 1 and Lane 1 500
Salem	P2-3 PCB : 4371 Marion-John Day 1 and Marion R1 500
Salem	P2-3 PCB : 4374 Marion-Alvey 1 and Marion Cap1, R2 500
Salem	P2-3 PCB : 4377 Marion-Alvey 1 and Ashe 2 500
Salem	P2-3 PCB : 4380 Marion-Ashe 2 and Marion R1 500
Salem	P2-3 PCB : 4383 Marion-Santiam 1 and Marion Cap1, R2 500
Salem	P2-3 PCB : 4386 Marion-Buckley 1 and Santiam 1 500
Salem	P2-3 PCB : 4389 Marion-Buckley 1 and Marion R1 500
Salem	P2-3 PCB : 4946 Marion-Pearl 1 and Marion Cap1, R2 500
Salem	P2-3: PCB : B56 Salem - Grand Ronde 115 kV (post conversion)
Salem	P2-4 BSB: A520 Santiam 230 (without 2bus model)

Salem	P2-4 PCB (BSB) A520 SantiamE- SantiamW 230
Salem	P7 CTR : Ashe-Marion 2 500kV AND Ashe-Slatt 1 500kV
Salem	P7 CTR : Ashe-Marion 2 500kV AND Buckley-Marion 1 500kV
Salem	P7 CTR : Ashe-Marion 2 500kV AND Slatt-Buckley 1 500kV
Salem	P7 CTR : Big Eddy-Troutdale 230 AND Big Eddy-Chemawa 230
Salem	P7-1 CTR: Chemawa-Salem 1 230 & Chemawa-Salem 2 115
Salem	P7-1 CTR: Jones Canyon-Santiam 230 + Detroit-Santiam 230
Salem	P7-1 CTR: Santiam-Bethel 230 + Santiam-Chemawa 230
Salem	PX:ALVEY500
Salem	PX:MARION500
SORC	P0-0: No Contingency
SORC	P1-2 LINE: Alvey-Dixonville 230 kV
SORC	P1-2 LINE: Alvey-Fairview 230 kV
SORC	P1-2 LINE: Alvey-Lane_S1 230 kV
SORC	P1-2 LINE: Alvey-Santiam_W 230 kV
SORC	P1-2 LINE: Bandon-Rogue 115 kV
SORC	P1-2 LINE: Fairview-Bandon 115 kV #1
SORC	P1-2 LINE: Fairview-Bandon 115 kV #2
SORC	P1-2 LINE: Fairview-Dixonville 230 kV
SORC	P1-2 LINE: Fairview-Isthmus 230 kV
SORC	P1-2 LINE: Fairview-Rogue 230 kV
SORC	P1-2 LINE: Lane-Alvey 230 kV
SORC	P1-2 LINE: Lane-Wendson 115 kV
SORC	P1-2 LINE: Lane-Wendson 230 kV
SORC	P1-2 LINE: Lockhart-Isthmus 115 kV
SORC	P1-2 LINE: Martin Creek-Drain 115 kV
SORC	P1-2 LINE: Reedsport-Fairview 115 kV
SORC	P1-2 LINE: Reedsport-Tahkenitch 115 kV
SORC	P1-2 LINE: Santiam-Toledo 230 kV
SORC	P1-2 LINE: Tahkenitch-Gardiner 115 kV
SORC	P1-2 LINE: Toledo-Wendson 230 kV
SORC	P1-2 LINE: Wendson-Florence 115 kV
SORC	P1-2 LINE: Wendson-Tahkenitch 115 kV
SORC	P1-2 LINE: Wendson-Tahkenitch 230 kV
SORC	P1-3 XFMR: Alvey 230/115 kV #3
SORC	P1-3 XFMR: Alvey 230/115 kV #4
SORC	P1-3 XFMR: Fairview 230/115 kV
SORC	P1-3 XFMR: Isthmus 230/115
SORC	P1-3 XFMR: Lane 230/115 kV #1
SORC	P1-3 XFMR: Lane 230/115 kV #2
SORC	P1-3 XFMR: Martin Creek 230/115 kV
SORC	P1-3 XFMR: Rogue 230/115
SORC	P1-3 XFMR: Tahkenitch 230/115 kV
SORC	P1-3 XFMR: Toledo 230/69 #1
SORC	P1-3 XFMR: Wendson 230/115 kV
SORC	P1-4 SHUNT: Alvey C1 230kV
SORC	P1-4 SHUNT: Bandon C1 115kV

SORC	P1-4 SHUNT: Bandon C2 115kV
SORC	P1-4 SHUNT: Drain C1 115kV
SORC	P1-4 SHUNT: Fairview C1 115kV
SORC	P1-4 SHUNT: Fairview C2 115kV
SORC	P1-4 SHUNT: Lane C1 115kV
SORC	P1-4 SHUNT: Lane C2 230kV
SORC	P1-4 SHUNT: North Brookings C1 115kV
SORC	P1-4 SHUNT: Reedsport C1 115kV
SORC	P1-4 SHUNT: Rogue C1 115kV
SORC	P1-4 SHUNT: Rogue C2 115kV
SORC	P1-4 SHUNT: Rogue C3 115kV
SORC	P1-4 SHUNT: Tahkenitch C1 115kV
SORC	P1-4 SHUNT: Tahkenitch C2 115kV
SORC	P1-4 SHUNT: Toledo C1 69kV
SORC	P1-4 SHUNT: Toledo C2 230kV
SORC	P2-1 LSO: Alvey-ESpring
SORC	P2-1 LSO: Alvey-MartinTp 230 kV
SORC	P2-1 LSO: Bandon-Morison 115 kV
SORC	P2-1 LSO: Bandon-Two Mile 115 kV
SORC	P2-1 LSO: Fairview-Coquille 115_NA
SORC	P2-1 LSO: Fairview-Isthmus 230_NA
SORC	P2-1 LSO: Fairview-Norway 115_NA
SORC	P2-1 LSO: Fairview-RestnTp 230 kV
SORC	P2-1 LSO: Fairview-Rogue 230 kV
SORC	P2-1 LSO: Fairview-SumnerC 115_NA
SORC	P2-1 LSO: Lane-Rainbow 115_NA
SORC	P2-1 LSO: Lockhart-Stats 115 kV
SORC	P2-1 LSO: Martin Creek-MartinTp 230 kV
SORC	P2-1 LSO: Martn Creek-Latham 115 kV
SORC	P2-1 LSO: Reedsport-LakeSid 115 kV
SORC	P2-1 LSO: Rogue-GeiselM 115 kV
SORC	P2-1 LSO: Rogue-GldBchL1 115 kV
SORC	P2-1 LSO: Rogue-GldBchL2 115 kV
SORC	P2-1 LSO: SantiamWest-SantTap
SORC	P2-1 LSO: Santiam-Wren 230 kV
SORC	P2-1 LSO: Tahkenitch-BerryDT 115 kV
SORC	P2-1 LSO: Takhenitch-Gardiner 115 kV
SORC	P2-1 LSO: Toledo-Wren
SORC	P2-1 LSO: Wendson-BerryDT 115 kV
SORC	P2-1 LSO: Wendson-Mapleton 115 kV
SORC	P2-1 LSO: Wendson-Tahknich 230 kV
SORC	P2-2 BUS: Alvey 230 kV North
SORC	P2-2 BUS: Alvey 230 kV South
SORC	P2-2 BUS: Bandon 115 kV
SORC	P2-2 BUS: Dixonvle 230 kV
SORC	P2-2 BUS: Fairview 115 kV
SORC	P2-2 BUS: Fairview 230 kV Sect. 1

SORC	P2-2 BUS: Fairview 230 kV Sect. 2
SORC	P2-2 BUS: Lane 115 kV
SORC	P2-2 BUS: Lane 230 kV North
SORC	P2-2 BUS: Lane 230 kV South
SORC	P2-2 BUS: Martin Creek 230kV
SORC	P2-2 BUS: Reedsport 115kV
SORC	P2-2 BUS: Rogue 115 kV
SORC	P2-2 BUS: Santiam 230 kV West
SORC	P2-2 BUS: Tahkenitch 115 kV
SORC	P2-2 BUS: Toledo 115 kV
SORC	P2-2 BUS: Wendson 115 kV
SORC	P2-2 BUS: Wendson 230 kV
SORC	P2-3 BKF: Bandon 115kV B1592
SORC	P2-3 BKF: Bandon 115kV B1594
SORC	P2-3 BKF: Fairview 115kV B1160
SORC	P2-3 BKF: Fairview 115kV B1166
SORC	P2-3 BKF: Fairview 230kV A904
SORC	P2-3 BKF: Fairview 230kV A907
SORC	P2-3 BKF: Martin Creek 230kV A443
SORC	P2-3 BKF: Reedsport 115kV B316
SORC	P2-3 BKF: Rogue 115kV B1861
SORC	P2-3 BKF: Tahkenitch 115kV B1566
SORC	P2-3 BKF: Wendson 115kV B1778
SORC	P2-3 BKF: Wendson 115kV B1783
SORC	P2-4 BSB: Alvey 230 kV
SORC	P2-4 BSB: Fairview 230 kV
SORC	P2-4 BSB: Lane 230 kV
SORC	P7.1_CTW_Fairview-Rogue 230/Fairview-Bandon #2 115_230/115_NA

Study Team	NERC Category	Name
All	P0	P0: flat run
HoodRiver/TheDalles	P1	P1-2 LIN_Bonneville PH - Alcoa 1 & 2 115
HoodRiver/TheDalles	P1	P1-2 LIN_Bonneville PH - Hood River 115
HoodRiver/TheDalles	P1	P1-2 LIN_Bonneville PH - North Camas #1 115
HoodRiver/TheDalles	P1	P1-2 LIN_Hood River - The Dalles 115
HoodRiver/TheDalles	P1	P1-3 TXF_BigEddy 230/115 #1
HoodRiver/TheDalles	P2	P2-2 BUS_Big Eddy 230 Sect 1
HoodRiver/TheDalles	P2	P2-2 BUS_Big Eddy 230 Sect 3 & 4
HoodRiver/TheDalles	P2	P2-2 BUS_Bonneville PH 115
HoodRiver/TheDalles	P2	P2-2 BUS_Chenoweth 115
HoodRiver/TheDalles	P2	P2-2 BUS_Hood River 115
HoodRiver/TheDalles	P2	P2-2 BUS_The Dalles 115
HoodRiver/TheDalles	P6	P6-1-1 LIN_Big Eddy - Quenett #1 230 + LIN_Big Eddy - Quenett #2 230
HoodRiver/TheDalles	P6	P6-2-2 TXF_BigEddy 230/115 #1 + TXF_BigEddy 230/115 #7
HoodRiver/TheDalles	P7	P7-1 CTR_Bonneville PH - North Camas #1 115 / Bonneville PH - Alcoa 1 & 2 115
Longview	P1	P1-2: Allston-Longview #3 230kV
Longview	P1	P1-2: Cardwell-Merwin 115kV
Longview	P1	P1-2: Longview-Lexington 230kV
Longview	P1	P1-2: Woodland - Ross E 230kV
Longview	P2	P2-2: Cardwell 115kV
Longview	P2	P2-4: Longview BFR
NORC	P5-5	Allston E 230 kV (Failed Bus Diff)
NORC	P4-6	Allston E 230 kV BSB Failure (with Wauna UVLS)
NORC	P1-2	Allston-Clatsop #1 230 kV 3PH
NORC	P1-2	P1-2: Allston-Clatsop #1 230 kV 3PH
NORC	P4-6	P4-6: Allston E 230 kV BSB Failure (with Wauna UVLS)
NORC	P5-2	P5-2: Allston-Driscoll #2 115 kV 3PH
NORC	P5-5	P5-5: Allston E 230 kV (Failed Bus Diff)
NORC	P5-5	P5-5: Tillamook 115 kV (Failed Bus Diff)
NORC	P7	P7: ForestGrove-Tillamook_115&Carlton-Tillamook_230
NORC	P5-5	Tillamook 115 kV (Failed Bus Diff)
PDX	P1	P1-2: Pearl - Ostrander 500kV @PERL
PDX	P2	P2-2: BUS Allston 115kV

PDX	P2	P2-2: BUS Keeler 115kV
PDX	P2	P2-2: BUS Keeler East 230kV
PDX	P2	P2-2: BUS Keeler West 230kV
PDX	P2	P2-2: Bus Pearl E 230kV
PDX	P2	P2-4: BSB Allston 230kV
PDX	P2	P2-4: BSB Keeler 230kV
PDX	P2	P2-4: BSB Pearl 230kV
PDX	P5	P5-5: BDF Carlton 115kV
PDX	P5	P5-5: BDF Chemawa 115kV
PDX	P5	P5-5: BDF McMinnville 115kV
PDX	P5	P5-5: BDF OregonCity 115kV
PDX	P5	P5-5: BDF Ross 115kV
PDX	Px	PX: BDF Allston 230kV 3PH
PDX	Px	PX: BDF Carlton 115kV 3PH
PDX	Px	PX: BDF Chemawa 115kV 3PH
PDX	Px	PX: BDF McMinnville 115kV 3PH
PDX	Px	PX: BDF OregonCity 115kV 3PH
PDX	Px	PX: BDF Ross 115kV 3PH
PDX	PX	PX: BUS Keeler 115kV 3PH delayed
PDX, LONG	P2	P2-2: BUS Longview 230kV
PDX, LONG	P2	P2-2: BUS Longview South 115kV
PDX, LONG	P2	P2-4: BSB Longview Annex 230kV
PDX, P-A	PX	PX: ADJ Paul-Allston #2/Paul-Napavine 500kV @ Allston w/SOCSS
PDX, SOA	P1	P1_2: Keeler - Allston 500kV @KEEL
PDX, SOA	P1	P1-2: Allston - Keeler 500kV @ALLS
PDX, SOA	P1	P1-2: Allston - Keeler 500kV @ALLS w RAS
PDX, SOA	P1	P1-2: Allston - Keeler 500kV @KEEL w RAS
PDX, SOA	P1	P1-2: Keeler - Allston 500kV @KEEL
PDX, SOA	P1	P1-2: Keeler - Pearl 500kV @KEEL
PDX, SOA	P2	P2-2: BUS Allston East 230kV
PDX, SOA	P2	P2-2: BUS Allston West 230kV
PDX, SOA	P4	P4-2: BKF 4394 Keeler - Allston/Pearl (+Keeler caps) 500 kV w/RAS
PDX, SOA	P5	P5-5: BDF Allston E 230kV
PDX, VAN	P2	P2-2: BUS Ross 115kV

PDX, VAN	P2	P2-2: BUS Ross East 230kV
PDX, VAN	P2	P2-4: BSB Ross 230 kV
PDX, VAN, SOA	P1	P1-2: Ross-Lexington 230kV @ROSS
PDX, WOCS	P1	P1-2: Pearl-Marion 500kV @PERL
PDX, WOCS	P2	P2-4: BSB Troutdale 230kV
PDX, WOCS	PX	PX: ADJ Pearl - Marion 500 kV / Pearl - Ostrander 500 kV @ Pearl
PDX, WOCS	PX	PX: Station Marion 500kV
Vancouver	P1	P1-2: 3TM Hazel Dell - River Road - St Johns 115 kV
Vancouver	P1	P1-2: Alcoa - Pioneer 115 kV
Vancouver	P1	P1-2: Alcoa - Ross 230 kV
Vancouver	P1	P1-2: Bonneville - Ross 230 kV
Vancouver	P1	P1-2: McNary - Ross 345 kV
Vancouver	P1	P1-2: Pearl - Ostrander 500 kV
Vancouver	P1	P1-2: River Rd - F Valley 115 kV
Vancouver	P1	P1-2: Ross - Rivergate 230 kV
Vancouver	P1	P1-2: Sifton - LaCamas 115 kV
Vancouver	P1	P1-2: Sifton - N Camas 115 kV
Vancouver	P1	P1-2: Troutdale - Runyan 115 kV
Vancouver	P1	P1-2: Woodland - Ross 230 kV
Vancouver	P2	P2-2: Bus Ross 115 kV
Vancouver	P2	P2-2: BUS Ross East 230 kV
Vancouver	P2	P2-2: BUS Sifton 115 kV
Vancouver	P4	P4-6: BSB Ross 230 kV

Area/Path	NERC Category
Mid-C	P1-2
Mid-C	P1-2
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Contingency Name
P1.2(AVA)Benton-Saddle Mtn 115
P1.2(AVA)Othello-Warden #1 115
P1.2(AVA)Othello-Warden #2 115
P1.2(AVA)Saddle Mtn-Othello 115
P1.2(AVA)Stratford-Chelan 115
P1.2(AVA)Stratford-Summer Falls 115
P1.2(AVA)Walla Walla-Saddle Mtn 230
P1.2(AVA)Wanapum-Saddle Mtn 230
P1.2(BPA)A6-A8 230
P1.2(BPA)A8-Midway 230
P1.2(BPA)A9/A6-Ashe 230
P1.2(BPA)A9-Midway 230
P1.2(BPA)Ashe-CGS 500
P1.2(BPA)Ashe-LoMo 500
P1.2(BPA)Bettas Rd-Covington 230
P1.2(BPA)Chief Joe-East Omak 230/115
P1.2(BPA)Chief Joe-Monroe 500
P1.2(BPA)Chief Joe-Sickler 500
P1.2(BPA)Chief Jo-PH1 230
P1.2(BPA)Chief Jo-PH2 230
P1.2(BPA)Chief Jo-PH3 230
P1.2(BPA)Chief Jo-PH4 230
P1.2(BPA)Chief Jo-PH5 500
P1.2(BPA)Chief Jo-PH6 500
P1.2(BPA)Columbia-Bettas Rd 230
P1.2(BPA)Columbia-Coulee #1 230
P1.2(BPA)Columbia-Coulee #3 230
P1.2(BPA)Columbia-Ellensburg 115
P1.2(BPA)Columbia-Valhalla #1 115
P1.2(BPA)Columbia-Valhalla #2 115
P1.2(BPA)Columbia-Vantage 230
P1.2(BPA)Coulee-Chief Joe 500
P1.2(BPA)Coulee-Foster-E Omak 115

P1.2(BPA)Coulee-Hanford 500
P1.2(BPA)Coulee-Okanogan 115
P1.2(BPA)Coulee-Olympia 287
P1.2(BPA)Coulee-PH01-05 230
P1.2(BPA)Coulee-PH06-09 230
P1.2(BPA)Coulee-PH10-13 230
P1.2(BPA)Coulee-PH14-18 230
P1.2(BPA)Coulee-PH19 500
P1.2(BPA)Coulee-PH20 500
P1.2(BPA)Coulee-PH21 500
P1.2(BPA)Coulee-PH22 500
P1.2(BPA)Coulee-PH23 500
P1.2(BPA)Coulee-PH24 500
P1.2(BPA)Coulee-Potholes 230
P1.2(BPA)Coulee-Pump Gen 230
P1.2(BPA)Coulee-Rocky Ford 230
P1.2(BPA)Coulee-Schultz #1 500
P1.2(BPA)Coulee-Schultz #2 500
P1.3(BPA)Douglas-Sickler 500/230
P1.2(BPA)Echo Lake-Raver 500
P1.2(BPA)Ellensburg-Moxee 115
P1.2(BPA)Hanford-Ashe 500
P1.2(BPA)Hanford-Lower Mon 500
P1.2(BPA)Hanford-Vantage 500
P1.2(BPA)Hanford-Wautoma 1 500
P1.2(BPA)Hanford-Wautoma 2 500
P1.2(BPA)Midway-Benton 230/115
P1.2(BPA)Midway-Grandview 115
P1.2(BPA)Midway-Moxee 115
P1.2(BPA)Midway-N Bonneville 230
P1.2(BPA)Midway-Potholes 230
P1.2(BPA)Midway-Rocky Ford 230
P1.2(BPA)Midway-Vantage 230
P1.2(BPA)Midway-Wine Country 230

P1.2(BPA)Monroe-Echo Lake 500 (WSEM)
P1.2(BPA)Raver-Paul 500 (WSRP)
P1.2(BPA)Rocky Reach-Columbia #1 230
P1.2(BPA)Rocky Reach-Maple Valley 345/230
P1.2(BPA)Roza-Moxee 115
P1.2(BPA)Schultz-Echo Lake 500
P1.2(BPA)Schultz-Raver #1 500
P1.2(BPA)Schultz-Raver #3 500
P1.2(BPA)Schultz-Raver #4 500
P1.2(BPA)Schultz-Vantage 500
P1.2(BPA)Schultz-Wautoma 500
P1.2(BPA)Sickler-Schultz 500
P1.2(BPA)Wautoma-Knight 500
P1.2(BPA)Wautoma-Rock Creek 500
P1.2(CPD)Anderson Canyon-Andy York #1 115
P1.2(CPD)Anderson Canyon-Andy York #2 115
P1.2(CPD)Anderson Canyon-Andy York #3 115
P1.2(CPD)Anderson Canyon-Beverly Park 115 (N.O.)
P1.2(CPD)Andy York-McKenzie #1 115
P1.2(CPD)Andy York-McKenzie #2 115
P1.2(CPD)Andy York-Rocky Reach 230
P1.2(CPD)Chelan-Rocky Reach #2 115
P1.2(CPD)McKenzie-RI PH North 115
P1.2(CPD)McKenzie-RI PH South 115
P1.2(CPD)McKenzie-RI PH1 115
P1.2(CPD)McKenzie-RI PH2 115
P1.2(CPD)N Wenatchee-Andy York 115
P1.2(CPD)North Wenatchee-Wenatchee #1 115
P1.2(CPD)Rocky Reach-Columbia #2 230
P1.2(CPD)Rocky Reach-Mckenzie 115
P1.2(CPD)Rocky Reach-N Wenatchee 115
P1.2(CPD)Rocky Reach-PH01-02 230
P1.2(CPD)Rocky Reach-PH03-04 230
P1.2(CPD)Rocky Reach-PH05-06 230

P1.2(CPD)Rocky Reach-PH07-09 230
P1.2(CPD)Rocky Reach-PH10-11 230
P1.2(CPD)Valhalla-RI PH2 115
P1.2(CPD)Wenatchee-McKenzie 115
P1.2(DPD)Douglas-Lincoln Rock 115
P1.2(DPD)Douglas-Lincoln Rock 230
P1.2(DPD)Douglas-Rocky Reach 230
P1.2(DPD)Eastmont-South Nile 115
P1.2(DPD)Eastmont-Veedol 115
P1.2(DPD)Foster Creek-Brewster 115
P1.2(DPD)Lincoln Rock-Chelan #1 115
P1.2(DPD)Lincoln Rock-Rapids 230
P1.2(DPD)Lincoln Rock-Terry 115
P1.2(DPD)Pangborn-Rapids 115
P1.2(DPD)Rapids-Columbia 230
P1.2(DPD)Rapids-Valhalla 115
P1.2(DPD)South Nile-Rapids 115
P1.2(DPD)Terry-Eastmont 115
P1.2(DPD)Veedpl-Pangborn 115
P1.2(DPD)Wells-Douglas #1 230
P1.2(DPD)Wells-Douglas #2 230
P1.2(DPD)Wells-Foster Creek 115
P1.2(GPD) Stratford-Larson 115
P1.2(GPD)Ancient Lake-Frenchman 115
P1.2(GPD)Columbia-Ancient Lake 115
P1.2(GPD)Columbia-Larson 230
P1.2(GPD)Columbia-Rocky Ford 115
P1.2(GPD)Columbia-Wanapum 230
P1.2(GPD)Frenchman-Sand Dunes 115
P1.2(GPD)Larson-Rocky Ford (Moses Lake) 115
P1.2(GPD)Larson-Rocky Ford 115
P1.2(GPD)Larson-Sand Dunes-Warden 115
P1.2(GPD)Larson-Wheeler 230
P1.2(GPD)Midway-PR1 230

P1.2(GPD)Midway-PR2-Frenchman 230
P1.2(GPD)Sand Dunes-Frenchman 230
P1.2(GPD)Sand Dunes-Warden 115
P1.2(GPD)Sand Dunes-Wheeler 230
P1.2(GPD)Vantage-Wanapum PH2 230
P1.2(GPD)Vantage-Wanapum PH3 230
P1.2(GPD)Wanapum-PH1 230
P1.2(GPD)Wanapum-PR3-Midway 230
P1.2(PAC)Grandview-Wine Country 115
P1.2(PAC)Midway-Union Gap 230
P1.2(PAC)Pomona-River Road 115
P1.2(PAC)Pomona-Union Gap 115
P1.2(PAC)Pomona-Union Gap 230
P1.2(PAC)River Road-Union Gap (Orchard) 115
P1.2(PAC)River Road-Union Gap (Pacific) 115
P1.2(PAC)Union Gap-Moxee 115
P1.2(PAC)Vantage-Pomona 230 (POST)
P1.2(PAC)Wanapum-Pomona 230
P1.2(PSE)Rocky Reach-Cascade 230
P1.2(PSE)White River-Cascade 230
P1.2(PSE)Wind Ridge-Wanapum 230
P1.3(AVA)Saddle Mtn 230/115
P1.3(BPA)Chief Joe 500/230
P1.3(BPA)Columbia #1 230/115
P1.3(BPA)Columbia #2 230/115
P1.3(BPA)Coulee 500/230
P1.3(BPA)Midway 230/115
P1.3(BPA)Vantage #1 500/230
P1.3(BPA)Vantage #2 500/230
P1.3(CPD)Andy York 230/115
P1.3(CPD)Rocky Reach 230/115
P1.3(DPD)Douglas 230/115
P1.3(DPD)Lincoln Rock 230/115
P1.3(DPD)Rapids 230/115

P1.3(DPD)Wells 230/115
P1.3(DPD)Wells T1 230/14.4
P1.3(DPD)Wells T2 230/14.4
P1.3(DPD)Wells T3 230/14.4
P1.3(DPD)Wells T4 230/14.4
P1.3(DPD)Wells T5 230/14.4
P1.3(GPD)Frenchman 230/115
P1.3(GPD)Larson 230/115
P1.3(GPD)Rocky Ford 230/115
P1.3(GPD)Sand Dunes 230/115
P1.3(PAC)Outlook 230/115
P1.3(PAC)Pomona #1 230/115
P1.3(PAC)Pomona #2 230/115
P1.3(PAC)Union Gap #1 230/115
P1.3(PAC)Union Gap #2 230/115
P1.3(PAC)Wine Country 230/115
P1.3(PSE)Wind Ridge 230/115
P1.4(AVA)Lind S 115
P1.4(AVA)Othello S 115
P1.4(BPA)Ashe C1 230
P1.4(BPA)Ashe C2 230
P1.4(BPA)Ashe R1 500
P1.4(BPA)Ashe R2 500
P1.4(BPA)Benton C 115
P1.4(BPA)Coulee-Bell #6 R1 500
P1.4(BPA)Covington C1 230
P1.4(BPA)Echo Lake C1 500
P1.4(BPA)Ellensburg C1 115
P1.4(BPA)Grandview C 115
P1.4(BPA)Hanford C1 500
P1.4(BPA)Lower Monumental R1 500
P1.4(BPA)Monroe C4 500
P1.4(BPA)Raver C2 500
P1.4(BPA)Schultz R1 500

P1.4(BPA)Wautoma R1 500
P1.4(CPD)Alcoa C1 13.8
P1.4(CPD)Alcoa C2 13.8
P1.4(CPD)Alcoa C5 13.8
P1.4(CPD)Alcoa CS 13.8
P1.4(DPD)Hanna c 115
P1.4(GPD)Larson s 115
P1.4(GPD)Sand Dunes s 115
P1.4(GPD)Wheeler s 230
P1.4(PAC)Pomona 1 230
P1.4(PAC)Union Gap 1 115
P1.4(PSE)Wind Ridge R 230
P2.1(AVA)Chelan-Headwork 115
P2.1(AVA)Coulee City-Stratford 115
P2.1(BPA)Alfalfa-Outlook 230
P2.1(BPA)Clymer-Ellensburg 115
P2.1(BPA)Clymer-Moxee 115
P2.1(BPA)Cold Creek-Midway 115
P2.1(BPA)Columbia-Jenkins Tap 115
P2.1(BPA)Ellensburg-Ellensburg Tap 115
P2.1(BPA)Mabton-Wine Country 230
P2.1(BPA)Midway-Rattlesnake 115
P2.1(BPA)Moxee-Rattlesnake 115
P2.1(CPD)Anderson Canyon-Peshasti 115
P2.1(CPD)Anderson Canyon-Winton 115
P2.1(CPD)Andy York-Sunny Slope 115
P2.1(CPD)Chelan-Lone Pine 115
P2.1(CPD)Chelan-S Shore Tap 115
P2.1(CPD)Columbia-McKenzie 230
P2.1(CPD)Malaga-McKenzie 115
P2.1(CPD)McKenzie-Rocky Reach 230
P2.1(CPD)McKenzie-Wenatchee Tap 115
P2.1(CPD)N Wenatchee-Wallace 115
P2.1(CPD)North Wenatchee-Old Stn 115

P2.1(CPD)North Wenatchee-Sunny Slope 115
P2.1(CPD)Old Stn-Rocky Reach 115
P2.1(CPD)Rocky Reach-RR Dist 115
P2.1(CPD)Rocky Reach-Wenatchee Tap 115
P2.1(CPD)Squilchk-Wenatchee 115
P2.1(CPD)Wallace-Wenatchee 115
P2.1(DPD)Doneen-Eastmont 115
P2.1(DPD)Rapids-Hanna 115
P2.1(DPD)Terry-Doneen 115
P2.1(DPD)Valhalla-Hanna 115
P2.1(GPD)Adams Rd-Frenchman 115
P2.1(GPD)Ancient Lake Tap-Columbia 230
P2.1(GPD)Ancient Lake Tap-Wanapum 230
P2.1(GPD)Ancient Lake-Quincy H 115
P2.1(GPD)Ancient Lake-White Tap 115
P2.1(GPD)Black Sands Tap-Frenchman 230
P2.1(GPD)Black Sands Tap-Potholes 230
P2.1(GPD)Columbia-GB55 115
P2.1(GPD)Columbia-Palisades 115
P2.1(GPD)Frenchman Hills-Frenchman 115
P2.1(GPD)Frenchman-Wahluke 230
P2.1(GPD)Geneva-Wanapum 230
P2.1(GPD)Larson-Moses Lake 115
P2.1(GPD)Larson-Rocky Ford 230
P2.1(GPD)Larson-Round Lake Tap 115
P2.1(GPD)Larson-Silicon Tap 115
P2.1(GPD)Larson-Wheeler Tap 115
P2.1(GPD)Mae Valley Tap-Potholes 230
P2.1(GPD)Mae Valley Tap-Sand Dunes 230
P2.1(GPD)McDonald-Sand Dunes 230
P2.1(GPD)Midway-Priest Tap 230
P2.1(GPD)Nelson Rd-Sand Dunes 115
P2.1(GPD)PEC Tap-Sand Dunes 115
P2.1(GPD)Rocky Ford-Dover 115

P2.1(GPD)Rocky Ford-Soap Lake Tap 115
P2.1(GPD)Round Lake Tap-Stratford 115
P2.1(GPD)Sieler-Wheeler Swyd 230
P2.1(GPD)Wheeler Swyd-Wheeler 230
P2.1(PAC)Hopland-Union Gap 115
P2.1(PAC)Moxee-Hopland 115
P2.1(PAC)Nob Hill-Union Gap 115
P2.1(PAC)North Pk-River Rd 115
P2.1(PAC)Outlook-Punkin Center 115
P2.1(PAC)Outlook-Sunnyside 115
P2.1(PAC)Pomona-Wenas 115
P2.1(PAC)River Rd-Selah 115
P2.1(PAC)Sunnyside-Wine Country 115
P2.1(PAC)Union Gap-Voelker 115
P2.1(PAC)Union Gap-Wapato 115
P2.1(PAC)Union Gap-Wiley 115
P2.2(BPA)Chief Joe #1 230
P2.2(BPA)Chief Joe #2 230
P2.2(BPA)Columbia 115
P2.2(BPA)Columbia North 230
P2.2(BPA)Columbia South 230
P2.2(BPA)Coulee #1 230
P2.2(BPA)Coulee #2 230
P2.2(BPA)Coulee #3 230
P2.2(BPA)Coulee 115
P2.2(BPA)East Omak 115
P2.2(BPA)Ellensburg 115
P2.2(BPA)Midway #1 230
P2.2(BPA)Midway #2 230
P2.2(BPA)Midway #3 230
P2.2(BPA)Midway 115
P2.2(BPA)Moxee 115
P2.2(BPA)Potholes 230
P2.2(BPA)Valhalla 115

P2.2(BPA)Vantage North 230
P2.2(BPA)Vantage South 230
P2.2(CPD)Anderson Canyon 115
P2.2(CPD)Andy York East 115
P2.2(CPD)Andy York West 115
P2.2(CPD)Chelan 115
P2.2(CPD)McKenzie North 115
P2.2(CPD)McKenzie South 115
P2.2(CPD)North Wenatchee 115
P2.2(CPD)Rocky Reach #1 230
P2.2(CPD)Rocky Reach #2 230
P2.2(CPD)Rocky Reach #3 230
P2.2(CPD)Rocky Reach 115
P2.2(CPD)Wenatchee North 115
P2.2(CPD)Wenatchee South 115
P2.2(DPD)Douglas 115
P2.2(DPD)Eastmont 115
P2.2(DPD)Foster Creek 115
P2.2(DPD)Wells #1 230
P2.2(DPD)Wells #2 230
P2.2(GPD)Frenchman Hills 115
P2.2(GPD)Frenchman Hills 230
P2.2(GPD)Larson 115
P2.2(GPD)Larson 230
P2.2(GPD)Rocky Ford 115
P2.2(GPD)Rocky Ford 230
P2.2(GPD)Sand Dunes 115
P2.2(GPD)Sand Dunes 230
P2.2(GPD)Wanapum 230
P2.2(GPD)Wheeler 230
P2.2(OPD)Brewster 115
P2.2(PAC)River Road 115
P2.3(BPA)Chief Joe 4588 500
P2.3(BPA)Chief Joe 4598 500

P2.3(BPA)Chief Joe 4728 500
P2.3(BPA)Columbia S A342 230
P2.3(BPA)Coulee 1472 115
P2.3(BPA)Coulee 1996 500
P2.3(BPA)Coulee 2096 500
P2.3(BPA)Coulee 2196 500
P2.3(BPA)Coulee 2296 500
P2.3(BPA)Coulee 2396 500
P2.3(BPA)East Omak B75(7693) 115
P2.3(BPA)Grand Coulee 2472 115
P2.3(BPA)Hanford 4003 500
P2.3(BPA)Hanford 4095 500
P2.3(BPA)Hanford 4104 500
P2.3(BPA)Midway A1000 230
P2.3(BPA)Schultz 5129 500
P2.3(BPA)Schultz 5148 500
P2.3(BPA)Schultz 5151 500
P2.3(BPA)Schultz 5154 500
P2.3(BPA)Schultz 5157 500
P2.3(BPA)Schultz 5173 500
P2.3(BPA)Schultz 5176 500
P2.3(BPA)Sickler 4334 500
P2.3(BPA)Sickler 4336 500
P2.3(BPA)Sickler 4340 500
P2.3(BPA)Valhalla B274 115
P2.3(BPA)Valhalla B288 115
P2.3(BPA)Vantage 5339 500
P2.3(BPA)Vantage 5342 500
P2.3(BPA)Vantage 5345 500
P2.3(BPA)Vantage 5351 500
P2.3(BPA)Wautoma 5250 500
P2.3(BPA)Wautoma 5253 500
P2.3(BPA)Wautoma 5259 500
P2.3(BPA)Wautoma 5262 500

P2.3(BPA)Wine Country A1741 230
P2.3(BPA)Wine Country A1744 230
P2.3(BPA)Wine Country A1747 230
P2.3(CPD)Anderson Canyon 6-140 115 (Beverly Park)
P2.3(CPD)Anderson Canyon 6-190 115
P2.3(CPD)Andy York 6-510 115
P2.3(CPD)Andy York 6-580 115
P2.3(CPD)Chelan 6-430 115
P2.3(CPD)Chelan 6-440 115
P2.3(CPD)Chelan 6-450 115
P2.3(CPD)McKenzie North 6-100 115
P2.3(CPD)McKenzie North 6-110 115
P2.3(CPD)North Wenatchee 6-200 115
P2.3(CPD)North Wenatchee 6-230 115
P2.3(CPD)North Wenatchee 6-280 115
P2.3(CPD)Rocky Reach 6-720 115
P2.3(CPD)Rocky Reach 6-730 115
P2.3(CPD)Rocky Reach 6-740 115
P2.3(CPD)Rocky Reach 6-770 115
P2.3(CPD)Rocky Reach 7-710 230
P2.3(CPD)Wenatchee North 6-250 115
P2.3(CPD)Wenatchee North 6-260 115
P2.3(CPD)Wenatchee South 6-760 115
P2.3(DPD)Douglas 6182 230
P2.3(DPD)Douglas 6382 230
P2.3(DPD)Douglas 6582 230
P2.3(DPD)Douglas 6782 230
P2.3(DPD)Douglas 6882 230
P2.3(DPD)Douglas 6982 230
P2.3(DPD)Eastmont 3172 115
P2.3(DPD)Eastmont 3272 115
P2.3(DPD)Lincoln Rock 17272 115
P2.3(DPD)Lincoln Rock 230
P2.3(DPD)Pangborn 13172 or 13272 115

P2.3(DPD)Pangborn 13372 or 13472 115
P2.3(DPD)Rapids 14172 115
P2.3(DPD)Rapids 14182 or 14282 230
P2.3(DPD)Rapids 14272 115
P2.3(DPD)Rapids 14372 115
P2.3(DPD)South Nile 8172 or 8272 115
P2.3(DPD)Terry 2172 115
P2.3(DPD)Terry 2272 115
P2.3(DPD)Veedol 15172 or 15272 115
P2.3(DPD)Veedol 15173 or 15273 115
P2.3(DPD)Wells 2379 115
P2.3(GPD)Ancient Lake GB69 230
P2.3(GPD)Columbia South A344 230
P2.3(GPD)Frenchman GC2102 230
P2.3(GPD)Frenchman GC2104 230
P2.3(GPD)Larson 1510 230
P2.3(GPD)Midway A108 230
P2.3(GPD)Sand Dunes GC1302 230
P2.3(GPD)Sand Dunes GC1306 230
P2.3(GPD)Wanapum W5282 230
P2.3(GPD)Wanapum W5682 230
P2.3(GPD_Wheeler GC1702 230
P2.3(GPD_Wheeler GC1704 230
P2.3(OPD)Okanogan B1480 115
P2.3(PAC)Outlook 2Y125 115
P2.3(PAC)Outlook 2Y76 115
P2.3(PAC)Outlook 2Y80 115
P2.3(PAC)Pomona 1Y19 230 (POST)
P2.3(PAC)Pomona 1Y19 230 (PRE)
P2.3(PAC)Pomona 1Y20 230 (POST)
P2.3(PAC)Pomona 1Y21 230 (POST)
P2.3(PAC)Pomona 1Y21 230 (PRE)
P2.3(PAC)Pomona 1Y34 230 (POST)
P2.3(PAC)Pomona 1Y35 230 (POST)

P2.3(PAC)Pomona 1Y35 230 (PRE)
P2.3(PAC)Pomona 1Y36 230 (POST)
P2.3(PAC)Pomona 2Y100 115
P2.3(PAC)Pomona 2Y101 115
P2.3(PAC)Pomona 2Y103 115
P2.3(PAC)Union Gap 1Y28 230
P2.3(PAC)Union Gap 1Y29 230
P2.3(PAC)Union Gap 1Y31 230
P2.3(PAC)Union Gap 1Y32 230 (POST)
P2.3(PAC)Union Gap 2Y193 115
P2.3(PAC)Union Gap 2Y194 115
P2.3(PAC)Union Gap 2Y196 115
P2.3(PAC)Union Gap 2Y197 115
P2.3(PAC)Union Gap 2Y199 115
P2.3(PAC)Union Gap 2Y200 115
P2.3(PAC)Union Gap 2Y202 115 (POST)
P2.3(PAC)Union Gap 2Y203 115
P2.3(PAC)Union Gap 2Y205 115
P2.3(PAC)Union Gap 2Y206 115
P2.3(PAC)Wine Country 2Y163 115
P2.3(PAC)Wine Country 2Y164 115
P2.3(PAC)Wine Country 2Y166 115
P2.3(PAC)Wine Country 2Y169 115
P2.4(BPA)Columbia 230
P2.4(BPA)Chief Joseph 230
P2.4(BPA)Coulee #1-#2 6084 230
P2.4(BPA)Coulee #2-#3 7084 230
P2.4(CPD)McKenzie 6-950 115
P2.4(CPD)Rocky Reach #1&#2 7-660 230
P2.4(CPD)Rocky Reach #2&#3 7-770 230
P2.4(CPD)Wenatchee 6-240 115
P2.4(DPD)Wells 3184 230
P7.1(BPA)Chief Joe-E Omak #1 230 & E Omak Tap to Grand Coulee-Foster Creek #1 115
P7.1(BPA)Chief Joe-Snohomish #3 & #4 345

P7.1(BPA)Coulee-Olympia 287 & Columbia-Bettas Rd 230
P7.1(BPA)Coulee-Olympia 287 & Covington-Bettas Rd 230
P7.1(BPA)Coulee-Schultz #1 & #2 500
P7.1(BPA)Raver-Echo Lake #1 & Schultz-Echo Lake #1 500
P7.1(BPA)Schultz-Wautoma #1 500 & Midway-Vantage #1 230
P7.1(BPA)Shultz-Raver #1 & Schultz-Echo Lake #1
P7.1(CPD)Andy York-Mckenzie #1 & #2 115
P7.1(CPD)Rock Island PH1 Lines 1,2,4 115
P7.1(DPD)Lincoln Rock-Rapids 230 & Pangborn-Rapids 115
P7.1(GPD)Columbia-AL & AL-Frenchman 115
P7.1(GPD)Columbia-Larson 230 & Columbia-Rocky Ford 115
PX(BPA&CPD&DPD&PSE)Rocky Reach-Maple Valley 345 & Rocky Reach-Columbia #1 & #2 & Lincoln Rock-Rapids 230 & Rocky Reach-Cascade 230
PX(BPA&CPD&DPD)Rocky Reach-Maple Valley 345 & Rocky Reach-Columbia #2 230 & Pangborn-Rapids 115
PX(BPA&CPD&PSE)Rocky Reach-Maple Valley 345 & Rocky Reach-Columbia #2 & Rocky Reach-Cascade 230
PX(BPA&CPD)Rocky Reach-Columbia #1 & #2 230
PX(BPA&CPD)Rocky Reach-Columbia #1 & #2 230 & Columbia-Valhalla #1 & #2 115
PX(BPA&CPD)Rocky Reach-Columbia #1 & #2 230 & Columbia-Valhalla #2 115
PX(BPA&CPD)Rocky Reach-Maple Valley 345 & Rocky Reach-Columbia #1 & #2 230
PX(BPA&CPD)Sickler-Schultz 500 & Rocky Reach-Columbia #2 230
PX(BPA&CPD)Sickler-Schultz 500 & Rocky Reach-Maple Valley 345 & Rocky Reach-Columbia #1 & #2 230
PX(BPA&DPD)Rocky Reach-Columbia #1 & Lincoln Rock-Rapids 230 & Rocky Reach-Maple Valley 345
PX(BPA&DPD)Rocky Reach-Columbia #1 & Rapids-Columbia 230 & Rocky Reach-Maple Valley 345
PX(BPA&GPD)Columbia-Vantage & Columbia-Wanapum 230
PX(BPA&GPD)Vantage-Midway & Wanapum-Midway 230
PX(BPA)Chief Jo-Coulee #1 & #2 230
PX(BPA)Chief Joe-Coulee #1 & #2 230 & #3 500 & Coulee-Foster 115
PX(BPA)Chief Joe-Monroe & Chief Joe-Sickler 500
PX(BPA)Chief Joe-Monroe 500 & Chief Joe-Snohomish #3 345
PX(BPA)Chief Joe-Monroe 500 & Chief Joe-Snohomish #4 345
PX(BPA)Chief Joe-Snohomish #3 & #4 345 & Chief Joe-Monroe 500 & Chief Joe-Sickler 500
PX(BPA)Columbia-Bettas Road 230 & Schultz-Raver #3 500
PX(BPA)Columbia-Coulee #1 230 & Coulee-Schultz #2 500
PX(BPA)Columbia-Coulee #3 230 & Coulee-Schultz #1 500
PX(BPA)Columbia-Valhalla #1 & #2 115

PX(BPA)Columbia-Valhalla #1 & #2 115 & Rocky Reach-Columbia #1 230
PX(BPA)Coulee-Columbia #1 & #3 230 & Schultz #1 & #2 500 & Grand Coulee-Olympia 287
PX(BPA)Coulee-Columbia #3 230 & Coulee-Olympia 287
PX(BPA)Coulee-Hanford & Vantage-Hanford 500
PX(BPA)Coulee-Potholes & Midway-Rocky Ford 230
PX(BPA)Echo Lake-Maple Valley 500 & Rocky Reach-Maple Valley 345
PX(BPA)Grand Coulee-Pothole 230 & Midway Rocky Ford 230
PX(BPA)Hanford-Wautoma #1 & #2 500
PX(BPA)Midway-Potholes & Midway-Rocky Ford 230
PX(BPA)Potholes-Coulee 230 & Hanford-Coulee 500
PX(BPA)Rocky Reach-Columbia #1 230 & (DPD)Lincoln Rock-Rapids 230
PX(BPA)Rocky Reach-Columbia #1 230 & Columbia-Valhalla #1 115
PX(BPA)Rocky Reach-Columbia #2 230 & (DPD)Lincoln Rock-Rapids 230
PX(BPA)Rocky Reach-Maple Valley 345 & Cascade-White River 230
PX(BPA)Rocky Reach-Maple Valley 345 & Covington-Maple Valley 230
PX(BPA)Rocky Reach-Maple Valley 345 & Rocky Reach-Cascade 230
PX(BPA)Rocky Reach-Maple Valley 345 & Rocky Reach-Columbia #1 230
PX(BPA)Schultz-Vantage & Coulee-Hanford 500
PX(BPA)Schultz-Wautoma & Coulee-Hanford 500
PX(BPA)Schultz-Wautoma & Schultz-Vantage 500
PX(BPA)Schultz-Wautoma & Vantage-Hanford 500
PX(BPA)Schultz-Wautoma 500 & Midway-Wine Country 230
PX(BPA)Schultz-Wautoma 500 & Wanapum-Pomona 230
PX(BPA)Sickler-Schultz 500 & Rocky Reach-Columbia #2 230
PX(BPA)Sickler-Schultz 500 & Rocky Reach-Maple Valley 345
PX(BPA)West of Schultz ROW
PX(CPD)Andrew York-Anderson Canyon #1 & #2 115
PX(CPD)McKenzie-Andrew York #1 & #2 115
PX(CPD)McKenzie-Andrew York #1 & Wenatchee-McKenzie 115
PX(CPD)Rock Island PH1 #3 & #4 115
PX(CPD)Rock Island PH2 #1 & #2 115
PX(CPD)Rocky Reach-Columbia #2 230 & (DPD)Rapids-Columbia 230
PX(CPD)Rocky Reach-McKenzie & McKenzie-Andrew York #1 115
PX(CPD)Rocky Reach-McKenzie 115 & Wenatchee-McKenzie 115

PX(DPD)Rapids-Columbia 230 & (BPA)Columbia-Ellensburg 115
PX(DPD)Rapids-Columbia 230 & (CPD)McKenzie-Andrew York #2 115
PX(DPD)Rapids-Columbia 230 & (CPD)Wenatchee-McKenzie 115
PX(DPD)Rapids-Columbia 230 & Rapids-Valhalla 115
PX(DPD)Wells-Douglas #1 & #2 230
PX(GPD)Columbia-Ancient Lake & Ancient Lake-Frenchman 115
PX(GPD)Columbia-Ancient Lake & Columbia-Rocky Ford 115
PX(GPD)Columbia-Larson 230 & Columbia-Rocky Ford 115
PX(GPD)Larson-Rocky Ford 115 & Columbia-Larson 230
PX(GPD)Larson-Rocky Ford 115 & Larson-Stratford 115
PX(GPD)Larson-Rocky Ford 230 & Larson-Rocky Ford 115
P1-2_LINE_GrandCoulee_Okanogan_115
P1-2_LINE_EastOmak_Okanogan_115
P1-2_LINE_Twisp_Okanogan_115
P1-2_LINE_ChiefJoe-EastOmak_230
P1-2_LINE_Brewster_Okanogan_115
P1-2_LINE_Brewster_FosterCreek_115
P1-2_LINE_Brewster_Twisp_115
P1-2_LINE_GrandCoulee_FosterCreek_115
P1-3_XFMR_Coulee_230_115
P1-3_XFMR_EastOmak_230_115
P1-4_CAP_Winthrop_115
P1-4_CAP_EastOmak_115
P1-4_CAP_Oroville_115
P2-2_BUS_Brewster_115
P2-2_BUS_Okanogan_115
P2-2_BUS_GrandCouleeW_115
P2-2_BUS_GrandCouleeE_115
P2-2_BUS_EastOmak_115
P2-2_BUS_Twisp_115
P2-2_BUS_FosterCreek_115
P2-3_BKR_Twisp_TW-TB-2_115
P2-3_BKR_Brewster_T51_115
P2-3_BKR_Okanogan_B1488_115

P2-3_BKR_Twisp_TW-TB-3_115
P2-3_BKR_EastOmak_B75_115
P2-3_BKR_Brewster_T53_115
P2-3_BKR_Okanogan_B1482_115
P2-3_BKR_EastOmak_B77_115
P2-3_BKR_Okanogan_B1486_115
P2-3_BKR_Brewster_T52_115
P2-4_BSB_GrandCoulee_B2072_115
P7_CTW_EastOmak_Oroville_115_EastOmak_Tonasket#2_115
P7_CTW_EastOmakTap_GrandCoulee_FosterCreek_115_ChiefJoe_EastOmak_230
P1-2: Big Eddy - Harvalum 230 kV
P1-2: Chenowth - Lyle# 115 kV
P1-2: EEClouse - EEClouse# 115 kV
P1-2: Horse Creek - Harvalum #1 230 kV
P1-2: John Day - Rock Creek 500 kV
P1-2: Linden - EEClouse 230 kV
P1-2: Linden - Harvalum 230 kV
P1-2: Rock Creek - Wautoma 500 kV
P1-3: EEClouse 230/115 kV Transformer
P1-3: Goldendale 115/69 kV Transformer
P1-3: Rock Creek 500/230 kV Transformer
P4-2: BFR Linden
P1.2_COULEE-HANFORD_500_NOHSLL
P1.2_HANFORD-VANTAGE_500_NOHSLL
P1.2_SCHULTZ-VANTAGE_500_NOHSLL
P1.2_SCHULTZ-WAUTOMA_500_NOHSLL
P1.3_ VANTAGE 500/230 KV #1
P2.2_ MIDWAY B1_230
P2.2_ MIDWAY B2_230
P2.2_ MIDWAY B3_230
P2.2_ VANTAGE N_230
P2.2_ VANTAGE S_230
P2.2_COLUMBIA N_230
P2.2_COLUMBIA S _230

P2.2_COULEES1_230
P2.2_COULEES2_230
P2.2_COULEES3_230
P2.3_Hanford 4003 Vantage/Hanford Caps_500_NOHSLL
P2.3_Schultz 5173 Wautoma/Reactor_500_NOHSLL
P2.3_Schultz 5176 Vantage/Reactor_500_NOHSLL
P2.3_Vantage 5339 Schultz/TXF 1_500_NOHSLL
P2.3_Vantage 5342 Schultz/TXF 2_500_NOHSLL
P2.3_Vantage 5345 Hanford/TXF 1_500_NOHSLL
P2.3_Vantage 5351 Hanford/TXF 2_500_NOHSLL
P7.1_CTW_Schultz-Wautoma & Midway-Vantage_500-230_NOHSLL
PX_ VANTAGE 500/230 KV #1&2
PX_Coulee-Hanford & Vantage-Hanford_500_NOHDLL
PX_Hanford-Wautoma 1 & 2_500_LGD
PX_Potholes-Coulee & Hanford-Coulee_500-230_NOHSLL
PX_Schultz-Vantage & Coulee-Hanford_500_NOHDLL
PX_Schultz-Wautoma & Coulee-Hanford_500_NOHDLL
PX_Schultz-Wautoma & Midway-Wine Country_500-230_NOHSLL
PX_Schultz-Wautoma & Schultz-Vantage_500_NOHDLL
PX_Schultz-Wautoma & Vantage-Hanford_500_NOHDLL
PX_Schultz-Wautoma & Wanapum-Pomona_500-230_NOHSLL

Area/Path	NERC Category	Contingency Name
Mid-C	P4-2	P4.2: MIDWAY S3 230KV BKF A336 SLG AT A9
Mid-C	P4-2	P4.2: COLUMBIA S 230KV BKF A344 SLG AT COLUMBIA
Mid-C	P4-2	P4.2: COULEE S1B 230KV BKF 5686 SLG AT COLUMBIA
Mid-C	P4-2	P4.2: COULEE S3A 230KV BKF 7486 SLG AT COLUMBIA
Mid-C	P4-2	P4.2: VANTAGE S 230KV BKF A1163 SLG AT COLUMBIA
Mid-C	P4-2	P4.2: COLUMBIA N 230KV BKF A136 SLG AT LARSON
Mid-C	P4-2	P4.2: COULEE S1B 230KV BKF 5886 SLG AT COULEE
Mid-C	P4-2	P4.2: COULEE S2A 230KV BKF 6486 SLG AT COULEE
Mid-C	P4-2	P4.2: MIDWAY S2 230KV BKF A108 SLG AT MIDWAY
Mid-C	P4-2	P4.2: MIDWAY S2 230KV BKF A116 SLG AT MIDWAY
Mid-C	P4-2	P4.2: MIDWAY S3 230KV BKF A996 SLG AT MIDWAY
Mid-C	P4-2	P4.2: MIDWAY S3 230KV BKF A998 SLG AT MIDWAY
Mid-C	P4-2	P4.2: MIDWAY S3 230KV BKF A58 SLG AT MIDWAY
Mid-C	P4-2	P4.2: WANAPUM 230KV BKF 5782 SLG AT WANAPUM
Mid-C	P4-2	P4.2: WELLS B1 230KV BKF 2182 SLG AT WELLS
Mid-C	P4-2	P4.2: WELLS B2 230KV BKF 2282 SLG AT WELLS
Mid-C	P4-6	P4.6: COULEE 230KV BSBF 6084 SLG AT COULEE S1
Mid-C	P4-6	P4.6: COULEE 230KV BSBF 7084 SLG AT COULEE S2
Mid-C	P4-6	P4.6: COULEE 230KV BSBF 6084 SLG AT COULEE S2
Mid-C	P1-2	P1.2: COLUMBIA-ROCKY REACH #1 230KV 3PB AT ROCKYRH
Mid-C	P4-6	P4.6: BSB_COLUMBIA N + COLUMBIA S 230 SLG AT COLUMBIA N
Mid-C	P4-6	P4.6: BSB_COLUMBIA S + COLUMBIA N 230 SLG AT COLUMBIA S
Mid-C	P5-2	P5.2: A8-MIDWAYB1 230 AT A8 DELAY AT MIDWAY
Mid-C	P5-2	P5.2: A9-MIDWAYB3 230 SLG AT A9 DELAY AT MIDWAY
Mid-C	P5-2	P5.2: COLUMBIA-ANC LAKE #1 230KV SLG AT COL DELAY AT ANC L
Mid-C	P5-2	P5.2: COLUMBIA-G.COULEE #1 230KV DELAY AT COLUMBIA SLG AT COLUMBIA
Mid-C	P5-2	P5.2: COLUMBIA-G.COULEE #3 230KV DELAY AT COLUMBIA SLG AT COLUMBIA
Mid-C	P5-2	P5.2: COLUMBIA-ROCKY REACH #1 230KV SLG AT COLUMBIA DELAY AT COLUMBIA
Mid-C	P5-2	P5.2: COLUMBIA-VANTAGE #1 230KV SLG AT COLUMBIA, DELAY AT VANTAGE
Mid-C	P5-2	P5.2: COLUMBIA-LARSON #1 230KV SLG AT LARSON DELAY AT COLUMBIA
Mid-C	P5-2	P5.2: POTHOLES-G.COULEE #1 230KV SLG AT G.COULEE DELAY AT G.COULEE
Mid-C	P5-2	P5.2: ROCKY FORD-G.COULEE #1 230KV SLG AT G.COULEE DELAY AT G.COULEE
Mid-C	P5-2	P5.2: DOUGLAS-LINCOLN ROCK 230KV SLG AT DOUGLAS DELAY AT LINCOLN

Mid-C	P5-2	P5.2: DOUGLAS -ROCKYRH3 230KV SLG AT DOUGLAS DELAY AT DOUGLAS
Mid-C	P5-2	P5.2: MIDWAY-VANTAGE #1 230KV SLG AT MIDWAY DELAY AT MIDWAY
Mid-C	P5-2	P5.2: MIDWAY-ROCKY FORD #1 230KV SLG AT MIDWAY DELAY AT MIDWAY
Mid-C	P5-2	P5.2: MIDWAYB3 -UNIONGAP 230KV SLG AT MIDWAY DELAY AT UNION GAP
Mid-C	P5-2	P5.2: WINE COUNTRY-MIDWAY #1 230KV SLG AT MIDWAY DELAY AT WINECTRY
Mid-C	P5-2	P5.2: RAPIDS -COLUMBIA #1 230KV SLG AT RAPIDS DELAY AT COLUMBIA
Mid-C	P5-2	P5.2: WELLS B1 -DOUGLAS 230KV SLG AT WELLS DELAY AT DOUGLAS
Mid-C	P5-2	P5.2: WELLS B2 -DOUGLAS 230KV SLG AT WELLS DELAY AT DOUGLAS
Mid-C	P5-2	P5.2: COLUMBIA-ROCKY REACH #2 230KV SLG AT RR DELAY AT COLUMBIA
Mid-C	P1-3	P1.3: XFMR COLUMBIA #1 230/115 kV 3PB
Mid-C	P1-3	P1.3: XFMR COLUMBIA #2 230/115 kV 3PB
Mid-C	P1-2	P1.2: COLUMBIA-VALHALLA #1 115 kV 3PB AT COLUMBIA
Mid-C	P1-2	P1.2: COLUMBIA-VALHALLA #2 115 kV 3PB AT COLUMBIA
Mid-C	P1-2	P1.2: GRAND COULEE-COLUMBIA #1 230 kv 3PB AT GRAND COULEE
Mid-C	P1-2	P1.2: GRAND COULEE-COLUMBIA #3 230 kV 3PB AT GRAND COULEE
Mid-C	P1-2	P1.2: COLUMBIA-BETTAS ROAD 230 kV
Mid-C	P1-2	P1.2: COVINGTON-BETTAS ROAD 230 kV
Mid-C	P1-2	P1.2: COLUMBIA_VANTAGE #1 230 kV 3PB AT COLUMBIA
Mid-C	P2-2	P2.2: BUS COLUMBIA N 230 kV 3PB
Mid-C	P2-2	P2.2: BUS COLUMBIA S 230 kV 3PB
Mid-C	P2-2	P2.2: BUS COLUMBIA 115 kV 3PB
Mid-C	P2-2	P2.2: BUS VALHALLA 115 kV 3PB
Mid-C	P2-2	P2.2: BUS VANTAGE N 230 kV 3PB
Mid-C	P2-2	P2.2: BUS POTHOLES 230 kV 3PB
Mid-C	P2-2	P2.2: BUS GRAND COULEE S1 230 kV 3PB
Mid-C	P2-2	P2.2: BUS GRAND COULEE S2 230 kV 3PB
Mid-C	P2-2	P2.2: BUS GRAND COULEE S3 230 kV 3PB
Okanogan	P1-2	P1-2: Chief Joe-East Omak #1 230 kV
Okanogan	P5-5	P5-5: East Omak 115 kV (Failed Bus Diff)
Okanagan	P5-2	P5-2: East Omak 115 kV 3PH
Okanagan	P2-3	P2-3: BKR_B77_East Omak 115 kV 3PH
Klickitat	P1-2	P1-2: John Day - Rock Creek 500kV
Klickitat	P1-2	P1-2: Rock Creek - Wautoma 500kV
Klickitat	P1-2	P1-2: Big Eddy - Harvalum 230kV

Klickitat	P1-3	P1-3: EEclouse 230/115 kV Transformer
Klickitat	P4-2	P4-2: BFR Linden

Area	NERC Category	Contingency Name
Tri-Cities	P1-2	P1-2 Ashe-Marion 500
Tri-Cities	P1-2	P1-2 Ashe-Slatt 500
Tri-Cities	P1-2	P1-2 Ashe-White Bluffs 230/115
Tri-Cities	P1-2	P1-2 Benton-451B 115
Tri-Cities	P1-2	P1-2 Benton-Saddle Mtn 115
Tri-Cities	P1-2	P1-2 Benton-Scooteney 115
Tri-Cities	P1-2	P1-2 Benton-White Bluffs #1 115
Fossil/DeMoss	P1-2	P1-2 Big Eddy-DeMoss 115
Lower Columbia	P1-2	P1-2 Big Eddy-Harvalum 230
Lower Columbia	P1-2	P1-2 Big Eddy-Knight 500
Lower Columbia	P1-2	P1-2 Big Eddy-Spring Creek 230
Fossil/DeMoss	P1-2	P1-2 BigEddy-Redmond 230
Umatilla/Boardman	P1-2	P1-2 Boardman-Alkali 115
Tri-Cities	P1-2	P1-2 Bofer Canyon-Franklin 230/115
Pendleton/LaGrande	P1-2	P1-2 Brownlee-N Powder (IPC) 230
Lower Columbia	P1-2	P1-2 Central Ferry-Little Goose 500
Lower Columbia	P1-2	P1-2 Central Ferry-LoMo 500
Umatilla/Boardman	P1-2	P1-2 Cottonwood-HGP 230
Lower Columbia	P1-2	P1-2 Coyote Springs-Slatt 500
Fossil/DeMoss	P1-2	P1-2 DeMoss-Fossil 115
Fossil/DeMoss	P1-2	P1-2 DeMoss-Patu 115
Walla Walla	P1-2	P1-2 Dry Creek-Talbot (AVA/PAC) 230
Walla Walla	P1-2	P1-2 Dworshak-Hatwai 500
Walla Walla	P1-2	P1-2 Dworshak-PH 500/13.2
Fossil/DeMoss	P1-2	P1-2 Fossil-Maupin 69
Fossil/DeMoss	P1-2	P1-2 Fossil-Service Ck 69
Tri-Cities	P1-2	P1-2 Franklin-Badger Canyon #1 115
Tri-Cities	P1-2	P1-2 Franklin-Benton #1 115
Tri-Cities	P1-2	P1-2 Franklin-Benton #2 115
Tri-Cities	P1-2	P1-2 Franklin-IH #1 115
Tri-Cities	P1-2	P1-2 Franklin-Levey-IH#3 115
Tri-Cities	P1-2	P1-2 Franklin-Sacajawea-IH#2 115
Tri-Cities	P1-2	P1-2 Franklin-Walla Walla 115

Tri-Cities	P1-2	P1-2 Grandview-Red Mt 115
Lower Columbia	P1-2	P1-2 Harvalum-Big Eddy #1 230
Walla Walla	P1-2	P1-2 Hatwai-Lolo (AVA) 230
Walla Walla	P1-2	P1-2 Hatwai-Lower Granite 500
Walla Walla	P1-2	P1-2 Hatwai-Moscow (AVA) 230
Walla Walla	P1-2	P1-2 Hatwai-N Lewiston (AVA) 230
Umatilla/Boardman	P1-2	P1-2 Hermiston-Hinkle (PAC) 69
Lower Columbia	P1-2	P1-2 Horse Heaven-Harvalum 230
Lower Columbia	P1-2	P1-2 John Day-Big Eddy #1 500
Lower Columbia	P1-2	P1-2 John Day-Big Eddy #2 500
Lower Columbia	P1-2	P1-2 Jones Canyon-Santiam 230
Lower Columbia	P1-2	P1-2 Knight-Ostrander #1 500
Pendleton/LaGrande	P1-2	P1-2 La Grande-N Powder (IPC) 230
Lower Columbia	P1-2	P1-2 Linden-Harvalum #1 230
Lower Columbia	P1-2	P1-2 Little Goose-LoMo #1 500
Lower Columbia	P1-2	P1-2 Little Goose-LoMo #2 500
Walla Walla	P1-2	P1-2 Lolo-Drycreek (AVA) 230
Walla Walla	P1-2	P1-2 Lolo-Oxbow (AVA) 230
Tri-Cities	P1-2	P1-2 LoMo-Ashe 500
Tri-Cities	P1-2	P1-2 LoMo-Hanford 500
Tri-Cities	P1-2	P1-2 LoMo-Sacajawea-McNary 500
Lower Columbia	P1-2	P1-2 Lower Granite-Central Ferry 500
Lower Columbia	P1-2	P1-2 Lower Granite-Little Goose 500
Fossil/DeMoss	P1-2	P1-2 Maupin-Tygh Valley 69
Tri-Cities	P1-2	P1-2 McNary-Badger Canyon 115
Tri-Cities	P1-2	P1-2 McNary-Bofer Canyon 230
Lower Columbia	P1-2	P1-2 McNary-Coyote Springs 500
Umatilla/Boardman	P1-2	P1-2 McNary-Herm Calpine 500
Tri-Cities	P1-2	P1-2 McNary-Horse Heaven 230/115
Lower Columbia	P1-2	P1-2 McNary-John Day 500
Umatilla/Boardman	P1-2	P1-2 McNary-McNary PH1 230
Umatilla/Boardman	P1-2	P1-2 McNary-McNary PH2 230
Umatilla/Boardman	P1-2	P1-2 McNary-McNary PH3-4 230
Umatilla/Boardman	P1-2	P1-2 McNary-McNary PH5 230

Umatilla/Boardman	P1-2	P1-2 McNary-McNary PH6 115
Umatilla/Boardman	P1-2	P1-2 McNary-Morrow Flat #1 230
Umatilla/Boardman	P1-2	P1-2 McNary-Morrow Flat #2 230
Umatilla/Boardman	P1-2	P1-2 McNary-Quarry (UEC) 230
Lower Columbia	P1-2	P1-2 McNary-Ross 345
Pendleton/LaGrande	P1-2	P1-2 McNary-Roundup 230
Umatilla/Boardman	P1-2	P1-2 McNary-Umatilla (PACW) 69
Walla Walla	P1-2	P1-2 McNary-Wallula #1 (PACW) 230
Walla Walla	P1-2	P1-2 McNary-Wallula #2 (PACW) 230
Tri-Cities	P1-2	P1-2 Midway-A8 230
Tri-Cities	P1-2	P1-2 Midway-A9 230
Tri-Cities	P1-2	P1-2 Midway-Benton #1 115
Tri-Cities	P1-2	P1-2 Midway-Benton #2 230/115
Tri-Cities	P1-2	P1-2 Midway-Grandview 115
Tri-Cities	P1-2	P1-2 Midway-Potholes #1 230
Tri-Cities	P1-2	P1-2 Midway-PR #2-Frenchman 230
Tri-Cities	P1-2	P1-2 Midway-PR #3-Wanapum 230
Tri-Cities	P1-2	P1-2 Midway-PR PH1-4 230
Tri-Cities	P1-2	P1-2 Midway-Rocky Ford #1 230
Tri-Cities	P1-2	P1-2 Midway-Union Gap #1 230
Tri-Cities	P1-2	P1-2 Midway-Vantage #1 230
Umatilla/Boardman	P1-2	P1-2 Morrow Flat-Boardman 230
Umatilla/Boardman	P1-2	P1-2 Morrow Flat-Jones Canyon 230
Walla Walla	P1-2	P1-2 Moscow-Hatwai (AVA) 230
Tri-Cities	P1-2	P1-2 N Bonneville-Midway #1 230
Walla Walla	P1-2	P1-2 N Lewiston-Dry Creek (AVA) 230
Walla Walla	P1-2	P1-2 N Lewiston-Shawnee (AVA) 230
Walla Walla	P1-2	P1-2 N Lewiston-Tucannon River 115
Umatilla/Boardman	P1-2	P1-2 Quarry-Cottonwood (UEC) 230
Tri-Cities	P1-2	P1-2 Richland-Badger Canyon 115
Tri-Cities	P1-2	P1-2 Richland-Red Mtn 115
Lower Columbia	P1-2	P1-2 Rock Creek-John Day 500
Pendleton/LaGrande	P1-2	P1-2 Roundup-La Grande 230
Tri-Cities	P1-2	P1-2 Saddle Mtn-Wanapum (AVA) 230

Lower Columbia	P1-2	P1-2 Slatt-Buckley 500
Lower Columbia	P1-2	P1-2 Slatt-John Day 500
Walla Walla	P1-2	P1-2 Talbot-Marengo (PAC) 230
Walla Walla	P1-2	P1-2 Talbot-Walla Walla (PAC) 230
Walla Walla	P1-2	P1-2 Tucannon River-Hopkins Ridge (PSE) 115
Walla Walla	P1-2	P1-2 Tucannon River-Walla Walla 115
Walla Walla	P1-2	P1-2 Walla Walla-Freewater 69
Walla Walla	P1-2	P1-2 Walla Walla-Hells Canyon (PAC) 230
Walla Walla	P1-2	P1-2 Walla Walla-Hurricane (PAC) 230
Walla Walla	P1-2	P1-2 Walla Walla-PAC Walla Walla 69
Walla Walla	P1-2	P1-2 Walla Walla-Saddle Mtn (PAC/AVA) 230
Walla Walla	P1-2	P1-2 Walla Walla-Vancycle 69
Walla Walla	P1-2	P1-2 Walla Walla-Wallula (PAC) 230
Tri-Cities	P1-2	P1-2 White Bluffs-451B 115
Tri-Cities	P1-2	P1-2 White Bluffs-Red Mt 115
Tri-Cities	P1-2	P1-2 White Bluffs-Richland #1 115
Tri-Cities	P1-2	P1-2 White Bluffs-Richland #2 115
Tri-Cities	P1-2	P1-2 White Bluffs-Stevens Dr-Richland #2 115
Tri-Cities	P1-2	P1-2 Wine Country-Midway 230
Walla Walla	P1-2	P1-2 WW Central-Combine Hills (PAC) 69
Fossil/DeMoss	P1-3	P1-3 BigEddy #1 230/115
Fossil/DeMoss	P1-3	P1-3 DeMoss 115/69
Fossil/DeMoss	P1-3	P1-3 Fossil 115/69
Walla Walla	P1-3	P1-3 Hatwai 500/230
Pendleton/LaGrande	P1-3	P1-3 La Grande #1 230/69
Pendleton/LaGrande	P1-3	P1-3 La Grande #2 230/69
Fossil/DeMoss	P1-3	P1-3 Maupin 230/69
Umatilla/Boardman	P1-3	P1-3 McNary #01 500/230
Umatilla/Boardman	P1-3	P1-3 McNary #02 500/230
Umatilla/Boardman	P1-3	P1-3 McNary #09 230/115
Umatilla/Boardman	P1-3	P1-3 McNary #10 115/69
Umatilla/Boardman	P1-3	P1-3 McNary #11 230/115
Tri-Cities	P1-3	P1-3 Midway #3 230/115
Umatilla/Boardman	P1-3	P1-3 Morrow Flat #1 230/115

Umatilla/Boardman	P1-3	P1-3 Morrow Flat #2 230/115
Walla Walla	P1-3	P1-3 N Lewiston (AVA) 230/115
Pendleton/LaGrande	P1-3	P1-3 Roundup (PAC) 230/69
Tri-Cities	P1-3	P1-3 Sacajawea 500/115
Walla Walla	P1-3	P1-3 Walla Walla #3 115/69
Walla Walla	P1-3	P1-3 Walla Walla One Bank (PAC) 230/69
Tri-Cities	P1-4	P1-4 Ashe 230
Tri-Cities	P1-4	P1-4 Benton 115
Fossil/DeMoss	P1-4	P1-4 DeMoss C1 69
Fossil/DeMoss	P1-4	P1-4 DeMoss R1 69
Fossil/DeMoss	P1-4	P1-4 DeMoss R2 69
Fossil/DeMoss	P1-4	P1-4 Fossil C1 69
Fossil/DeMoss	P1-4	P1-4 Fossil C2 69
Fossil/DeMoss	P1-4	P1-4 Fossil R1 69
Tri-Cities	P1-4	P1-4 Franklin 115
Tri-Cities	P1-4	P1-4 Grandview 115
Pendleton/LaGrande	P1-4	P1-4 La Grande 230
Umatilla/Boardman	P1-4	P1-4 McNary C1 230
Umatilla/Boardman	P1-4	P1-4 McNary C2 230
Tri-Cities	P1-4	P1-4 Richland 115
Walla Walla	P1-4	P1-4 Tucannon River 115
Walla Walla	P1-4	P1-4 Walla Walla 69
Walla Walla	P1-4	P1-4 Walla Walla-Hurricane Series (PAC) 230
Tri-Cities	P1-4	P1-4 White Bluffs 115
Tri-Cities	P2-1	P2-1 451B 1424 (Hanford) 115
Tri-Cities	P2-1	P2-1 A6 366 (Ashe) 230
Tri-Cities	P2-1	P2-1 A9 396 (Ashe) 230
Tri-Cities	P2-1	P2-1 Badger B251 (Zephyr) 115
Tri-Cities	P2-1	P2-1 Badger B253 (9Canyon) 115
Tri-Cities	P2-1	P2-1 Badger B256 (Vista Tap) 115
Tri-Cities	P2-1	P2-1 Benton B537 (Hanford) 115
Tri-Cities	P2-1	P2-1 Benton B538 (Glade) 115
Tri-Cities	P2-1	P2-1 Benton B540 (Scooteney Tap) 115
Tri-Cities	P2-1	P2-1 Benton B542 (Baxter) 115

Fossil/DeMoss	P2-1	P2-1 Big Eddy A814 (Maupin) 230
Fossil/DeMoss	P2-1	P2-1 Fossil L1376 (Muddy Ranch) 69
Tri-Cities	P2-1	P2-1 Franklin B1522 (Glade) 115
Tri-Cities	P2-1	P2-1 Franklin B606 (Burbank) 115
Tri-Cities	P2-1	P2-1 Franklin B612 (Ice Harbor 2) 115
Tri-Cities	P2-1	P2-1 Franklin B614 (Zephyr) 115
Tri-Cities	P2-1	P2-1 Franklin B620 (Baxter) 115
Tri-Cities	P2-1	P2-1 Grandview B920 (Prosser) 115
Tri-Cities	P2-1	P2-1 Grandview B924 (Sunny Tap) 115
Tri-Cities	P2-1	P2-1 LoMo (Sacajawea) 500
Fossil/DeMoss	P2-1	P2-1 Maupin L164 (Tygh Valley) 69
Fossil/DeMoss	P2-1	P2-1 Maupin L166 (Antelope) 69
Tri-Cities	P2-1	P2-1 McNary (Sacajawea) 500
Walla Walla	P2-1	P2-1 McNary A400 (Wallula) 230
Tri-Cities	P2-1	P2-1 McNary A410 (Horse Heaven) 230
Tri-Cities	P2-1	P2-1 McNary B980 (Paterson Tap) 115
Tri-Cities	P2-1	P2-1 Midway A1000 (PR 2) 230
Tri-Cities	P2-1	P2-1 Midway A108 (PR 3) 230
Tri-Cities	P2-1	P2-1 Midway A62 (Outlook) 230
Tri-Cities	P2-1	P2-1 Midway B150 (Cold Crk) 115
Tri-Cities	P2-1	P2-1 Midway B152 (Scooteney Tap) 115
Walla Walla	P2-1	P2-1 N Lewiston A586 (Clarkston) 115
Tri-Cities	P2-1	P2-1 Red Mtn (Benton City) 115
Tri-Cities	P2-1	P2-1 Red Mtn (Kennedy) 115
Tri-Cities	P2-1	P2-1 Red Mtn (Ruppert Rd) 115
Fossil/DeMoss	P2-1	P2-1 Redmond A265 (Maupin) 230
Tri-Cities	P2-1	P2-1 Richland B502 (Thayer) 115
Tri-Cities	P2-1	P2-1 Richland B504 (Tapteal) 115
Tri-Cities	P2-1	P2-1 Richland B506 (City View) 115
Tri-Cities	P2-1	P2-1 Richland Bxxx (Stevens) 115 (POST)
Walla Walla	P2-1	P2-1 Walla Walla B202 (Nine Mile) 115
Walla Walla	P2-1	P2-1 Walla Walla B206 (Dayton) 115
Tri-Cities	P2-1	P2-1 White Bluffs B207 (Horn Rpds) 115
Tri-Cities	P2-1	P2-1 White Bluffs B247 (Snyder) 115

Tri-Cities	P2-1	P2-1 White Bluffs B271 (Sandhill) 115
Tri-Cities	P2-2	P2-2 Ashe 230
Tri-Cities	P2-2	P2-2 Badger Canyon 115
Tri-Cities	P2-2	P2-2 Benton 115
Fossil/DeMoss	P2-2	P2-2 Big Eddy #1 230
Fossil/DeMoss	P2-2	P2-2 Big Eddy #2 230
Fossil/DeMoss	P2-2	P2-2 BigEddy 115
Tri-Cities	P2-2	P2-2 Franklin East 115
Tri-Cities	P2-2	P2-2 Franklin West 115
Tri-Cities	P2-2	P2-2 Grandview 115
Pendleton/LaGrande	P2-2	P2-2 La Grande 230
Umatilla/Boardman	P2-2	P2-2 McNary #1 115
Umatilla/Boardman	P2-2	P2-2 McNary #2 115
Umatilla/Boardman	P2-2	P2-2 McNary S1 230
Umatilla/Boardman	P2-2	P2-2 McNary S2 230
Umatilla/Boardman	P2-2	P2-2 McNary S3 230
Tri-Cities	P2-2	P2-2 Midway 115
Tri-Cities	P2-2	P2-2 Midway B1 230
Tri-Cities	P2-2	P2-2 Midway B2 230
Tri-Cities	P2-2	P2-2 Midway B3 230
Walla Walla	P2-2	P2-2 N Lewiston 115
Walla Walla	P2-2	P2-2 N Lewiston 230
Pendleton/LaGrande	P2-2	P2-2 N Powder 230
Fossil/DeMoss	P2-2	P2-2 Redmond East 230
Tri-Cities	P2-2	P2-2 Richland 115
Pendleton/LaGrande	P2-2	P2-2 Roundup (Aux Bus) 230
Pendleton/LaGrande	P2-2	P2-2 Roundup 230
Pendleton/LaGrande	P2-2	P2-2 Roundup 69
Fossil/DeMoss	P2-2	P2-2 TDA PH1 115
Walla Walla	P2-2	P2-2 Walla Walla 115
Walla Walla	P2-2	P2-2 Walla Walla 69
Tri-Cities	P2-2	P2-2 White Bluffs North 115
Tri-Cities	P2-2	P2-2 White Bluffs South 115
Tri-Cities	P2-3	P2-3 401 Ashe 230kV

Tri-Cities	P2-3	P2-3 A6 364 230kV
Tri-Cities	P2-3	P2-3 A8 384 230kV
Tri-Cities	P2-3	P2-3 A9 394 230kV
Tri-Cities	P2-3	P2-3 Badger B251 (Franklin #1) 115
Tri-Cities	P2-3	P2-3 Badger B253 (McNary) 115
Tri-Cities	P2-3	P2-3 Badger B256 (Richland) 115
Tri-Cities	P2-3	P2-3 Benton B537 (451B) 115
Tri-Cities	P2-3	P2-3 Benton B538 (Franklin #2) 115
Tri-Cities	P2-3	P2-3 Benton B540 (Midway #2) 115
Tri-Cities	P2-3	P2-3 Benton B542 (Franklin #1) 115
Fossil/DeMoss	P2-3	P2-3 BigEddy A814 (Redmond) 230
Fossil/DeMoss	P2-3	P2-3 DeMoss B2072 115
Fossil/DeMoss	P2-3	P2-3 DeMoss B2075 115
Fossil/DeMoss	P2-3	P2-3 DeMoss B2078 115
Fossil/DeMoss	P2-3	P2-3 DeMoss B2081 115
Tri-Cities	P2-3	P2-3 Franklin B1522 (Benton #2) 115
Tri-Cities	P2-3	P2-3 Franklin B1526 (Badger #1) 115
Tri-Cities	P2-3	P2-3 Franklin B606 (Walla Walla) 115
Tri-Cities	P2-3	P2-3 Franklin B608 (Levey-IH #3) 115
Tri-Cities	P2-3	P2-3 Franklin B612 (Sac-IH#2) 115
Tri-Cities	P2-3	P2-3 Franklin B620 (Benton #1) 115
Tri-Cities	P2-3	P2-3 Grandview B920 (Red Mt) 115
Tri-Cities	P2-3	P2-3 Grandview B924 (Midway) 115
Fossil/DeMoss	P2-3	P2-3 Maupin A847 230
Fossil/DeMoss	P2-3	P2-3 Maupin L166 (Fossil) 69
Umatilla/Boardman	P2-3	P2-3 McNary 4231 500
Umatilla/Boardman	P2-3	P2-3 McNary 5198 500
Umatilla/Boardman	P2-3	P2-3 McNary 5211 500
Tri-Cities	P2-3	P2-3 McNary A410 (Horse Heaven) 230
Tri-Cities	P2-3	P2-3 McNary B980 (Badger) 115
Tri-Cities	P2-3	P2-3 Midway A1000 (PR 2) 230
Tri-Cities	P2-3	P2-3 Midway A108 (PR 3) 230
Tri-Cities	P2-3	P2-3 Midway A62 (N Bonneville) 230
Tri-Cities	P2-3	P2-3 Midway B146 (Moxee) 115

Tri-Cities	P2-3	P2-3 Midway B150 (Grandview) 115
Tri-Cities	P2-3	P2-3 Midway B152 (Benton) 115
Tri-Cities	P2-3	P2-3 Red Mt B1974 (WB & GV) 115
Tri-Cities	P2-3	P2-3 Red Mt B1976 (WB & RL & Sunset) 115
Tri-Cities	P2-3	P2-3 Red Mt B1976 (WB & RL) 115
Tri-Cities	P2-3	P2-3 Red Mt B1978 (GV & Sunset) 115
Tri-Cities	P2-3	P2-3 Red Mt B1978 (GV & Sunset+RL) 115
Fossil/DeMoss	P2-3	P2-3 Redmond A265 (Big Eddy) 230
Tri-Cities	P2-3	P2-3 Richland B502 (White Bluffs #2) 115
Tri-Cities	P2-3	P2-3 Richland B504 (Badger) 115
Tri-Cities	P2-3	P2-3 Richland B506 (Red Mt) 115
Walla Walla	P2-3	P2-3 Tucannon River B2018 115
Walla Walla	P2-3	P2-3 Tucannon River B2021 115
Walla Walla	P2-3	P2-3 Tucannon River B2024 115
Walla Walla	P2-3	P2-3 Tucannon River B2027 115
Walla Walla	P2-3	P2-3 Walla Walla B206 (Tucannon River) 115
Tri-Cities	P2-3	P2-3 White Bluffs B207 (Red Mt) 115
Tri-Cities	P2-3	P2-3 White Bluffs B247 (Richland #2) 115
Tri-Cities	P2-3	P2-3 White Bluffs B271 (Richland #1) 115
Fossil/DeMoss	P2-4	P2-4 Big Eddy A826 230
Tri-Cities	P2-4	P2-4 Franklin B615 115
Umatilla/Boardman	P2-4	P2-4 McNary A428 230
Umatilla/Boardman	P2-4	P2-4 McNary B983 115
Tri-Cities	P2-4	P2-4 White Bluffs B1352 115
Tri-Cities	P7-1	P7-1 Franklin-IceHarbor 1&2 115
Tri-Cities	P7-1	P7-1 McN-Fra 230 & McN-Bad & Fra-Bad 115
Walla Walla	P7-1	P7-1 N Lewiston-Dry Creek 230 & Tucannon River-N Lewiston 115
Walla Walla	P7-1	P7-1 Talbot-Dry Creek 230 & Tucannon River-N Lewiston 115
Tri-Cities	PX	PX Midway Substation

Area	NERC Category	Contingency Name
Tri-Cities	P5-5	P5-5 Badger Canyon 115
Tri-Cities	P1-2	P1-2 Franklin-Badger #1 115 3PH
Tri-Cities	P1-2	P1-2 Ice Harbor-Franklin #1 115 3PH
Tri-Cities	P4-6	P4-6 McNary B983 115 SLG
Tri-Cities	P5-2	P5-2 Midway-Benton 230 SLG
Tri-Cities	P5-5	P5-5 Ashe 230
Tri-Cities	P5-2	P5-2 Midway-Vantage 230 SLG
Tri-Cities	P4-6	P4-6 White Bluffs B1352 115 SLG
Lower Columbia	P6	Slatt-Coyote/Ashe-Marion
Lower Columbia	P6	Mcnary-John Day/Rock Creek-John Day
Lower Columbia	P6	Ashe-Slatt/Slatt-Coyote
Lower Columbia	P6	Slatt-Coyote/Ashe-Slatt
Lower Columbia	P6	Mcnary-John Day/Ashe-Slatt
Lower Columbia	P4-2	P4.2 John Day - BIg Eddy #1 & Big Eddy 500/230 #1
Lower Columbia	P4-2	P4.2 John Day - Big Eddy #2 & BIg Eddy - Ostrander
Lower Columbia	P4-2	P4.2 Coyote - McNary & McNary 500/230 kV #1
Lower Columbia	P4-2	P4.2 John Day - Big Eddy #1 & Rock Creek - John Day
Lower Columbia	P4-2	P4.2 Slatt - John Day & Ashe - Slatt
Lower Columbia	P7-2	P7-2: PDCI Bi-Pole Outage w/ 3-ph fault 2400 HGD
Lower Columbia	P7-2	P7-2: PDCI Bi-Pole Outage w/ no fault 2900 HGD
Lower Columbia	P7-2	P7-2: PDCI Bi-Pole Outage w/ no fault 2400 HGD
Lower Columbia	P7-2	P7-2: PDCI Bi-Pole Outage w/ 3-ph fault 2900 HGD
Lower Columbia	P6	Slatt-JDA/Slatt-Buckley
Lower Columbia	P6	Slatt-JDA/Ashe-Marion
Lower Columbia	P4-2	BFR4967, Buckley
Lower Columbia	P3-1	2 PV
Lower Columbia	P4-2	BFR 5266, Slatt - Buckley
Lower Columbia	P4-2	BFR 5211: MCN-JDA/MCN-Low Mon
Lower Columbia	P4-2	BFR 5040: Grizzly-John Day 1 & Grizzly-Round Butte
Walla Walla	P1-2	P1-2 Franklin-Walla Walla 115 3PH
Walla Walla	P2-2	P2-2 Walla Walla 115 SLG
Umatilla/Boardman	P2-2	P2-2 McNary Section 1 230 SLG
Pendleton/LaGrande	P1-2	P1-2 McNary-Roundup 230 3PH
Pendleton/LaGrande	P5-2	P5-2: McNary-Roundup 230kV line
Pendleton/LaGrande	P5-2	P5-2: La Grande-North Powder 230kV line
Pendleton/LaGrande	P1-3	P1-3: BPA Roundup XFMR 230/69kV
Pendleton/LaGrande	P1-3	P1-3: PAC Roundup XFMR 230/69kV
Umatilla/Boardman	P1-2	P1-2 Morrow Flat-Jones Canyon 230 3PH
Pendleton/LaGrande	P2-2	P2-2 LaGrande 230 SLG
Fossil/DeMoss	P1-2	P1-2 Big Eddy-DeMoss 115 3PH
Fossil/DeMoss	P2-2	P2-2 Big Eddy 115 SLG

Area	NERC Category	Contingency Name
Central Oregon	P1-1	P1-1: GEN Connley Lane Solar 10 MW #1 34.5 kV
Central Oregon	P1-1	P1-1: GEN Rock Garden Solar 10 MW #1 34.5 kV
Central Oregon	P1-2	P1-2: LINE BigEddy-Redmond #1 230kV
Central Oregon	P1-2	P1-2: LINE Brasada-Harney 115kV
Central Oregon	P1-2	P1-2: LINE Grizzly-Captain Jack #1 500kV
Central Oregon	P1-2	P1-2: LINE Grizzly-Summer Lake #1 500kV
Central Oregon	P1-2	P1-2: LINE LaPine-Chiloquin #1 230kV
Central Oregon	P1-2	P1-2: LINE PilotButte-LaPine #1 230kV
Central Oregon	P1-2	P1-2: LINE Ponderosa-PilotButte #1 230kV
Central Oregon	P1-2	P1-2: LINE Redmond-Brasada #1 115kV
Central Oregon	P1-2	P1-2: LINE Redmond-PilotButte #1 230kV
Central Oregon	P1-3	P1-3: TXF LaPine 230/115kV bank #1
Central Oregon	P1-3	P1-3: TXF LaPine 230/115kV bank #2
Central Oregon	P1-3	P1-3: TXF Ponderosa 500/230kV bank #1 GIS
Central Oregon	P1-3	P1-3: TXF Ponderosa 500/230kV bank #2 AIS
Central Oregon	P1-3	P1-3: TXF Redmond 230/115kV bank #3
Central Oregon	P1-3	P1-3: TXF Redmond 230/115kV bank #5
Central Oregon	P1-3	P1-3: TXF Redmond 230/69kV bank #1
Central Oregon	P1-3	P1-3: TXF Redmond 230/69kV bank #2
Central Oregon	P1-4	P1-4: SHUNT Harney 115kV C1
Central Oregon	P1-4	P1-4: SHUNT Harney 115kV R1
Central Oregon	P1-4	P1-4: SHUNT LaPine 115kV C1
Central Oregon	P1-4	P1-4: SHUNT LaPine 230kV R1
Central Oregon	P1-4	P1-4: SHUNT RedmondE 230kV C1
Central Oregon	P2-1	P2-1: IBO Big Eddy-Redmond #1 230kV (open at BE)
Central Oregon	P2-1	P2-1: IBO Big Eddy-Redmond #1 230kV (open at Red)
Central Oregon	P2-1	P2-1: IBO Brasada-Harney #1 115kV (open at Harney)
Central Oregon	P2-1	P2-1: IBO Redmond-Brasada #1 115kV (open at Redmond)
Central Oregon	P2-1	P2-1: IBO Redmond-Houston Lake 115kV (open at Redmond)
Central Oregon	P2-2	P2-2: BUS Harney 115kV
Central Oregon	P2-2	P2-2: BUS LaPine 115kV
Central Oregon	P2-2	P2-2: BUS LaPine 230kV
Central Oregon	P2-2	P2-2: BUS Redmond 69kV

Central Oregon	P2-2	P2-2: BUS Redmond East 115kV
Central Oregon	P2-2	P2-2: BUS Redmond East 230kV
Central Oregon	P2-2	P2-2: BUS Redmond West 115kV
Central Oregon	P2-2	P2-2: BUS Redmond West 230kV
Central Oregon	P2-3	P2-3: BFR Brasada (B1948) 115kV
Central Oregon	P2-3	P2-3: BFR Harney (B1708) 115kV
Central Oregon	P2-3	P2-3: BFR Harney (B1710) 115kV
Central Oregon	P2-3	P2-3: BFR Harney (B1712) 115kV
Central Oregon	P2-3	P2-3: BFR LaPine (A1494) 230kV
Central Oregon	P2-3	P2-3: BFR LaPine (A1552) 230kV
Central Oregon	P2-3	P2-3: BFR LaPine (A1553) 230kV
Central Oregon	P2-3	P2-3: BFR LaPine (B1281) 115kV
Central Oregon	P2-3	P2-3: BFR LaPine (B1282, B1283) 115kV
Central Oregon	P2-3	P2-3: BFR Maupin (847) 230kV
Central Oregon	P2-3	P2-3: BFR Ponderosa AIS (A1812) 230kV
Central Oregon	P2-3	P2-3: BFR Ponderosa AIS (A1815) 230kV
Central Oregon	P2-3	P2-3: BFR Ponderosa AIS (A1818) 230kV
Central Oregon	P2-3	P2-3: BFR Ponderosa AIS (A1821) 230kV
Central Oregon	P2-3	P2-3: BFR Ponderosa AIS (A1824) 230kV
Central Oregon	P2-3	P2-3: BFR Ponderosa AIS (A1827) 230kV
Central Oregon	P2-3	P2-3: BFR Ponderosa GIS (A384) 230kV
Central Oregon	P2-3	P2-3: BFR Ponderosa GIS (A395) 230kV
Central Oregon	P2-3	P2-3: BFR Ponderosa GIS (A398) 230kV
Central Oregon	P2-3	P2-3: BFR Redmond E (A250) 230kV
Central Oregon	P2-3	P2-3: BFR Redmond E (A265) 230kV
Central Oregon	P2-3	P2-3: BFR Redmond East (B1555) 115kV
Central Oregon	P2-3	P2-3: BFR Redmond East (B1559) 115kV
Central Oregon	P2-3	P2-3: BFR Redmond West (A252) 230kV
Central Oregon	P2-3	P2-3: BFR Redmond West (A256) 230kV
Central Oregon	P2-3	P2-3: BFR Redmond West (A258) 230kV
Central Oregon	P2-3	P2-3: BFR Redmond West (A262) 230kV
Central Oregon	P2-3	P2-3: BFR Redmond West (B1554) 115kV
Central Oregon	P2-3	P2-3: BFR Redmond West (B1554) 115kV w/ Brasada UVLS
Central Oregon	P2-3	P2-3: BFR Redmond West (B1556) 115kV

Central Oregon	P2-3	P2-3: BFR Redmond West (B254) 230kV
Central Oregon	P2-4	P2-4: BSB BFR Redmond (A259) 230kV
Central Oregon	P2-4	P2-4: BSB BFR Redmond (A259) 230kV w/ Redmond UVLS
Central Oregon	P2-4	P2-4: BSB BFR Redmond (B1157) 115kV w/ Brasada UVLS
Central Oregon	P2-4	P2-4: BSB BFR Redmond (B1557) 115kV
Northern California	P1-2	P1-2: LINE Hilltop-Warner #1 230kV
Northern California	P1-2	P1-2: LINE Malin-Hilltop #1 230kV
Northern California	P1-3	P1-3: TXF Canby 230/69kV
Northern California	P1-3	P1-3: TXF Warner 230/115kV
Northern California	P1-4	P1-4: SHUNT Hilltop 230kV R1
Northern California	P1-4	P1-4: SHUNT Warner 115kV C1
Northern California	P2-1	P2-1: IBO Malin-Hilltop #1 230kV (open at Hilltop)
Northern California	P2-1	P2-1: IBO Malin-Hilltop #1 230kV (open at Malin)
Northern California	P2-3	P2-3: BFR Hilltop (A1515) 230kV
Northern California	P2-3	P2-3: BFR Hilltop (A1529) 230kV
Northern California	P2-3	P2-3: BFR Hilltop (A1534) 230kV
Northern California	P2-3	P2-3: BFR Malin (1L1) 230kV w/ new PAC Malin PCB
Northern California	P2-3	P2-3: BFR Warner (B165) 115kV
COI_PDCI	P1-2	P1-2: LINE_Alvey-Dixonville 1 PACW 500kV
COI_PDCI	P1-2	P1-2: LINE_Ashe-Marion 2 500kV
COI_PDCI	P1-2	P1-2: LINE_Ashe-Slatt 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Buckley-Grizzly 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Buckley-Marion 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Captain Jack-Malin 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Captain Jack-Malin 2 500kV
COI_PDCI	P1-2	P1-2: LINE_Captain Jack-Olinda 500kV
COI_PDCI	P1-2	P1-2: LINE_Captain Jack-SnowGoose PACW 500kV
COI_PDCI	P1-2	P1-2: LINE_Dixonville-Meridian 500kV
COI_PDCI	P1-2	P1-2: LINE_Grizzly-Captain Jack 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Grizzly-Malin 2 500kV
COI_PDCI	P1-2	P1-2: LINE_Grizzly-Round Butte PGE 500kV
COI_PDCI	P1-2	P1-2: LINE_Grizzly-Summer Lake 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Hemingway-Summer Lake PACW 500 kV
COI_PDCI	P1-2	P1-2: LINE_John Day-Big Eddy 1 500kV

COI_PDCI	P1-2	P1-2: LINE_John Day-Big Eddy 2 500kV
COI_PDCI	P1-2	P1-2: LINE_John Day-Grizzly 1 500kV
COI_PDCI	P1-2	P1-2: LINE_John Day-Grizzly 2 500kV
COI_PDCI	P1-2	P1-2: LINE_John Day-Marion 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Klamath Cogeneration - SnowGoose PACW 500kV
COI_PDCI	P1-2	P1-2: LINE_Klamath Cogeneration-Meridian PACW 500kV
COI_PDCI	P1-2	P1-2: LINE_Malin-Round Mountain PG&E 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Malin-Round Mountain PG&E 2 500kV
COI_PDCI	P1-2	P1-2: LINE_Marion-Alvey 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Marion-Lane 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Marion-Santiam 1 500kV
COI_PDCI	P1-2	P1-2: LINE_McNary-John Day 2 500kV
COI_PDCI	P1-2	P1-2: LINE_Rock Creek-John Day 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Slatt-Buckely 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Slatt-John Day 1 500kV
COI_PDCI	P1-2	P1-2: LINE_Summer Lake-Malin PACW 500kV
COI_PDCI	P1-3	P1-3: XFMR_Alvey 500/230kV Bank 5
COI_PDCI	P1-3	P1-3: XFMR_Dixonville 500/230kV Bank 2
COI_PDCI	P1-3	P1-3: XFMR_Hilltop 345/230kV Bank 1
COI_PDCI	P1-3	P1-3: XFMR_Lane 500/230kV Bank 3
COI_PDCI	P1-3	P1-3: XFMR_Malin 500/230kV Bank 1
COI_PDCI	P1-3	P1-3: XFMR_McNary 500/230kV Bank 1
COI_PDCI	P1-3	P1-3: XFMR_Meridian 500/230kV Bank 1
COI_PDCI	P1-3	P1-3: XFMR_Meridian 500/230kV Bank 2
COI_PDCI	P1-3	P1-3: XFMR_Ponderosa 500/230kV Bank 1
COI_PDCI	P1-3	P1-3: XFMR_Ponderosa 500/230kV Bank 2
COI_PDCI	P1-3	P1-3: XFMR_Round Butte 500/230kV Bank ZVR-9
COI_PDCI	P1-3	P1-3: XFMR_SamsValley 500/230kV Bank PACW
COI_PDCI	P1-3	P1-3: XFMR_Santiam 500/230kV Bank 4
COI_PDCI	P1-3	P1-3: XFMR_SnowGoose 500/230kV Bank PACW
COI_PDCI	P1-5	P1-5: DC_POLE
COI_PDCI	P2-1	P2-1: LINE_Burns-Hemingway section of Hemingway IPC-Summer Lake 500kV
COI_PDCI	P2-1	P2-1: LINE_Burns-Summer Lake Section of Midpoint-Summer Lake 1 500kV
COI_PDCI	P2-1	P2-1: LINE_Grizzly-Captain Jack 1 500 kV GZ END OPEN

COI_PDCI	P2-1	P2-1: LINE_Grizzly-Summer Lake 1 500 kV GZ END OPEN
COI_PDCI	P2-1	P2-1: LINE_SamsValley-Dixonville PACW 500 kV (DXN end Open)
COI_PDCI	P2-1	P2-1: LINE_SamsValley-Meridian PACW 500 kV (MER end Open)
COI_PDCI	P2-3	P2-3: BFR_Alvey PCB 5081 Marion-Alvey 500kV and Alvey 500 kV Reactor
COI_PDCI	P2-3	P2-3: BFR_Alvey PCB 5084 Marion-Alvey 500kV and Alvey-Dixonville 500kV
COI_PDCI	P2-3	P2-3: BFR_Alvey PCB 5087 Alvey-Dixonville 500kV and Alvey Transformer 500-230kV
COI_PDCI	P2-3	P2-3: BFR_Big Eddy PCB 4200 Big Eddy-Celilo 2 500kV and John Day-Big Eddy 2 500kV
COI_PDCI	P2-3	P2-3: BFR_Big Eddy PCB 4202 Big Eddy-Ostrander 1 500kV AND John Day-Big Eddy 2 500kV
COI_PDCI	P2-3	P2-3: BFR_Big Eddy PCB 4205 Big Eddy-Celilo 1 500kV AND Big Eddy-Ostrander 1 500kV
COI_PDCI	P2-3	P2-3: BFR_Big Eddy PCB 4209 Big Eddy-Knight 500kV and Big Eddy 500-230kV Bank 5
COI_PDCI	P2-3	P2-3: BFR_Big Eddy PCB 4212 Big Eddy-Celilo 1 500kV and Big Eddy 500-230kV Bank 5
COI_PDCI	P2-3	P2-3: BFR_Big Eddy PCB 4860 Big Eddy-Knight 500kV and Big Eddy-Celilo 2 500kV
COI_PDCI	P2-3	P2-3: BFR_Big Eddy PCB 4866 Big Eddy-Celilo 1 500kV and Big Eddy 500-230kV Bank 2
COI_PDCI	P2-3	P2-3: BFR_Big Eddy PCB 4870 Big Eddy-John Day 1 500kV AND Big Eddy 500-230kV Bank 2
COI_PDCI	P2-3	P2-3: BFR_Big Eddy PCB 4872 Big Eddy-Celilo 2 500kV and John Day-Big Eddy 1 500kV
COI_PDCI	P2-3	P2-3: BFR_Buckley PCB 4961 Slatt-Buckley 500kV and Buckley-Grizzly 500kV
COI_PDCI	P2-3	P2-3: BFR_Buckley PCB 4964 Buckley-Grizzly 500kV and Buckley-Marion 500kV
COI_PDCI	P2-3	P2-3: BFR_Buckley PCB 4967 Buckley-Marion and Slatt-Buckley 500kV
COI_PDCI	P2-3	P2-3: BFR_Captain Jack PCB 4924 Captain Jack-Malin 2 PACW 500kV and Captain Jack 500kV Capacitor G
COI_PDCI	P2-3	P2-3: BFR_Captain Jack PCB 4977 Captain Jack-Olinda 500kV and Captain Jack 500kV Reactor
COI_PDCI	P2-3	P2-3: BFR_Captain Jack PCB 4980 CaptJack-Olinda 500kV AND Captain Jack 500kV Capacitor Group 2 and
COI_PDCI	P2-3	P2-3: BFR_Captain Jack PCB 4983 Captain Jack-SnowGoose PACW and Captain Jack 500kV Reactor
COI_PDCI	P2-3	P2-3: BFR_Captain Jack PCB 4986 Captain Jack-SnowGoose PACW 500kV AND Captain Jack-Malin 2 PAC\
COI_PDCI	P2-3	P2-3: BFR_Captain Jack PCB 4990 Grizzly-Captain Jack 500kV and Captain Jack 500kV Reactor
COI_PDCI	P2-3	P2-3: BFR_Captain Jack PCB 4993 Captain Jack-Malin 1 500kV AND Grizzly-Captain Jack 1 500kV
COI_PDCI	P2-3	P2-3: BFR_Captain Jack PCB 4996 Captain Jack-Malin 1 500kV AND Captain Jack 500kV Capacitor Group
COI_PDCI	P2-3	P2-3: BFR_Dixonville PCB 11U1 Dixonville-Meridian 500kV and Dixionville Transformer 500-230kV
COI_PDCI	P2-3	P2-3: BFR_Dixonville PCB 11U2 Alvey-Dixonville 500kV and Dixionville Transformer 500/230kV
COI_PDCI	P2-3	P2-3: BFR_Dixonville PCB 11U3 Dixonville-Meridian 500kV and Alvey-Dixonville 500kV
COI_PDCI	P2-3	P2-3: BFR_Grizzly PCB 4046 Grizzly-Malin 2 500kV AND John Day-Grizzly 2 500kV
COI_PDCI	P2-3	P2-3: BFR_Grizzly PCB 4048 Grizzly-Malin 2 500kV and Grizzly 500kV Reactor 1 and 2
COI_PDCI	P2-3	P2-3: BFR_Grizzly PCB 4052 Grizzly-Round Butte PGE 500kV and Grizzly 500kV Reactor 1 and 2
COI_PDCI	P2-3	P2-3: BFR_Grizzly PCB 5025 Grizzly-Summer Lake 500kV and Grizzly 500kV Reactor 1 and 2
COI_PDCI	P2-3	P2-3: BFR_Grizzly PCB 5028 Buckley-Grizzly 1 500kV AND Grizzly-Summer Lake 1 500kV

COI_PDCI	P2-3	P2-3: BFR_Grizzly PCB 5034 Grizzly-Captain Jack 500kV and Grizzly 500kV Reactor 1 and 2
COI_PDCI	P2-3	P2-3: BFR_Grizzly PCB 5040 Grizzly-Round Butte PGE 500kV AND John Day-Grizzly 1 500kV
COI_PDCI	P2-3	P2-3: BFR_Hemingway PCB535A Hemingway-Summer Lake 500kV and Hemingway 500-230 Bank
COI_PDCI	P2-3	P2-3: BFR_Hemingway PCB536A Hemingway-Summer Lake 500kV and Hemingway 500kV Capacitor
COI_PDCI	P2-3	P2-3: BFR_Hemingway PCB538A Hemingway-Midpoint 500kV and Hemingway 500-230 Bank
COI_PDCI	P2-3	P2-3: BFR_Hemingway PCB539A Hemingway-Midpoint 500kV and Hemingway 500kV Capacitor
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4131 John Day-Grizzly 2 500kV AND Slatt-John Day 1 500kV
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4134 John Day-Grizzly 2 500kV AND John Day 500kV Capacitor Group 1
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4140 John Day-Grizzly 1 500kV and John Day Powerhouse-Substation 1 500kV
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4143 John Day-Grizzly 1 500kV AND John Day 500kV Capacitor Group 1
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4158 John Day Powerhouse-Substation 2 500kV and John Day 500kV Capacitor
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4167 John Day-Marion 1 500kV and John Day Powerhouse-Substation 3 500kV
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4170 John Day-Marion 1 500kV AND John Day 500kV Capacitor Group 1
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4176 John Day-Big Eddy 2 500kV and John Day Powerhouse-Substation 4 500k\
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4179 John Day-Big Eddy 2 500kV AND John Day 500kV Capacitor Group 1
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4194 John Day-Big Eddy 1 500kV AND Rock Creek-John Day 1 500kV
COI_PDCI	P2-3	P2-3: BFR_John Day PCB 4197 John Day-Big Eddy 1 500kV AND John Day 500kV Capacitor Group 1
COI_PDCI	P2-3	P2-3: BFR_Klamath Cogeneration PCB 11L12 Klamath Peaker Units and Klamath Co-Gen Steam Turbine 3
COI_PDCI	P2-3	P2-3: BFR_Klamath Cogeneration PCB 11L17 Klamath Cogen-Meridian PACW 500kV and Klamath Peaker
COI_PDCI	P2-3	P2-3: BFR_Klamath Cogeneration PCB 11L22 Captain Jack-Klamath Cogeneration PACW 500kV AND Klan
COI_PDCI	P2-3	P2-3: BFR_Klamath Cogeneration PCB 11L32 Captain Jack-Klamath Cogeneration PACW 500kV AND Klan
COI_PDCI	P2-3	P2-3: BFR_Klamath Cogeneration PCB 11L36 Klamath Cogneneration-Meridian PACW 500kV AND Klama
COI_PDCI	P2-3	P2-3: BFR_Malin PCB 4019 Captain Jack-Malin 2 500kV AND Malin 500/230kV Bank 1
COI_PDCI	P2-3	P2-3: BFR_Malin PCB 4064 Captain Jack-Malin 1 500kV AND Malin-Round Mountain PG&E 1 500kV
COI_PDCI	P2-3	P2-3: BFR_Malin PCB 4066 Captain Jack-Malin 1 500kV AND Malin 500kV Capacitor Group 3 and 4
COI_PDCI	P2-3	P2-3: BFR_Malin PCB 4070 Grizzly-Malin 2 500kV AND Malin 500kV Capacitor Group 3 and 4
COI_PDCI	P2-3	P2-3: BFR_Malin PCB 4072 Grizzly-Malin 2 500kV AND Malin-Round Mountain PG&E 2 500kV
COI_PDCI	P2-3	P2-3: BFR_Malin PCB 4186 Malin-Round Mountain PG&E 1 500kV AND Malin 500/230kV Bank 1
COI_PDCI	P2-3	P2-3: BFR_Malin PCB 4576 Summer Lake-Malin PACW 500kV AND Malin 500kV Capacitor Group 3 and 4
COI_PDCI	P2-3	P2-3: BFR_Malin PCB 4582 Malin-Round Mountain PG&E 2 500kV AND Malin 500/230kV Bank 1
COI_PDCI	P2-3	P2-3: BFR_Malin PCB 4591 CaptJack-Malin 2 500kV AND Summer Lake-Malin PACW 500kV AND Malin 5
COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4355 Pearl-Marion 1 500kV AND Marion 500kV Reactor 1
COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4365 Marion-Lane 1 500kV AND Marion 500kV Capacitor Group 1 AND Marion 5
COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4368 John Day-Marion 1 500kV AND Marion-Lane 1 500kV

COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4371 John Day-Marion 1 500kV AND Marion 500kV Reactor 1
COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4374 Marion-Alvey 1 500kV AND Marion 500kV Capacitor Group 1 AND Marion 5
COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4377 Ashe-Marion 2 500kV AND Marion-Alvey 1 500kV
COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4380 Ashe-Marion 2 500kV AND Marion 500kV Reactor 1
COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4383 Marion-Santiam 1 500kV AND Marion 500kV Capacitor Group 1 AND Mario
COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4386 Buckley-Marion 1 500kV AND Marion-Santiam 1 500kV
COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4389 Buckley-Marion 1 500kV AND Marion 500kV Reactor 1
COI_PDCI	P2-3	P2-3: BFR_Marion PCB 4946 Pearl-Marion 1 500kV AND Marion 500kV Capacitor Group 1 AND Marion 5
COI_PDCI	P2-3	P2-3: BFR_McNary PCB 4231 McNary-Coyote Springs 1 500kV AND McNary 500/230kV Bank 1
COI_PDCI	P2-3	P2-3: BFR_McNary PCB 5211 Lower Monumental-McNary 1 500kV AND McNary-John Day 2 500kV
COI_PDCI	P2-3	P2-3: BFR_Meridian PCB 11R1 Klamath Cogneneration-Meridian PACW 500kV AND Meridian 500/230kV
COI_PDCI	P2-3	P2-3: BFR_Meridian PCB 11R2 Klamath Cogneneration-Meridian PACW 500kV AND Meridian 500/230kV
COI_PDCI	P2-3	P2-3: BFR_Meridian PCB 11R3 Dixonville-Meridian 1 500kV AND Meridian 500/230kV Bank 2
COI_PDCI	P2-3	P2-3: BFR_Meridian PCB 11R6 Dixonville-Meridian 1 500kV AND Meridian 500/230kV Bank 1
COI_PDCI	P2-3	P2-3: BFR_Midpoint PCB 302A IPC Midpoint-Humboldt 345kV AND Midpoint-Kinport 345kV
COI_PDCI	P2-3	P2-3: BFR_Midpoint PCB 305A IPC Borah-Adelaide-Midpoint 2 345kV AND Midpoint 500/345kV Bank T5
COI_PDCI	P2-3	P2-3: BFR_Pearl PCB 4510 Pearl-Marion 1 500kV AND Pearl 500/230kV Bank 1 AND Pearl 500kV Capacit
COI_PDCI	P2-3	P2-3: BFR_SamsValley 500 kV PACW
COI_PDCI	P2-3	P2-3: BFR_Slatt PCB 5015 Ashe-Slatt 1 500kV AND Slatt 500kV Capacitor Group 1
COI_PDCI	P2-3	P2-3: BFR_Slatt PCB 5018 Ashe-Slatt 1 500kV AND Slatt-John Day 1 500kV
COI_PDCI	P2-3	P2-3: BFR_Slatt PCB 5043 Coyote Springs-Slatt 1 500kV AND Slatt 500kV Capacitor Group 1
COI_PDCI	P2-3	P2-3: BFR_Slatt PCB 5266 Slatt-Buckley 1 500kV AND Slatt 500kV Capacitor Group 1
COI_PDCI	P2-3	P2-3: BFR_Slatt PCB 5375 Slatt 500-230kV AND Slatt 500kV Capacitor Group 1
COI_PDCI	P2-3	P2-3: BFR_SnowGoose 500 kV PACW
COI_PDCI	P2-3	P2-3: BFR_Summer Lake PCB 4957 Hemingway IPC-Summer Lake 500kV AND Summer Lake-Malin PACW
COI_PDCI	P2-3	P2-3: BFR_Summer Lake PCB 4958 Grizzly-Summer Lake 1 500kV AND Hemingway IPC-Summer Lake PA
COI_PDCI	P2-3	P2-3: BFR_Summer Lake PCB 4959 Grizzly-Summer Lake 1 500kV AND Summer Lake-Malin PACW 500kV
COI_PDCI	P7-1	P7-1: CTR_Ashe-Marion 2 500kV AND Ashe-Slatt 1 500kV
COI_PDCI	P7-1	P7-1: CTR_Ashe-Marion 2 500kV AND Buckley-Marion 1 500kV
COI_PDCI	P7-1	P7-1: CTR_Ashe-Marion 2 500kV AND Slatt-Buckley 1 500kV
COI_PDCI	P7-2	P7-2: DC-BIPOLE

ɪroup 2 and 3

d 3

N 500kV

2 and 3

Group 1

/

3 and Klamath Co-Gen Combustion Turbine 2
· Units
nath Co-Gen Steam Turbine 3 AND Klamath Co-Gen Combustion Turbine 2
nath Co-Gen Combustion Turbine 1
th Co-Gen Combustion Turbine 1

· AND Malin 500kV Reactor 4

00kV Reactor 3

00kV Reactor 2

;00kV Reactor 2

n 500kV Reactor 2

00kV Reactor 2

' Bank 1
' Bank 2

01
or Group 1

' 500kV
CW 500kV

Area	NERC Category
COI/PDCI	P7
COI/PDCI	PX
COI/PDCI	PX
COI/PDCI	P1
COI/PDCI	P1
COI/PDCI	P2
COI/PDCI	P1
COI/PDCI	P2
COI/PDCI	P2
COI/PDCI	P1
COI/PDCI	PX
COI/PDCI	PX
COI/PDCI	PX
COI/PDCI	PX
COI/PDCI	PX
COI/PDCI	PX
COI/PDCI	PX
Northern California	P2
Northern California	P1
Northern California	P4
Northern California	P1
Northern California	P5
Central Oregon	P4
Central Oregon	P4
Central Oregon	P2
Central Oregon	P4
Central Oregon	P4
Central Oregon	P2

Contingency Name

P7-2: PDCI Bi-Pole Outage w/ 3-ph BigEddy Bus fault
PX: 2PV
PX: 2DC
P1-2: Captain Jack - Olinda 500kV
P1-2: Captain Jack - Grizzly 500kV
P2-3: BFR_Alvey PCB 5084 Marion-Alvey 500kV and Alvey-Dixonville 500kV
P1-2: LINE_Grizzly-Round Butte PGE 500kV
P2-3: BFR_Grizzly PCB 4046 John Day-Grizzly-Malin
P2-3: BFR_Grizzly PCB 5028 Buckley-Grizzly-Summer Lake
P1-2: Alvey - Dixonville 1 500kV
PX: ADJ_Grizzly-Captain Jack 1 500kV AND Grizzly-Summer Lake 1 500kV
PX: ADJ_Malin-Round Mountain 1 and 2 500kV
PX: Buckley-Grizzly 500 kV AND John Day -Grizzly1 500 kV
PX: Grizzly-Malin & Grizzly-Summer Lake 500kV
PX: Grizzly -Malin & Summer Lake-Malin 500kV
PX: Grizzly-Malin & Grizzly-Captain Jack 500kV
PX: Ponderosa 500/230 kV TX 1 and 2
P2-1: Malin-Hilltop 230kV open at Malin NF
P1-2: Malin-Hilltop 230 kV 3ph @ Malin w/RAS
P4-5: BFR Hilltop (A1525) 230kV SLG
P1-2: Malin-Hilltop 230 kV w/RAS and shunt switching
P5-2: Hilltop-Warner 230kV SLG @ Warner
P4-5: BSB BFR Redmond (A259) 230kV SLG @ RedEast
P4-5: BSB BFR Redmond (B1557) 115kV SLG @ RedEast
P2-1: IBO Redmond-Brasada 115kV NF (open @ Red)
P4-5: BFR Redmond (A262-Round Butte) 230kV SLG
P4-5: BFR Ponderosa (A1824) 230kV SLG
P2-1: IBO Quartz-Hines 135kV NF (open @ Quartz)

Area	NERC Category	Contingency Name
Spokane	P1-1	P1-1: GEN Albeni Falls
North Idah	P1-1	P1-1: GEN Albeni Falls 1
North Idah	P1-1	P1-1: GEN Albeni Falls 2
North Idah	P1-1	P1-1: GEN Albeni Falls 3
North Idah	P1-1	P1-1: GEN Bonners (SmithFalls)
Spokane	P1-1	P1-1: GEN Boulder
Spokane	P1-1	P1-1: GEN Box Canyon
North Idah	P1-1	P1-1: GEN Cabinet Gorge 1 (AVA)
North Idah	P1-1	P1-1: GEN Cabinet Gorge 2 (AVA)
North Idah	P1-1	P1-1: GEN Cabinet Gorge 3 (AVA)
North Idah	P1-1	P1-1: GEN Cabinet Gorge 4 (AVA)
WOG-WOH	P1-1	P1-1: GEN CGS
Spokane	P1-1	P1-1: GEN Dworshak
Spokane	P1-1	P1-1: GEN Dworshak 1
Spokane	P1-1	P1-1: GEN Dworshak 2
Spokane	P1-1	P1-1: GEN Dworshak 3
NWMT	P1-1	P1-1: GEN Hungry Horse 1
NWMT	P1-1	P1-1: GEN Hungry Horse 2
NWMT	P1-1	P1-1: GEN Hungry Horse 3
NWMT	P1-1	P1-1: GEN Hungry Horse 4
NWMT	P1-1	P1-1: GEN Kerr #1
NWMT	P1-1	P1-1: GEN Kerr #2
NWMT	P1-1	P1-1: GEN Kerr #3
Spokane	P1-1	P1-1: GEN Kettle Falls
Spokane	P1-1	P1-1: GEN Lancaster
North Idah	P1-1	P1-1: GEN Libby 1
North Idah	P1-1	P1-1: GEN Libby 2
North Idah	P1-1	P1-1: GEN Libby 3
North Idah	P1-1	P1-1: GEN Libby 4
North Idah	P1-1	P1-1: GEN Libby 5
Spokane	P1-1	P1-1: GEN Little Falls
Spokane	P1-1	P1-1: GEN Long Lake
Spokane	P1-1	P1-1: GEN Nine Mile

Spokane	P1-1	P1-1: GEN Northeast
Spokane	P1-1	P1-1: GEN Noxon Rapids
Spokane	P1-1	P1-1: GEN Post Falls
Spokane	P1-1	P1-1: GEN Post Street & Monroe Street
Spokane	P1-1	P1-1: GEN Rathdrum
Spokane	P1-1	P1-1: GEN Spokane Waste
Spokane	P1-1	P1-1: GEN Up River
NWMT	P1-2	P1-2: LINE Columbia Falls - Kalispell #1 115
NWMT	P1-2	P1-2: LINE Columbia Falls - Trego #1 115
NWMT	P1-2	P1-2: LINE Columbia Falls W - Flathead #1 230 - With RAS
NWMT	P1-2	P1-2: LINE Flathead - Columbia Falls W - Hungry Horse 230
NWMT	P1-2	P1-2: LINE Flathead - Hot Springs #1 115 With RAS
NWMT	P1-2	P1-2: LINE Hot Springs - Taft #1 500 With RAS
NWMT	P1-2	P1-2: LINE Hungry Horse - Columbia Falls E #1 230
NWMT	P1-2	P1-2: LINE Kalispell - Kerr #1 115
NWMT	P1-2	P1-2: LINE Libby - Flathead #1 230- With RAS
NWMT	P1-2	P1-2: LINE Libby PH1 230
NWMT	P1-2	P1-2: LINE Libby PH2 230
NWMT	P1-2	P1-2: LINE Noxon - Hot Springs #1 230
NWMT	P1-2	P1-2: LINE Noxon - Hot Springs #2 230
NWMT	P1-2	P1-2: LINE Noxon - Libby #1 230 with RAS
Spokane	P1-2	P1-2: LINE 115 kV 8th & Fancher-Latah Line
Spokane	P1-2	P1-2: LINE 115 kV Addy-Devil's Cap Lines
Spokane	P1-2	P1-2: LINE 115 kV Airway Heights-Devil's Gap Line
Spokane	P1-2	P1-2: LINE 115 kV Airway Heights-Silver Lake Line
Spokane	P1-2	P1-2: LINE 115 kV Airway Heights-Sunset Line
Spokane	P1-2	P1-2: LINE 115 kV Albenia Falls-Pine Street Line
Spokane	P1-2	P1-2: LINE 115 kV Beacon-Bell 1 Line
Spokane	P1-2	P1-2: LINE 115 kV Beacon-Boulder 1 Line
Spokane	P1-2	P1-2: LINE 115 kV Beacon-Boulder 2 Line
Spokane	P1-2	P1-2: LINE 115 kV Beacon-Francis & Cedar Line
Spokane	P1-2	P1-2: LINE 115 kV Beacon-Ninth & Central 1 Line
Spokane	P1-2	P1-2: LINE 115 kV Beacon-Ninth & Central 2 Line
Spokane	P1-2	P1-2: LINE 115 kV Beacon-Northeast Line

Spokane	P1-2	P1-2: LINE 115 kV Beacon-Ross Park Line
Spokane	P1-2	P1-2: LINE 115 kV Bell-Northeast Line
Spokane	P1-2	P1-2: LINE 115 kV Benewah-Latah Junction Line
Spokane	P1-2	P1-2: LINE 115 kV Boulder-Post Falls Line
Spokane	P1-2	P1-2: LINE 115 kV Bronx-Cabinet Line
Spokane	P1-2	P1-2: LINE 115 kV CDA 15th St-Ramsey Line
Spokane	P1-2	P1-2: LINE 115 kV College & Walnut-Post St Line (UG)
Spokane	P1-2	P1-2: LINE 115 kV College & Walnut-Westside Line
Spokane	P1-2	P1-2: LINE 115 kV Devil's Gap-Nine Mile Line
Spokane	P1-2	P1-2: LINE 115 kV Dower (KEC)-Post Falls Line
Spokane	P1-2	P1-2: LINE 115 kV Francis & Cedar-Northwest Line
Spokane	P1-2	P1-2: LINE 115 kV Francis & Cedar-Ross Park Line
Spokane	P1-2	P1-2: LINE 115 kV Latah-Moscow 230 Line
Spokane	P1-2	P1-2: LINE 115 kV Metro-Sunset Line
Spokane	P1-2	P1-2: LINE 115 kV Metro-Sunset Line (UG)
Spokane	P1-2	P1-2: LINE 115 kV Nine Mile-Westside Line
Spokane	P1-2	P1-2: LINE 115 kV Ninth & Central-Sunset Line
Spokane	P1-2	P1-2: LINE 115 kV Ninth & Central-Third & Hatch Line
Spokane	P1-2	P1-2: LINE 115 kV Ninth & Central-Third & Opportunity Line
Spokane	P1-2	P1-2: LINE 115 kV Otis Orchards-Boulder 1 Line
Spokane	P1-2	P1-2: LINE 115 kV Otis Orchards-Boulder 2 Line
Spokane	P1-2	P1-2: LINE 115 kV Otis Orchards-Post Falls Line
Spokane	P1-2	P1-2: LINE 115 kV Otis Orhcards-Opportunity Line
Spokane	P1-2	P1-2: LINE 115 kV Pine Street-Rathdrum Line
Spokane	P1-2	P1-2: LINE 115 kV Post St-Third & Hatch Line (UG)
Spokane	P1-2	P1-2: LINE 115 kV Ross Park-Third & Hatch Line
Spokane	P1-2	P1-2: LINE 115 kV Shawnee-Sunset Line
Spokane	P1-2	P1-2: LINE 230 kV Beacon Bus Tie
Spokane	P1-2	P1-2: LINE 230 kV Beacon-Bell 4 Line
Spokane	P1-2	P1-2: LINE 230 kV Beacon-Bell 5 Line
Spokane	P1-2	P1-2: LINE 230 kv Beacon-Boulder Line
Spokane	P1-2	P1-2: LINE 230 kV Beacon-Rathdrum Line
Spokane	P1-2	P1-2: LINE 230 kV Beacon-Rathdrum Line w/Noxon RAS
Spokane	P1-2	P1-2: LINE 230 kV Benewah-Boulder Line

Spokane	P1-2	P1-2: LINE 230 kV Benewah-Moscow Line
Spokane	P1-2	P1-2: LINE 230 kV Benewah-Pine Creek Line
Spokane	P1-2	P1-2: LINE 230 kV Benewah-Thornton Line
Spokane	P1-2	P1-2: LINE 230 kV Cabinet-Noxon Line
Spokane	P1-2	P1-2: LINE 230 kV Cabinet-Noxon Line w/Noxon RAS
Spokane	P1-2	P1-2: LINE 230 kV Cabinet-Rathdrum Line
Spokane	P1-2	P1-2: LINE 230 kV Cabinet-Rathdrum Line w/Noxon RAS
Spokane	P1-2	P1-2: LINE 230 kV Hatwai-Moscow Line
Spokane	P1-2	P1-2: LINE 230 kV North Lewiston-Shawnee Line
Spokane	P1-2	P1-2: LINE 230 kV Rathdrum-Lanster Line
Spokane	P1-2	P1-2: LINE 230 kV Shawnee-Thorton Line
North Idah	P1-2	P1-2: 3TLINE Sacheen-Boundary-Bell 230 BNRB650
Spokane	P1-2	P1-2: LINE Albeni Falls-Sand Creek #1 115 kV
Spokane	P1-2	P1-2: LINE Bell-Addy #1 115 kV
North Idah	P1-2	P1-2: LINE Bell-Boundary #1 230 kV
Spokane	P1-2	P1-2: LINE Bell-Boundary #1 230 kV
Spokane	P1-2	P1-2: LINE Bell-Boundary #1 230 kV (Bell-Sacheen)
Spokane	P1-2	P1-2: LINE Bell-Boundary #1 230 kV (Sacheen-Boundary)
Spokane	P1-2	P1-2: LINE Bell-Boundary #3 230 kV
Spokane	P1-2	P1-2: LINE Bell-Creston #1 115 kV
Spokane	P1-2	P1-2: LINE Bell-Lancaster #1 230 kV
Spokane	P1-2	P1-2: LINE Bell-Lancaster #1 230 kV w/Lanc, Libby RAS
Spokane	P1-2	P1-2: LINE Bell-Trentwood #1 115 kV
Spokane	P1-2	P1-2: LINE Bell-Trentwood #2 115 kV
Spokane	P1-2	P1-2: LINE Bell-Usk #1 230 kV
Spokane	P1-2	P1-2: LINE Boulder-Lancaster 230 kV
Spokane	P1-2	P1-2: LINE Boundary-Nly 230 kV
Spokane	P1-2	P1-2: LINE Coville-Boundary #1 115 kV
Spokane	P1-2	P1-2: LINE Coville-Republic #1 115 kV
Spokane	P1-2	P1-2: LINE Dworshak-Taft #1 500 kV
Spokane	P1-2	P1-2: LINE Grand Coulee-Bell #3 230 kV
Spokane	P1-2	P1-2: LINE Grand Coulee-Bell #5 230 kV
Spokane	P1-2	P1-2: LINE Grand Coulee-Bell #6 500 kV
Spokane	P1-2	P1-2: LINE Grand Coulee-Bell #6 500 kV w/Libby, Lanc RAS

Spokane	P1-2	P1-2: LINE Grand Coulee-Creston #1 115 kV
Spokane	P1-2	P1-2: LINE Ground Coulee-Westside (AVA) #1 230 kV
Spokane	P1-2	P1-2: LINE Hatwai-Dworshak #1 500 kV
Spokane	P1-2	P1-2: LINE Hatwai-Dworshak #1 500 kV w/Dwor, Libby, Lanc, MCDC RAS
Spokane	P1-2	P1-2: LINE Hatwai-Lower Granite #1 500 kV
Spokane	P1-2	P1-2: LINE Hatwai-Lower Granite #1 500 kV w Dwor, Lanc, Libby, MCDC RAS
WOG-WOH	P1-2	P1-2: LINE Airway Heights - Sunset 115 (AVA)
North Idah	P1-2	P1-2: LINE Albeni Falls-Pine St 115
North Idah	P1-2	P1-2: LINE Albeni Falls-Sacheen 115
North Idah	P1-2	P1-2: LINE Albeni Falls-Sand Creek 115
WOG-WOH	P1-2	P1-2: LINE Albeni F-Diamond Lake-Sacheen #1 115 (BPA)
WOG-WOH	P1-2	P1-2: LINE Albeni F-Pine St #1 115 (BPA)
WOG-WOH	P1-2	P1-2: LINE Albeni F-Sand Creek #1 115 (BPA/AVA)
WOG-WOH	P1-2	P1-2: LINE Anaconda-Mill Creek 230 kV
WOG-WOH	P1-2	P1-2: LINE Beacon - Bell 1 115 (AVA)
WOG-WOH	P1-2	P1-2: LINE Beacon - Ninth & Central #1 115 (AVA)
WOG-WOH	P1-2	P1-2: LINE Beacon - Ninth & Central #2 115 (AVA)
WOG-WOH	P1-2	P1-2: LINE Beacon - Northeast 115 (AVA)
WOG-WOH	P1-2	P1-2: LINE Beacon - Ross Park 115 (AVA)
WOG-WOH	P1-2	P1-2: LINE Beacon N - Bell S3 230 #5 (AVA)
WOG-WOH	P1-2	P1-2: LINE Beacon N - Rathdrum 230 (AVA) NXGD2
WOG-WOH	P1-2	P1-2: LINE Beacon S - Bell S4 230 #4 (AVA)
WOG-WOH	P1-2	P1-2: LINE Beacon S-Boulder 230 (AVA)
WOG-WOH	P1-2	P1-2: LINE Bell S0-Westside 230 (BPA/AVA)
WOG-WOH	P1-2	P1-2: LINE Bell S1-Boundary 230 #1 (BPA) BNRB650
WOG-WOH	P1-2	P1-2: LINE Bell S2-Coulee 230 #5 (BPA)
WOG-WOH	P1-2	P1-2: LINE Bell S2-Usk 230 (BPA) BNRB650
WOG-WOH	P1-2	P1-2: LINE Bell S3-Boundary 230 #3 (BPA) BNRB650
WOG-WOH	P1-2	P1-2: LINE Bell S3-Coulee 230 #3 (BPA)
WOG-WOH	P1-2	P1-2: LINE Bell S3-Lancaster 230 (BPA) LBGDP
WOG-WOH	P1-2	P1-2: LINE Bell-Addy #1 115 (BPA)
WOG-WOH	P1-2	P1-2: LINE Bell-Coulee 6 500 (BPA) GRT/MCDCT/LBGDA/LNGD
WOG-WOH	P1-2	P1-2: LINE Bell-Creston 115 (BPA)
WOG-WOH	P1-2	P1-2: LINE Benewah - Pine Creek 230 (AVA)

WOG-WOI	P1-2	P1-2: LINE Benewah - Thornton 230 (AVA)
WOG-WOI	P1-2	P1-2: LINE Benewah-Boulder 230 (AVA)
WOG-WOI	P1-2	P1-2: LINE Benewah-Moscow 230 (AVA)
WOG-WOI	P1-2	P1-2: LINE Bonners Ferry-Sand Creek #1 & 2 115 (BPA)
North Idah	P1-2	P1-2: LINE Bonners-Libby 115 kV
North Idah	P1-2	P1-2: LINE Bonners-Smith Falls 115
WOG-WOI	P1-2	P1-2: LINE Boulder-Otis Ochards #1 115 (AVA)
WOG-WOI	P1-2	P1-2: LINE Boulder-Otis Orchards #2 115 (AVA)
WOG-WOI	P1-2	P1-2: LINE Boundary-Addy-Cusick-Usk 230 (BPA) BNRB650
WOG-WOI	P1-2	P1-2: LINE Broadview-Garrison #1 500 (CTS/BPA) GRT
WOG-WOI	P1-2	P1-2: LINE Broadview-Garrison #2 500 (CTS/BPA) GRT
WOG-WOI	P1-2	P1-2: LINE Brownlee-Hells Canyon 230 kV (IPC)
WOG-WOI	P1-2	P1-2: LINE Brownlee-Quartz-N Powder 230 (IPC)
WOG-WOI	P1-2	P1-2: LINE Cab Gorg-Bronx 115 (AVA)
WOG-WOI	P1-2	P1-2: LINE Cab Gorg-Noxon 230 (AVA) NXGD2
WOG-WOI	P1-2	P1-2: LINE Cab Gorg-Rathdrum 230 (AVA) NXGD4
North Idah	P1-2	P1-2: LINE Cabinet Gorge-Bronx 115 (AVA)
North Idah	P1-2	P1-2: LINE Cabinet Gorge-Noxon 230 (AVA) NXGD2
North Idah	P1-2	P1-2: LINE Cabinet Gorge-Rathdrum 230 (AVA) NXGD4
WOG-WOI	P1-2	P1-2: LINE Central Ferry-Little Goose #2 500 (BPA)
WOG-WOI	P1-2	P1-2: LINE Central Ferry-Lower Monumental 500 (BPA)
WOG-WOI	P1-2	P1-2: LINE Coeur d'Alene - Ramsey 115 (AVA)
WOG-WOI	P1-2	P1-2: LINE Coeur d'Alene - Rathdrum 115 (AVA)
WOG-WOI	P1-2	P1-2: LINE Col Fall-Conkelly 230 (BPA)
WOG-WOI	P1-2	P1-2: LINE Col Fall-Flathead 230 (BPA) LBGDP/HHGD
WOG-WOI	P1-2	P1-2: LINE Col Fall-Hungry H 230 (BPA)
WOG-WOI	P1-2	P1-2: LINE Col Fall-Kalispell 115 (BPA)
WOG-WOI	P1-2	P1-2: LINE Colville BPA-Boundary #1 115 (BPA)
WOG-WOI	P1-2	P1-2: LINE Colville BPA-Republic #1 115 (BPA)
WOG-WOI	P1-2	P1-2: LINE Coulee-Creston 115 (BPA)
WOG-WOI	P1-2	P1-2: LINE Coyote Springs-Slatt #1 500 kV (BPA)
WOG-WOI	P1-2	P1-2: LINE Devils Gap - Stratford 115 kV (AVA)
WOG-WOI	P1-2	P1-2: LINE Devils Gap-Nine Mile 115 (AVA)
WOG-WOI	P1-2	P1-2: LINE Dower-Post Falls 115 (AVA)

WOG-WOH	P1-2	P1-2: LINE Dry Creek-Talbot 230 (AVA/PAC)
WOG-WOH	P1-2	P1-2: LINE Dry Gulch-Pomeroy 69 kV (AVA)
WOG-WOH	P1-2	P1-2: LINE Dworshak PH - Orofino #1 115 kV (BPA/AVA)
WOG-WOH	P1-2	P1-2: LINE Dworshak-Hatwai 500 (BPA) GRT/MCDCT/DWGD/LBGDA/LNGD
WOG-WOH	P1-2	P1-2: LINE Flathead-Hot Spr 230 (BPA) LBGDP/HHGD
WOG-WOH	P1-2	P1-2: LINE Franklin-Walla Walla 115 (BPA)
WOG-WOH	P1-2	P1-2: LINE Garrison - Anaconda BPA 230 (BPA)
WOG-WOH	P1-2	P1-2: LINE Garrison - Mill Creek 230 (NWE)
WOG-WOH	P1-2	P1-2: LINE Garrison - Ovando 230 (NWE)
WOG-WOH	P1-2	P1-2: LINE Garrison - Rattle Snake 230 (BPA)
WOG-WOH	P1-2	P1-2: LINE Garrison-Taft #1 500 (BPA) GRT/MCDCT
WOG-WOH	P1-2	P1-2: LINE Garrison-Taft #2 500 (BPA)
WOG-WOH	P1-2	P1-2: LINE Great Falls-Ovando 230 (NWE)
WOG-WOH	P1-2	P1-2: LINE Hatwai-Lolo 230 (AVA)
WOG-WOH	P1-2	P1-2: LINE Hatwai-Lower Granite 500 (BPA) GRT/MCDCT/DWGD/LBGDA/LNGD
WOG-WOH	P1-2	P1-2: LINE Hatwai-Moscow 230 (AVA)
WOG-WOH	P1-2	P1-2: LINE Hatwai-N Lewist 230 (AVA)
WOG-WOH	P1-2	P1-2: LINE Hemingway-Summer Lake 500 (PAC) BRDGR2
WOG-WOH	P1-2	P1-2: LINE Hot Springs - Placid Lake 230 (NWE)
WOG-WOH	P1-2	P1-2: LINE Hot Spr-Rattle S 230 (BPA)
WOG-WOH	P1-2	P1-2: LINE Hungry H-Conkelly 230 (BPA)
WOG-WOH	P1-2	P1-2: LINE Kalispell-Kerr 115 (BPA)
WOG-WOH	P1-2	P1-2: LINE Lancaster-Boulder 230 (AVA)
WOG-WOH	P1-2	P1-2: LINE Lancaster-Rathdrum 1 230 (AVA)
WOG-WOH	P1-2	P1-2: LINE Libby-Bonners Ferry 115 (BPA)
North Idah	P1-2	P1-2: LINE Libby-Conkelley 230 kV
WOG-WOH	P1-2	P1-2: LINE Libby-Conkelly 230 (BPA) LBGDP
North Idah	P1-2	P1-2: LINE Libby-Libby PH1 230 kV
North Idah	P1-2	P1-2: LINE Libby-Libby PH2 230 kV
WOG-WOH	P1-2	P1-2: LINE Libby-Noxon 230 (BPA) LBGD
WOG-WOH	P1-2	P1-2: LINE Lind-Warden 115 kV (AVA)
WOG-WOH	P1-2	P1-2: LINE Little Goose-Lower Monumental #1 500 (BPA)
WOG-WOH	P1-2	P1-2: LINE Little Goose-Lower Monumental #2 500 (BPA)
WOG-WOH	P1-2	P1-2: LINE Lolo-Drycreek 230 (AVA)

WOG-WOI	P1-2	P1-2: LINE Lolo-Oxbow 230 (AVA)
WOG-WOI	P1-2	P1-2: LINE Lower Granite-Central Ferry #2 500 (BPA)
WOG-WOI	P1-2	P1-2: LINE Lower Granite-Little Goose #1 500 (BPA)
WOG-WOI	P1-2	P1-2: LINE Lower Monumenta-Ashe 500 (BPA)
WOG-WOI	P1-2	P1-2: LINE Lower Monumental-Hanford 500 (BPA)
WOG-WOI	P1-2	P1-2: LINE Lower Monumental-McNary 500 (BPA)
WOG-WOI	P1-2	P1-2: LINE McNary-Coyote Springs #1 500 kV (BPA)
WOG-WOI	P1-2	P1-2: LINE McNary-Franklin 230 #2 kV (BPA)
WOG-WOI	P1-2	P1-2: LINE McNary-John Day #2 500 kV (BPA)
WOG-WOI	P1-2	P1-2: LINE McNary-Ross #1 345 (BPA)
WOG-WOI	P1-2	P1-2: LINE McNary-Wallula 230 kV (PAC)
WOG-WOI	P1-2	P1-2: LINE Mill Creek-Amps 230 kV (NWE)
WOG-WOI	P1-2	P1-2: LINE Moscow-Hatwai 230 (AVA)
WOG-WOI	P1-2	P1-2: LINE N Lewiston-Dry Creek 230 (AVA)
WOG-WOI	P1-2	P1-2: LINE N Lewiston-Shawnee 230 (AVA)
WOG-WOI	P1-2	P1-2: LINE Nelway-Boundary 230 (BPA/BCH)
WOG-WOI	P1-2	P1-2: LINE Noxon-Hot Spr 230 #2 (AVA)
WOG-WOI	P1-2	P1-2: LINE Noxon-Hot Springs #1 230 (BPA)
WOG-WOI	P1-2	P1-2: LINE Noxon-Lancaster 230 (BPA) LBGDP
North Idah	P1-2	P1-2: LINE Noxon-Libby 230 kV LBGDP
WOG-WOI	P1-2	P1-2: LINE Noxon-Pine Creek 230 (AVA) NXGD2
WOG-WOI	P1-2	P1-2: LINE Pine Creek-Benewah 230 (AVA) NXGD2
WOG-WOI	P1-2	P1-2: LINE Pine Street-Usk 115
WOG-WOI	P1-2	P1-2: LINE Post Street - Third & Hatch 115 (AVA)
WOG-WOI	P1-2	P1-2: LINE Ramsey-Rathdrum #1 115 (AVA)
WOG-WOI	P1-2	P1-2: LINE Ramsey-Rathdrum #3 115 (AVA)
WOG-WOI	P1-2	P1-2: LINE Ross Park - Third & Hatch 115 (AVA)
North Idah	P1-2	P1-2: LINE Sand Creek-Bonners 115
North Idah	P1-2	P1-2: LINE Sand Creek-Bronx 115
WOG-WOI	P1-2	P1-2: LINE Shawnee - N Lewist 230 (AVA)
WOG-WOI	P1-2	P1-2: LINE Taft-Bell 500 (BPA) GRT/MCDCT/LBGDA
WOG-WOI	P1-2	P1-2: LINE Taft-Dworshak 500 (BPA) GRT/MCDCT/LBGDA/LNGD
WOG-WOI	P1-2	P1-2: LINE Taft-Hot Spr 500 (BPA) LBGDA
WOG-WOI	P1-2	P1-2: LINE Talbot - Walla Walla 230 (PAC)

WOG-WOH	P1-2	P1-2: LINE Thompson Falls - Burke #A 115 kV (AVA)
WOG-WOH	P1-2	P1-2: LINE Thompson Falls - Burke #B 115 kV (AVA)
WOG-WOH	P1-2	P1-2: LINE Thornton - Shawnee 230 (AVA)
WOG-WOH	P1-2	P1-2: LINE Tucannon River-N Lewiston #1 115 kV (AVA/BPA)
WOG-WOH	P1-2	P1-2: LINE Usk - Boundary 230 (BPA) BNRB650
WOG-WOH	P1-2	P1-2: LINE Walawala - Vantage AVA 230 (PAC/AVA)
WOG-WOH	P1-2	P1-2: LINE Walla Walla - Hurricane 230 (PAC)
WOG-WOH	P1-2	P1-2: LINE Walla Walla - Wanapum 230 (AVA/PAC)
WOG-WOH	P1-2	P1-2: LINE Walla Walla-Tucannon River #1 115 kV (BPA)
WOG-WOH	P1-2	P1-2: LINE Westside - Coulee 230 (AVA)
Spokane	P1-2	P1-2: LINE Pine Street-Usk 115 kV
Spokane	P1-2	P1-2: LINE Sacheen-Albeni Falls #1 115 kV
Spokane	P1-2	P1-2: LINE Sand Creek-Bonners Ferry 115 kV
Spokane	P1-2	P1-2: LINE Taft-Bell #1 500 kV
Spokane	P1-2	P1-2: LINE Taft-Hot Springs #1 500 kV
Spokane	P1-2	P1-2: LINE Usk-Boundary #1 230 kV
Spokane	P1-2	P1-2: LINE Usk-Box Canyon 115 kV
Spokane	P1-2	P1-2: LINE Westside-Bell #1 230 kV
NWMT	P1-3	P1-3: TXF Columbia Falls #2 (West) 230-115
NWMT	P1-3	P1-3: TXF Columbia Falls #3 (East) 230-115
NWMT	P1-3	P1-3: TXF Hot Springs #1 500-230
NWMT	P1-3	P1-3: TXF Hungry Horse #1 230-13.8
NWMT	P1-3	P1-3: TXF Hungry Horse #4 230-13.8
NWMT	P1-3	P1-3: TXF Libby #1 230-115 w/ Auto Sectionalizing
Spokane	P1-3	P1-3: TXF Beacon #1 230/115 kV
Spokane	P1-3	P1-3: TXF Beacon #2 230/115 kV
Spokane	P1-3	P1-3: TXF Bell 230-115 kV
Spokane	P1-3	P1-3: TXF Bell 500-230 kV
Spokane	P1-3	P1-3: TXF Boulder #1 230/115 kV
Spokane	P1-3	P1-3: TXF Boulder #2 230/115 kV
Spokane	P1-3	P1-3: TXF Cabinet Gorge 230/115 kV
Spokane	P1-3	P1-3: TXF Dworshak 500/13.2 kV (BPA)
Spokane	P1-3	P1-3: TXF Rathdrum 230/115 #1 kV
Spokane	P1-3	P1-3: TXF Rathdrum 230/115 #2 kV

Spokane	P1-3	P1-3: TXF Sacheen 230/115 kV (BPA)
WOG-WOH	P1-3	P1-3: TXF(GEN) Lancaster Gen - all units
WOG-WOH	P1-3	P1-3: TXF Beacon #1 230/115 (AVA)
WOG-WOH	P1-3	P1-3: TXF Beacon #2 230/115 (AVA)
WOG-WOH	P1-3	P1-3: TXF Bell 230-115 (BPA)
WOG-WOH	P1-3	P1-3: TXF Bell 500-230 (BPA)
WOG-WOH	P1-3	P1-3: TXF Boulder #1 230/115 (AVA)
WOG-WOH	P1-3	P1-3: TXF Boulder #2 230/115 (AVA)
WOG-WOH	P1-3	P1-3: TXF Cabinet Gorge 230/115 (AVA)
North Idah	P1-3	P1-3: TXF Cabinet Gorge 230-115 (AVA)
WOG-WOH	P1-3	P1-3: TXF Col Fall 2 230/115 (BPA)
WOG-WOH	P1-3	P1-3: TXF Col Fall 3 230/115 (BPA)
WOG-WOH	P1-3	P1-3: TXF Dworshak 500/13.2 (BPA)
WOG-WOH	P1-3	P1-3: TXF Garrison 500/230 (BPA)
WOG-WOH	P1-3	P1-3: TXF Hatwai 500/230 (BPA) DTP
WOG-WOH	P1-3	P1-3: TXF Hot Springs 500/230 (BPA) LBGDA
WOG-WOH	P1-3	P1-3: TXF Libby #1 230/115 kV (BPA)
WOG-WOH	P1-3	P1-3: TXF Libby #1 230/115 kV + Open Sand Crk-Sandpt #1 115 kV (BPA)
North Idah	P1-3	P1-3: TXF Libby 230-115
WOG-WOH	P1-3	P1-3: TXF McNary #1 500/230 kV (BPA)
WOG-WOH	P1-3	P1-3: TXF McNary #2 500/230 kV (BPA)
WOG-WOH	P1-3	P1-3: TXF N Lewist 230-115 (AVA)
WOG-WOH	P1-3	P1-3: TXF Rathdrum 230/115 #1 (AVA)
WOG-WOH	P1-3	P1-3: TXF Rathdrum 230/115 #2 (AVA)
WOG-WOH	P1-3	P1-3: TXF Sacajawea #1 500/115 kV (BPA)
WOG-WOH	P1-3	P1-3: TXF Sacheen 230/115 (BPA)
WOG-WOH	P1-3	P1-3: TXF Usk 230/115 (BPA)
WOG-WOH	P1-3	P1-3: TXF Westside #1 230/115 (AVA)
WOG-WOH	P1-3	P1-3: TXF Westside #2 230/115 (AVA)
Spokane	P1-3	P1-3: TXF Usk 230/115 kV
Spokane	P1-3	P1-3: TXF Westside #1 230/115 kV
Spokane	P1-3	P1-3: TXF Westside #2 230/115 kV
NWMT	P1-4	P1-4 CAP: Columbia Falls 115KV Cap_Bank
NWMT	P1-4	P1-4 CAP: Kalispell 115

NWMT	P1-4	P1-4: SHUNTCAP Hot Springs 500
Spokane	P1-4	P1-4: Addy 230kV Cap Bank (BPA)
Spokane	P1-4	P1-4: Bell 230kV Cap Bank (BPA)
Spokane	P1-4	P1-4: Colbert 115kV Cap Bank
Spokane	P1-4	P1-4: Deer Park 115kV Cap Bank
Spokane	P1-4	P1-4: Otis Orhards 115kV Cap Bank
Spokane	P1-4	P1-4: Ramsey 115kV Cap Bank
Spokane	P1-4	P1-4: Rathdrum 115kV Cap Bank
Spokane	P1-4	P1-4: Sand Creek 115kV Cap Bank (BPA)
Spokane	P1-4	P1-4: Sand Point 115kV Cap Bank (NLI)
North Idah	P1-4	P1-4: SHUNT Bonners 115 Cap 1
North Idah	P1-4	P1-4: SHUNT Bonners 115 Cap 2
North Idah	P1-4	P1-4: SHUNT Sand Creek 115 (no breakers)
North Idah	P1-4	P1-4: SHUNT Sandpoint 115
WOG-WOI	P1-4	P1-4: SHUNTCAP Addy 230 (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Bell #C1 230 kV (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Bell #C2 230 kV (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Bell #C3 230 kV (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Bell #C4 230 kV (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Bell #C5 230 kV (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Bell #C6 230 kV (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Bell S1 230 (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Bell S2 230 (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Bell S3 230 (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Central Ferry 500 (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Colbert 115 caps (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Deer Park 115 caps (AVA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Otis Orchards 115 caps (AVA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Ramsey 115 caps (AVA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Rathdrum 115 caps (AVA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Sand Creek 115 caps (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Sand Point 115 caps (BPA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Spokane Ind Park 115 caps (AVA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Sunset 115 caps (AVA)

WOG-WOI	P1-4	P1-4: SHUNTCAP Third & Hatch 115 caps (AVA)
WOG-WOI	P1-4	P1-4: SHUNTCAP Trentwood 115 caps (BPA)
WOG-WOI	P1-4	P1-4: SHUNTREACTOR Bell #R1 500 kV (BPA)
WOG-WOI	P1-4	P1-4: SHUNTREACTOR Central Ferry 500 (BPA)
Spokane	P1-4	P1-4: SHUNTCAP Spokane Ind Park 115kV Cap Bank
Spokane	P1-4	P1-4: SHUNTCAP Sunset 115kV Cap Bank
Spokane	P1-4	P1-4: SHUNTCAP Third & Hatch 115kV Cap Bank
Spokane	P1-4	P1-4: SHUNTCAP Trentwood 115kV Cap Bank (BPA)
NWMT	P2-1	P2-1 IBO: Flathead (Columbia Falls - Hungry Horse) 230 With RAS
NWMT	P2-1	P2-1 IBO: Flathead (Libby) 230 With RAS
NWMT	P2-1	P2-1 IBO: Flathead A219 (Hot Springs) 115 With RAS
NWMT	P2-1	P2-1 IBO: Hot Springs A286 (Flathead) 115 With RAS
NWMT	P2-1	P2-1 IBO: Hot Springs A288 (Noxon) 230
NWMT	P2-1	P2-1 IBO: Kalispell B1264 (Kerr) 115
NWMT	P2-1	P2-1 IBO: Kerr 600 (Kalispell) 115
NWMT	P2-1	P2-1 IBO: Libby A1588 (Flathead) 230 With RAS
NWMT	P2-1	P2-1 IBO: Noxon R337 (Hot Springs) 230
WOG-WOI	P2-1	P2-1: LSO Beacon 230 kV Bus Tie (AVA)
WOG-WOI	P2-1	P2-1: LSO Noxon 230 kV Bus Tie (AVA)
NWMT	P2-2	P2-2 BUS: Columbia Falls 115
NWMT	P2-2	P2-2 BUS: Columbia Falls East 230
NWMT	P2-2	P2-2 BUS: Columbia Falls West 230 With RAS
NWMT	P2-2	P2-2 BUS: Flathead 230 With RAS
NWMT	P2-2	P2-2 BUS: Flathead West 230 With RAS
NWMT	P2-2	P2-2 BUS: Hot Springs 230 With RAS
NWMT	P2-2	P2-2 BUS: Kalispell 115
NWMT	P2-2	P2-2 BUS: Kerr 115
NWMT	P2-2	P2-2 BUS: Libby 230 With RAS
Spokane	P2-2	P2-2: BUS Addy 115
Spokane	P2-2	P2-2: BUS Ahsahka 115
Spokane	P2-2	P2-2: BUS Airway Heights 115
Spokane	P2-2	P2-2: BUS Albeni F 115
Spokane	P2-2	P2-2: BUS Beacon 115 North
Spokane	P2-2	P2-2: BUS Beacon N 230 Bus

Spokane	P2-2	P2-2: BUS Beacon N 230 Bus w Noxon RAS
Spokane	P2-2	P2-2: BUS Beacon S (AVA) 115
Spokane	P2-2	P2-2: BUS Beacon S 230 Bus
Spokane	P2-2	P2-2: BUS Beacon South 230kV (AVA)
Spokane	P2-2	P2-2: BUS Bell 115
Spokane	P2-2	P2-2: BUS Bell S1 Bus
Spokane	P2-2	P2-2: BUS Bell S2 Bus
Spokane	P2-2	P2-2: BUS Bell S3 230 bus
Spokane	P2-2	P2-2: BUS Bell S3 230 bus w Bound, Libby, Lanc RAS
Spokane	P2-2	P2-2: BUS Bell S4 230 Bus
Spokane	P2-2	P2-2: BUS Benewah 115 bus
Spokane	P2-2	P2-2: BUS Benewah 230 Bus w Noxon RAS
Spokane	P2-2	P2-2: BUS Boulder East 115
Spokane	P2-2	P2-2: BUS Boulder West 115
Spokane	P2-2	P2-2: BUS Boundary E 230
Spokane	P2-2	P2-2: BUS Boundary W 230
WOG-WOI	P2-2	P2-2: BUS Addy 115 (BPA)
WOG-WOI	P2-2	P2-2: BUS Ahsahka 115 (BPA)
WOG-WOI	P2-2	P2-2: BUS Airway Heights 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Albeni F 115 (BPA)
North Idah	P2-2	P2-2: BUS Albeni Falls 115 kV
WOG-WOI	P2-2	P2-2: BUS Beacon N 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Beacon N 230 (AVA) NXGD2
WOG-WOI	P2-2	P2-2: BUS Beacon S 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Beacon S 230 (AVA)
WOG-WOI	P2-2	P2-2: BUS Bell S1 230 kV (BPA)
WOG-WOI	P2-2	P2-2: BUS Bell S2 230 (BPA) BNRB650
WOG-WOI	P2-2	P2-2: BUS Bell S3 230 kV (BPA)
WOG-WOI	P2-2	P2-2: BUS Bell S4 230 (BPA)
WOG-WOI	P2-2	P2-2: BUS Benewah 115 bus (AVA)
WOG-WOI	P2-2	P2-2: BUS Benewah 230 (AVA)
North Idah	P2-2	P2-2: BUS Bonners 115
WOG-WOI	P2-2	P2-2: BUS Boulder East 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Boulder West 115 (AVA)

WOG-WOH	P2-2	P2-2: BUS Boundary E 230 (BPA) BNRB200/NLYPS
WOG-WOH	P2-2	P2-2: BUS Boundary W 230 (BPA) BNRB650/WNBN_WNGD
WOG-WOH	P2-2	P2-2: BUS Cab Gorg 230 Bus (AVA) NXGD4
North Idah	P2-2	P2-2: BUS Cabinet Gorge 230 (AVA) NXGD4
WOG-WOH	P2-2	P2-2: BUS Col Fall 115 (BPA)
WOG-WOH	P2-2	P2-2: BUS Col Fall E 230 (BPA)
WOG-WOH	P2-2	P2-2: BUS Col Fall W 230 (BPA) LBGDP/HHGD
WOG-WOH	P2-2	P2-2: BUS Colville 115 (BPA)
WOG-WOH	P2-2	P2-2: BUS Conkelly 230 kV (BPA)
WOG-WOH	P2-2	P2-2: BUS Conkelly E 230 (BPA) LBGDP
WOG-WOH	P2-2	P2-2: BUS Conkelly W 230 (BPA)
WOG-WOH	P2-2	P2-2: BUS Flathead 230 (BPA) LBGDP/HHGD
WOG-WOH	P2-2	P2-2: BUS Francis & Cedar 115 (AVA)
WOG-WOH	P2-2	P2-2: BUS Garrison 230 (BPA)
WOG-WOH	P2-2	P2-2: BUS Hatwai 230 (BPA) DWT
WOG-WOH	P2-2	P2-2: BUS Hot Spr 230 (BPA) LGBDP/HHGD
WOG-WOH	P2-2	P2-2: BUS Kalispell 115 (BPA)
WOG-WOH	P2-2	P2-2: BUS Kerr 115 (BPA)
North Idah	P2-2	P2-2: BUS Libby 115
WOG-WOH	P2-2	P2-2: BUS Libby 115 (BPA)
North Idah	P2-2	P2-2: BUS Libby 230
WOG-WOH	P2-2	P2-2: BUS Libby 230 (BPA) LBGDA
WOG-WOH	P2-2	P2-2: BUS Lolo 115 (AVA)
WOG-WOH	P2-2	P2-2: BUS Lolo 230 (AVA)
WOG-WOH	P2-2	P2-2: BUS Metro 115 (AVA)
WOG-WOH	P2-2	P2-2: BUS Moscow 115 (AVA)
WOG-WOH	P2-2	P2-2: BUS Moscow 230 (AVA)
WOG-WOH	P2-2	P2-2: BUS N Lewiston 115 (AVA)
WOG-WOH	P2-2	P2-2: BUS N Lewiston 230 (AVA)
WOG-WOH	P2-2	P2-2: BUS Nine Mile 115 (AVA)
WOG-WOH	P2-2	P2-2: BUS Ninth & Central 115 N (AVA)
WOG-WOH	P2-2	P2-2: BUS Ninth & Central 115 S (AVA)
WOG-WOH	P2-2	P2-2: BUS Northeast 115 (AVA)
WOG-WOH	P2-2	P2-2: BUS Northwest 115 (AVA)

WOG-WOI	P2-2	P2-2: BUS Noxon 230 E (AVA) NXGD4
WOG-WOI	P2-2	P2-2: BUS Noxon 230 W (BPA) NXGD4/LBGD
WOG-WOI	P2-2	P2-2: BUS Otis Orchards 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Pine Creek 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Pine Creek 230 (AVA) NXGD2
WOG-WOI	P2-2	P2-2: BUS Post Falls 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Post Street 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Ramsey 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Rathdrum E 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Rathdrum W 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Ross Park 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Sacheen 115 BPA)
North Idah	P2-2	P2-2: BUS Sand Creek 115
WOG-WOI	P2-2	P2-2: BUS Sand Creek 115 (BPA)
WOG-WOI	P2-2	P2-2: BUS Shawnee 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Shawnee 230 (AVA)
WOG-WOI	P2-2	P2-2: BUS Sunset 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Third & Hatch 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Usk 115 (BPA)
WOG-WOI	P2-2	P2-2: BUS Westside 115 (AVA)
WOG-WOI	P2-2	P2-2: BUS Westside 230 (AVA)
Spokane	P2-2	P2-2: BUS Cab Gorg 230 Bus w Noxon RAS
Spokane	P2-2	P2-2: BUS Coeur d'Alene 15th St 115
Spokane	P2-2	P2-2: BUS Colville BPA 115 (1768)
Spokane	P2-2	P2-2: BUS Creston 115 (436)
Spokane	P2-2	P2-2: BUS Dworshak 500 bus
Spokane	P2-2	P2-2: BUS Dworshak 500 bus w Dwor, Libby, Lanc, MCDC RAS
Spokane	P2-2	P2-2: BUS Francis & Cedar 115
Spokane	P2-2	P2-2: BUS Lancaster 230 bus w Libby, Lanc RAS
Spokane	P2-2	P2-2: BUS Metro 115
Spokane	P2-2	P2-2: BUS Nine Mile 115
Spokane	P2-2	P2-2: BUS Ninth & Central 115 North
Spokane	P2-2	P2-2: BUS Ninth & Central 115 South
Spokane	P2-2	P2-2: BUS Northeast 115

Spokane	P2-2	P2-2: BUS Northwest 115
Spokane	P2-2	P2-2: BUS Otis Orchards 115
Spokane	P2-2	P2-2: BUS Post Falls 115
Spokane	P2-2	P2-2: BUS Post Street 115
Spokane	P2-2	P2-2: BUS Ramsey 115
Spokane	P2-2	P2-2: BUS Rathdrum East 115
Spokane	P2-2	P2-2: BUS Rathrum West 115
Spokane	P2-2	P2-2: BUS Ross Park 115
Spokane	P2-2	P2-2: BUS Sacheen 115
Spokane	P2-2	P2-2: BUS Sand Creek 115 (BPA)
Spokane	P2-2	P2-2: BUS Shawnee 230 Bus
Spokane	P2-2	P2-2: BUS Shawnee 230kV (AVA)
Spokane	P2-2	P2-2: BUS Sunset 115
Spokane	P2-2	P2-2: BUS Third & Hatch 115
Spokane	P2-2	P2-2: BUS Usk 115
Spokane	P2-2	P2-2: BUS Westside 115 bus
Spokane	P2-2	P2-2: BUS Westside 230 Bus
NWMT	P2-3	P2-3: BKF Hungry Horse 2482 230
WOG-WOI	P2-3	P2-3: BKF 10 Colstrip-Broadview A 500 & Colstrip 500/230 3 (CTS)
WOG-WOI	P2-3	P2-3: BKF 11 Broadview-Colstrip A 500 & Broadview 500/230 4 (CTS/NWE)
WOG-WOI	P2-3	P2-3: BKF 1182 Lancaster-Bell S3 230 & Lancaster Gen (BPA) LBGDP
WOG-WOI	P2-3	P2-3: BKF 1184 Lancaster-Noxon & Lancaster-Rathdrum 230 (BPA/AVA)
WOG-WOI	P2-3	P2-3: BKF 1186 Lancaster-Noxon & Lancaster-Boulder 230 (BPA/AVA) LBGDP
WOG-WOI	P2-3	P2-3: BKF 12 Broadview-Garrison 1 500 & Broadview 500/230 3 (CTS/NWE)
WOG-WOI	P2-3	P2-3: BKF 13 Broadview-Garrison 1 500 & Broadview-Colstrip B 500 (CTS)
WOG-WOI	P2-3	P2-3: BKF 14 Broadview-Colstrip B 500 & Broadview 500/230 4 (CTS/NWE)
WOG-WOI	P2-3	P2-3: BKF 1558 Lancaster-Bell S3 230 & Lancaster-Rathdrum 230 (BPA/AVA) LBGDP
WOG-WOI	P2-3	P2-3: BKF 1561 Lancaster-Boulder 230 & Lancaster Gen (AVA/BPA)
WOG-WOI	P2-3	P2-3: BKF 2182 Hungry Horse-Conkelley 230 & Hungry Horse Gen 1&2 (BPA)
WOG-WOI	P2-3	P2-3: BKF 2282 Hungry Horse-Columbia Falls 230 & Hungry Horse Gen 3&4 (BPA)
WOG-WOI	P2-3	P2-3: BKF 230-82 Placid Lake 230 (NWE)
WOG-WOI	P2-3	P2-3: BKF 2482 Hungry Horse-Conkelley & Hungry Horse-Columbia Falls 230 (BPA)
WOG-WOI	P2-3	P2-3: BKF 4028 Dworshak-Taft & Taft Shunt Reactor 500
WOG-WOI	P2-3	P2-3: BKF 4111 Dworshak-Taft & Taft-Hot Springs 500 (BPA) GRT/MCDCT/LBGDA/LNGD

WOG-WOI P2-3	P2-3: BKF 4114 Taft-Garrison 1 & Taft Shunt Reactor 500
WOG-WOI P2-3	P2-3: BKF 4119 Taft-Bell & Taft-Garrison 1 500 (BPA) GRT/MCDCT/LBGDA
WOG-WOI P2-3	P2-3: BKF 4122 Taft-Bell & Taft-Hot Springs 500 (BPA) GRT/MCDCT/LBGDA
WOG-WOI P2-3	P2-3: BKF 4125 Taft-Garrison 2 & Taft Shunt Reactor 500
WOG-WOI P2-3	P2-3: BKF 4148 Taft-Hot Springs & Taft-Garrison 2 500 (BPA) LBGDA/GRT/MCDCT
WOG-WOI P2-3	P2-3: BKF 4231 McNary-Coyote Springs #1 500 kV & McNary #1 500/230 kV (BPA)
WOG-WOI P2-3	P2-3: BKF 4247 LoMo-Little Goose #1-LoMo-McNary 500 (BPA)
WOG-WOI P2-3	P2-3: BKF 4251 Little Goose #1-LoMo 500 (+LoMo shunt reactor) (BPA)
WOG-WOI P2-3	P2-3: BKF 4259 Little Goose #2-LoMo & LoMo-Hanford 500 (BPA)
WOG-WOI P2-3	P2-3: BKF 4263 Hanford-LoMo 500 (+LoMo PH) (BPA)
WOG-WOI P2-3	P2-3: BKF 4290 Little Goose #2-LoMo 500 (+LoMo shunt reactor) (BPA)
WOG-WOI P2-3	P2-3: BKF 4316 McNary-LoMo 500 (+LoMo PH) (BPA)
WOG-WOI P2-3	P2-3: BKF 4348 Little Goose-Lomo #2 500kV (+Little Goose PH) (BPA)
WOG-WOI P2-3	P2-3: BKF 4350 Central Ferry-Little Goose #2 500 (Little Goose PH) (BPA)
WOG-WOI P2-3	P2-3: BKF 4409 Garrison-Broadview 2 500 & Garrison 500/230 & Garrison Reactors 3&4 (BPA/CTS) GRT/MCDCT
WOG-WOI P2-3	P2-3: BKF 4415 Garrison-Taft 1 500 & Garrison 500/230 & Garrison Reactors 3&4 (BPA) GRT/MCDCT
WOG-WOI P2-3	P2-3: BKF 4418 Garrison-Taft 1 & Garrison-Broadview 1 500 (BPA/CTS) COLATR/GRT/MCDCT
WOG-WOI P2-3	P2-3: BKF 4463 Garrison-Taft 2 500 & Garrison 500/230 & Garrison Reactors3&4 (BPA) GRT/MCDCT
WOG-WOI P2-3	P2-3: BKF 4599 LoMo-Ashe 500 (+LoMo PH) (BPA)
WOG-WOI P2-3	P2-3: BKF 4624 Central Ferry-LoMo 500 (+LoMo shunt reactor) (BPA)
WOG-WOI P2-3	P2-3: BKF 4626 Lower Granite #1-Little Goose & LoMo-Little Goose #2 500 (BPA)
WOG-WOI P2-3	P2-3: BKF 4630 Lower Granite #1-Little Goose& LoMo-Little Goose #1 500 (BPA)
WOG-WOI P2-3	P2-3: BKF 4632 Central Ferry #2-Little Goose & LoMo-Little Goose #1 500 (BPA)
WOG-WOI P2-3	P2-3: BKF 4652 Dworshak-Hatwai & Dworshak-Taft 500 & Dworshak Reactor 1 (BPA) GRT/MCDCT/DWGD/LBGDA/LN
WOG-WOI P2-3	P2-3: BKF 4656 Dworshak PH & Dworshak-Taft 1 500 & Dworshak Reactor 2 (BPA)
WOG-WOI P2-3	P2-3: BKF 4666 Hatwai-Dworshak 1 500 & Dworshak PH 500 & Dworshak Reactor 2 (BPA)
WOG-WOI P2-3	P2-3: BKF 4676 Central Ferry-LoMo & LoMo-Ashe 500 (BPA)
WOG-WOI P2-3	P2-3: BKF 4700 Hatwai-Dworshak 500 & Hatwai 500/230 (BPA) GRT/MCDCT/DWGD/LBGDA/LNGD
WOG-WOI P2-3	P2-3: BKF 4708 Hatwai-Dworshak & Hatwai-Lower Granite 500 (BPA) GRT/MCDCT/DWGD/LBGDA/LNGD
WOG-WOI P2-3	P2-3: BKF 4710 Hatwai-Lower Granite 500 & Hatwai 500/230 (BPA) GRT/MCDCT/DWGD/LBGDA/LNGD
WOG-WOI P2-3	P2-3: BKF 4770 Lower Granite-Hatwai 500 (+Lower Granite PH)(BPA) GRT/MCDCT/DWGD/LBGDA/LNGD
WOG-WOI P2-3	P2-3: BKF 4772 Central Ferry-Lower Granite #2 (+Lower Granite PH) (BPA)
WOG-WOI P2-3	P2-3: BKF 4775 Little Goose-Lower Granite #1 & Central Ferry-Lower Granite #2 500 (BPA) LGrGD/GRT/MCDCT/DWG
WOG-WOI P2-3	P2-3: BKF 4776 Hatwai-Lower Granite & Little Goose-Lower Granite #1 500 (BPA) GRT/MCDCT/DWGD/LBGDA/LNGD

WOG-WOH	P2-3	P2-3: BKF 5043 Coyote Springs - Slatt #1 500 kV (BPA)
WOG-WOH	P2-3	P2-3: BKF 5198 Calpine-McNary #1 500 kV & McNary #2 500/230 kV (Calpine/BPA)
WOG-WOH	P2-3	P2-3: BKF 5211 Low Mon-McNary & McNary-John Day 2 500 (BPA) WOMSLL
WOG-WOH	P2-3	P2-3: BKF 5388 Central Ferry 500/230 #1 (+Central Ferry shunt cap) (BPA)
WOG-WOH	P2-3	P2-3: BKF 5391 Central Ferry 500/230 #1 (+Central Ferry shunt reactor) (BPA)
WOG-WOH	P2-3	P2-3: BKF 5397 Central Ferry-LoMo 500 (+Central Ferry shunt cap) (BPA)
WOG-WOH	P2-3	P2-3: BKF 5400 Central Ferry-LoMo 500 (+Central Ferry shunt reactor) (BPA)
WOG-WOH	P2-3	P2-3: BKF 5412 Lower Granite #2-Central Ferry 500 (+Central Ferry shunt caps) (BPA)
WOG-WOH	P2-3	P2-3: BKF 5415 Little Goose #2-Central Ferry & Central Ferry-Low Granite #2 500 (BPA)
WOG-WOH	P2-3	P2-3: BKF 5418 Little Goose #2-Central Ferry 500 (+Central Ferry shunt reactor) (BPA)
WOG-WOH	P2-3	P2-3: BKF A630 Shawnee 115 kV (AVA)
WOG-WOH	P2-3	P2-3: BKF A631 Shawnee 115 kV (AVA)
WOG-WOH	P2-3	P2-3: BKF A632 Shawnee 115 kV (AVA)
WOG-WOH	P2-3	P2-3: BKF A633 Shawnee 115 kV (AVA)
WOG-WOH	P2-3	P2-3: BKF A634 Shawnee 115 kV (AVA)
WOG-WOH	P2-3	P2-3: BKF A953 Usk 230/115 & Usk-Boundary 230 (BPA) BNRB650
WOG-WOH	P2-3	P2-3: BKF A955 Usk-Boundary & Bell-Usk 230 (BPA) BNRB650
WOG-WOH	P2-3	P2-3: BKF A958 Usk 230/115 & Bell-Usk 230 (BPA) BNRB650
WOG-WOH	P2-3	P2-3: BKF Addy 115 (1135) (BPA)
WOG-WOH	P2-3	P2-3: BKF Addy 115 (1137) (BPA)
WOG-WOH	P2-3	P2-3: BKF Addy 115 (1143) (BPA)
WOG-WOH	P2-3	P2-3: BKF Addy 115 (1145) (BPA)
WOG-WOH	P2-3	P2-3: BKF R503 Rathdrum-Cabinet Gorge 230 kV & Rathdrum #2 230/115 kV (AVA)
NWMT	P2-4	P2-4: BSB Columbia Falls A313 230 With RAS
NWMT	P2-4	P2-4: BSB Flathead 230 With RAS
WOG-WOH	P2-4	P2-4: BSB A1233 Boundary 230 (BPA) WNBN_WNGD
WOG-WOH	P2-4	P2-4: BSB A313 Col Fall 230 (BPA) LBGDP/HHGD
WOG-WOH	P2-4	P2-4: BSB A370 Bell S1 & S2 230 kV (BPA)
WOG-WOH	P2-4	P2-4: BSB A375 Bell S0 & S1 230 kV (BPA)
WOG-WOH	P2-4	P2-4: BSB A377 Bell S0 & S4 230 kV (BPA)
WOG-WOH	P2-4	P2-4: BSB A388 Bell S2 & S3 230 kV (BPA)
WOG-WOH	P2-4	P2-4: BSB A478 Conkelly 230 (BPA) LBGDP
WOG-WOH	P2-4	P2-4: BSB A600 Beacon 115 N & S (AVA)
WOG-WOH	P2-4	P2-4: BSB A624 Rathdrum 115 (AVA)

WOG-WOH	P2-4	P2-4: BSB Boulder 115 E & W (AVA)
WOG-WOH	P2-4	P2-4: BSB Ninth and Central 115 N & S (AVA)
WOG-WOH	P2-4	P2-4: BSB R318 Noxon 230 (AVA) NXGD4/LBGD
WOG-WOH	P2-4	P2-4: BSB R427 Beacon N & S 230 (AVA) NXGD2
WOG-WOH	P6	P6: Hatwai - Lower Granite 500 & Hatwai - North Lewiston 230 (BPA/AVA) GRT/MCDCT/DWGD/LBGDA/LNGD
WOG-WOH	P7	P7-1: CTR Bell S1-Westside 230 & Bell S3-Coulee #3 230 (AVA/BPA)
WOG-WOH	P7	P7-1: CTR Bell S3-Coulee #3 & Westside-Coulee 230 (BPA/AVA)
WOG-WOH	P7	P7-1: CTR Bell-Boundary #3 230 & Addy-Colville 115 (BPA) BNRB650
WOG-WOH	P7	P7-1: CTR Bell-Boundary #3 230 & Bell-Addy 115 (BPA) BNRB650
WOG-WOH	P7	P7-1: CTR Bell--Boundary #3 230 & Colville-Boundary 115 (BPA) BNRB650
WOG-WOH	P7	P7-1: CTR Bell-Coulee 500 & Bell-Creston 115 (BPA) GRT/MCDCT/LBGDA/LNGD
WOG-WOH	P7	P7-1: CTR Boundary-Usk 230 & Colville-Boundary 115 (BPA) BNRB650
WOG-WOH	P7	P7-1: CTR Broadview-Garrison #1 & #2 500 COLATR
WOG-WOH	P7	P7-1: CTR Brownlee-Hells Canyon & Brownlee-Oxbow 230 (IPC)
WOG-WOH	P7	P7-1: CTR Brownlee-Hells Canyon & Brownlee-Oxbow 230 (IPC) HLSCNGD
WOG-WOH	P7	P7-1: CTR Brownlee-Hells Canyon & Oxbow-Lolo 230 (IPC) HLSCNGD
WOG-WOH	P7	P7-1: CTR Dworshak-Taft & Garrison-Taft 1 500 (BPA) GRT/MCDCT/LBGDA/LNGD
WOG-WOH	P7	P7-1: CTR Garrison-Taft #1 & #2 500 (BPA) COLATR/GRT/MCDCT
WOG-WOH	P7	P7-1: CTR Garrison-Taft 1 & Taft-Hot Springs 1 500 (BPA) GRT/MCDCT/LBGDA
WOG-WOH	P7	P7-1: CTR Hungry Horse-Conkelly 230 & Hungry Horse-Columbia Falls 230 (BPA)
WOG-WOH	P7	P7-1: CTR Libby-Noxon 230 & Libby-Conkelly 230 (BPA) LBGDA
WOG-WOH	P7	P7-1: CTR Noxon-Hot Springs #1 & #2 230 (AVA/BPA)
WOG-WOH	P7	P7-1: CTR Noxon-Lancaster 230 & Cabinet Gorge-Rathdrum 230 (BPA/AVA) NXGD4/LBGDP
North Idah	P7-1	P7-1: CTR CTW Libby-Noxon/Libby-Conkelley 230
North Idah	P7-1	P7-1: CTR CTW Sand Creek-Bronx/Sand Creek-Albeni Falls 115
Spokane	P7-1	P7-1: CTR Bell S1-Westside & Bell S3-Coulee #3 230
Spokane	P7-1	P7-1: CTR Bell-Boundary 3 & 230 & Colville-Boundary 115
Spokane	P7-1	P7-1: CTR Bell-Boundary 3 230 & Addy-Colville 115 w/Boundary
Spokane	P7-1	P7-1: CTR Bell-Boundary 3 230 & Bell-Addy 115 w/Boundary
Spokane	P7-1	P7-1: CTR Bell-Coulee 3 230 & Westside-Coulee 230
Spokane	P7-1	P7-1: CTR Bell-Westside 230 and Coulee-Westside 230 (AVA/BPA)
Spokane	P7-1	P7-1: CTR Boulder - Otis Orchards #1 and #2 115
Spokane	P7-1	P7-1: CTR Boulder - Rathdrum 115 & Ramsey - Rathdrum #1 115
Spokane	P7-1	P7-1: CTR Boulder - Rathdrum 230 and Boulder - Rathdrum (BLD-MOA) 115

Spokane	P7-1	P7-1: CTR Boundary-Usk 230 & Colville-Boundary 115
Spokane	P7-1	P7-1: CTR CDA - Ramsey 115 & CDA - Rathdrum 115
Spokane	P7-1	P7-1: CTR CDA - Ramsey 115 & Ramsey - Rathdrum #2 115
Spokane	P7-1	P7-1: CTR Ramsey - Rathdrum #1 115 & Post Falls - Ramsey 115
Spokane	P7-1	P7-1: CTR Taft-Hot Spr & Taft-Garrison 2 500 w Libby
Spokane	P7-1	P7-1: CTR Taft-Hot Spr & Taft-Garrison 2 500 w Libby RAS
Spokane	P7-1	P7-1: CTR Westside-Coulee & Bell S3-Coulee #3 230
WOG-WOH	PX	PX: ADJ Ashe-Slatt #1 500 kV & Coyote Springs - Slatt #1 500 kV (BPA)
WOG-WOH	PX	PX: ADJ Beacon - Rathdrum 230 and Lancaster - Noxon 230 (AVA/BPA) NXGD2/LBGDP
WOG-WOH	PX	PX: ADJ Beacon-Bell #1 115 & Beacon-Francis & Cedar 115 (AVA)
WOG-WOH	PX	PX: ADJ Beacon-Bell #4 230 & Beacon-Bell #1 115 (AVA)
WOG-WOH	PX	PX: ADJ Beacon-Bell #5 230 & Beacon-Francis & Cedar 115 (AVA)
WOG-WOH	PX	PX: ADJ Beacon-Boulder #2 115 & Beacon-Ninth & Central #2 115 (AVA)
WOG-WOH	PX	PX: ADJ Beacon-Boulder 230 & Beacon-Boulder #1 115 (AVA)
WOG-WOH	PX	PX: ADJ Beacon-Boulder 230 & Beacon-Boulder #2 115 (AVA)
WOG-WOH	PX	PX: ADJ Beacon-Ninth & Central 1 & 2 115 (AVA)
WOG-WOH	PX	PX: ADJ Beacon-Northeast 115 & Beacon-Francis & Cedar 115 (AVA)
WOG-WOH	PX	PX: ADJ Bell S1-Boundary #1 230 & Usk-Boundary 230 (BPA)
WOG-WOH	PX	PX: ADJ Bell S3-Coulee #3 230 & Bell S2-Coulee #5 230 (BPA)
WOG-WOH	PX	PX: ADJ Bell S3-Lancaster & Beacon N-Rathdrum (BPA/AVA) NXGD2/LBGDP
WOG-WOH	PX	PX: ADJ Bell S3-Lancaster 230 & Taft-Bell 500 (BPA)
WOG-WOH	PX	PX: ADJ Bell-Coulee 500 & Bell-Westside 230 (BPA/AVA) GRT/MCDCT/LBGDA/LNGD
WOG-WOH	PX	PX: ADJ Bell-Coulee 500 & Coulee-Creston 115 (BPA)
WOG-WOH	PX	PX: ADJ Bell-Coulee 500 & Westside-Coulee 230 (BPA/AVA) GRT/MCDCT/LBGDA/LNGD
WOG-WOH	PX	PX: ADJ Bridger-Goshen 345 & Kinport - Populus 345 (IPC/PAC)
WOG-WOH	PX	PX: ADJ Bridger-Three Mile Knoll #1 345 kV & Bridger-Populus #1 345 kV (IPC/PAC)
WOG-WOH	PX	PX: ADJ Bridger-Three Mile Knoll 345 kV & Bridger-Populus #1 345 kV (IPC/PAC)
WOG-WOH	PX	PX: ADJ Central Ferry-Little Goose #2 & Lower Granite-Little Goose #1 500 (BPA) CFGD/LGrGD/DWGD/MCDCT/LBGD
WOG-WOH	PX	PX: ADJ Coll Fall-Conkelly 230 & Hungry H-Conkelly 230 (BPA)
WOG-WOH	PX	PX: ADJ Coll Fall-Flathead 230 & Coll Fall-Hungry H 230 (BPA)
WOG-WOH	PX	PX: ADJ Coll Fall-Flathead 230 & Coll Fall-Trego 115 (BPA)
WOG-WOH	PX	PX: ADJ Coll Fall-Flathead 230 & Libby-Conkelly 230 (BPA)
WOG-WOH	PX	PX: ADJ Flathead-Hot Spr 230 & Kalispell-Kerr 115 (BPA)
WOG-WOH	PX	PX: ADJ Flathead-Hot Spr 230 & Libby-Conkelly 230 (BPA)

WOG-WOI PX	PX: ADJ Hot Springs-Noxon 1 230 & Kerr-Thompson Falls B 115 (AVA/NWE)
WOG-WOI PX	PX: ADJ Lit Goos-Low Mon #1 & #2 500 (BPA) LGsGD/LGrGD/CFGD/DWGD/LBGDA/GRT/MCDCT
WOG-WOI PX	PX: ADJ Low Mon-Ashe 500 & Low Mon-Hanford 500 (BPA) CFGD/LMoGD/LGsGD/LGrGD/DWGD/LBGDA/GRT/MCDC
WOG-WOI PX	PX: ADJ Lower Granite-Central Ferry #2 & Lower Granite-Little Goose #1 500 (BPA) LGrGD/GRT/MCDCT/LBGDA/DW(
WOG-WOI PX	PX: ADJ McNary-John Day & Ashe-Slatt 500
WOG-WOI PX	PX: ADJ McNary-John Day & Rock Creek-John Day 500 kV (BPA)
WOG-WOI PX	PX: ADJ McNary-John Day 500 kV & McNary-Ross 345 (BPA)
WOG-WOI PX	PX: ADJ Noxon-Cab Gorg & Noxon-Lancaster 230 (AVA/BPA) NXGD2/LBGDP
WOG-WOI PX	PX: ADJ Noxon-Hot Springs 1 230 & Libby-Noxon 230 (BPA)
WOG-WOI PX	PX: ADJ Noxon-Hot Springs 2 230 & Libby-Noxon 230 (BPA)
WOG-WOI PX	PX: ADJ Noxon-Lancaster 230 & Taft-Bell 500 (BPA)
WOG-WOI PX	PX: ADJ Rathdrum-Lancaster 230 & Lancaster-Boulder 230 (AVA)
WOG-WOI PX	PX: ADJ Sunset-Westside 115 & Airway Heights-Sunset 115 (AVA)
WOG-WOI PX	PX: ADJ Sunset-Westside 115 & College & Walnut-Westside 115 (AVA)
WOG-WOI PX	PX: ADJ Taft-Hot Spr 500 & Kerr-Thompson Falls B 115 (BPA/NWE)
WOG-WOI PX	PX: ADJ Taft-Hot Spr 500 & Noxon-Hot Springs 1 230
WOG-WOI PX	PX: ADJ Beacon N-Rathdrum 230 & Beacon S-Boulder 230 (AVA) NXGD2
WOG-WOI PX	PX: ADJ Beacon N-Rathdrum 230 kV & Beacon S-Boulder 230 kV (AVA)
WOG-WOI PX	PX: ADJ Boulder-Lancaster 230 kV & Boulder-Rathdrum 115 kV (AVA)
WOG-WOI PX	PX: GEN Boulder Park Gen - all units
WOG-WOI PX	PX: GEN Cabinet Gorge Gen - all units
WOG-WOI PX	PX: GEN Lancaster Gen - all units
WOG-WOI PX	PX: GEN Nine Mile Gen - all units
WOG-WOI PX	PX: GEN Northeast Gen
WOG-WOI PX	PX: GEN Noxon - all units
WOG-WOI PX	PX: GEN Palo Verde #1 & #2 Gen
WOG-WOI PX	PX: GEN Post & Monroe Street Gen - all units
WOG-WOI PX	PX: GEN Post Falls Gen - all units
WOG-WOI PX	PX: GEN Rathdrum - all units
WOG-WOI PX	PX: GEN Up River Gen - all units
WOG-WOI PX	PX: GEN Waste to Energy Gen
WOG-WOI PX	PX: ADJ Hatwai - Lower Granite 500 kV & Hatwai - North Lewiston 230 kV (BPA/AVA)
WOG-WOI PX	PX: ADJ Noxon-Hot Springs #2 230 kV & Kerr - Thompson Falls 115 kV (AVA/NWE)
WOG-WOI PX	PX: ADJ Noxon-Pine Crk & Noxon-Hot Spr #2 230 (AVA) NXGD2

WOG-WOH PX	PX: ADJ Taft-Hot Spr 500 & Noxon-Hot Springs 2 230 (BPA/AVA) LBGDA

IGD

GD/LBGDA

A/GRT

:T
;D

Area	NERC Category
NWMT	P1-2
NWMT	P1-2
NWMT	P1-2
NWMT	P1-2
NWMT	P1-2
Spokane	P1-2
Spokane	P1-2
Spokane	P1-2
Spokane	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
North Idaho	P1-2
North Idaho	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2

WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-2
Spokane	P1-2
WOG-WOH-WOLM	P1-2
WOG-WOH-WOLM	P1-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
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WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
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WOG-WOH-WOLM	P2-3

WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
WOG-WOH-WOLM	P2-3
NWMT	P4-2
NWMT	P4-2
NWMT	P4-2
NWMT	P4-2
NWMT	P4-2
NWMT	P4-3
NWMT	P4-6
North Idaho	P4-2
North Idaho	P4-2
North Idaho	P4-3
Spokane	P4-5
Spokane	P4-5
NWMT	P5-2
North Idaho	P5-2
Spokane	P5-5
Spokane	P5-5
Spokane	P5-5
North Idaho	P5-5

NWMT	P7-1
WOG-WOH-WOLM	P7-1
WOG-WOH-WOLM	P7-1
WOG-WOH-WOLM	P7-1
WOG-WOH-WOLM	P7-1
North Idaho	P7-1

Contingency Name
P1.2: LINE Columbia Falls-Kalispell #1 115kV 3PH
P1.2: LINE Flat Head-Hot Springs #1 230 kV 3PH
P1.2: Flathead-Columbia Falls-Hungry Horse 230kV 3PH
P1.2: Libby - Flathead 230 kV 3PH
P1.2: Noxon-Libby #1 230 kV 3PH
P1-2: Bell-Boundary #1 230 kV 3PH
P1-2: Bell-Boundary #3 230 kV 3PH
P1-2: Bell-Usk #1 230 kV 3PH
P1-2: Boundary-Usk #1 230 kV 3PH
P1-2: LINE Addy-Colville 115 (BPA) (3P @ Addy)
P1-2: LINE Beacon N-Bell S3 230 #5 (AVA) (3P @ Beacon)
P1-2: LINE Beacon S-Boulder 230 (AVA) (3P @ Beacon)
P1-2: LINE Bell S3-Beacon N 230 (BPA/AVA) (3P @ Bell)
P1-2: LINE Bell-Beacon S 115 (AVA) (3P @ Bell)
P1-2: LINE Boulder-Otis Orchards #1 115 (AVA) (3P @ Boulder)
P1-2: LINE Broadview-Garrison 1 500 (3P @ Broadview)
P1-2: LINE Broadview-Garrison 1 500 (3P @ Garrison)
P1-2: LINE Colville BPA-Boundary #1 115 (BPA) (3P @ Colville)
P1-2: LINE Coulee-Bell #6 (3P @ Bell)
P1-2: LINE Coulee-Bell #6 (3P @ Coulee)
P1-2: LINE Dworshak-Taft 500 (3P @ Dworshak)
P1-2: LINE Dworshak-Taft 500 (3P @ Taft)
P1-2: LINE Garrison-Taft 1 500 (3P @ Garrison)
P1-2: LINE Garrison-Taft 1 500 (3P @ Taft)
P1-2: LINE Hatwai-Dworshak 500 (3P @ Dworshak)
P1-2: LINE Hatwai-Dworshak 500 (3P @ Hatwai)
P1-2: LINE Libby-Flathead 230kV 3PH @Libby
P1-2: LINE Libby-Noxon 230kV 3PH @Libby
P1-2: LINE Lower Granite-Hatwai 500 (3P @ Hatwai)
P1-2: LINE Lower Granite-Hatwai 500 (3P @ Lower Granite)
P1-2: LINE Lower Monumental-McNary 500 (3P @ LoMo)
P1-2: LINE Lower Monumental-McNary 500 (3P @ McNary)
P1-2: LINE Taft-Bell 500 (3P @ Bell)

P1-2: LINE Taft-Bell 500 (3P @ Taft)
P1-2: LINE Taft-Hot Springs 500 (3P @ Hot Springs)
P1-2: LINE Taft-Hot Springs 500 (3P @ Taft)
P1-2: Nelway-Boundary #1 230kV 3PH
P1-3: TXF Bell 230-115 (BPA) (3P @ Bell 230)
P1-3: TXF Dworshak 500-100 (3P @ Dworshak 500)
P2-3: BKF 4119 Bell-Taft-Garrison 1 500 (1P @ Bell)
P2-3: BKF 4122 Bell-Taft-Hot Springs 500 (1P @ Bell)
P2-3: BKF 4148 Hot Springs-Taft-Garrison 2 500 (1P @ Hot Springs)
P2-3: BKF 4409 Broadview-Garrison 2 500 + Garrison 500-230 + shunts (1P @ Garrison)
P2-3: BKF 4415 Taft-Garrison 1 500 + Garrison 500-230 + shunts (1P @ Taft)
P2-3: BKF 4418 Taft-Garrison 1 & Garrison-Broadview 1 500 (1P @ Taft)
P2-3: BKF 4652 Hatwai-Dworshak-Taft 500 +Dworshak shunt (1P @ Hatwai)
P2-3: BKF 4700 Dworshak-Hatwai 500 & Hatwai 500-230 (1P @ Dworshak)
P2-3: BKF 4708 Lower Granite-Hatwai-Dworshak 500 (1P @ Lower Granite)
P2-3: BKF 4710 Lower Granite-Hatwai 500 & Hatwai 500-230 (1P @ Lower Granite)
P2-3: BKF 4770 Lower Granite-Hatwai 500 + Lower Granite PH (1P @ Lower Granite)
P2-3: BKF 4786 Lower Granite-Hatwai-Dworshak (1P @ Lower Granite)
P2-3: BKF 5313 Coulee-Bell 500 (1P @ Coulee)
P2-3: BKF A1182 Lancaster 230 - Bell position (1P @ Lancaster)
P2-3: BKF A1186 Lancaster 230 - Boulder position (1P @ Lancaster)
P2-3: BKf A1186 Lancaster 230 - Noxon position (1P @ Lancaster)
P2-3: BKF A1188 Lancaster 230 - Rathdrum position (1P @ Lancaster)
P2-3: BKF A1220 Boundary 230 - Nelway position (1P @ Boundary)
P2-3: BKF A1222 Boundary 230 - Bell S3 position (1P @ Boundary)
P2-3: BKF A1234 Boundary 230 - Bell S1 position (1P @ Boundary)
P2-3: BKF A1284 Conkelly 230 - Libby position (1P @ Conkelly)
P2-3: BKF A1558 Lancaster 230 - Rathdrum position (1P @ Lancaster)
P2-3: BKF A219 Flathead 230 - Hot Springs Position (1P @ Flathead)
P2-3: BKF A221 Flathead 230 - Columbia Falls position (1P @ Flathead)
P2-3: BKF A284 Hot Springs 230 - Placid Lake position (1P @ Hot Springs)
P2-3: BKF A305 Columbia Falls 230 - Flathead position (1P @ Col Fall)
P2-3: BKF A306 Columbia Falls 230 - Conkelly position (1P @ Col Fall)
P2-3: BKF A313 Columbia Falls BSB (1P @ Col Fall)

P2-3: BKF A318 Noxon 230 BSB (1P @ Noxon 230)
P2-3: BKF A362 Bell S0 230 - Westside position (1P @ Bell)
P2-3: BKF A370 BSB Bell S1 & S2 230 (1P @ Bell)
P2-3: BKF A374 Bell S1 230 - Boundary #1 position (1P @ Bell)
P2-3: BKF A375 BSB Bell S0 & S1 230 (1P @ Bell)
P2-3: BKF A377 BSB Bell S4 & S0 230 (1P @ Bell)
P2-3: BKF A382 Bell S2 230 - Coulee #5 position (1P @ Bell)
P2-3: BKF A388 BSB Bell S2 & S3 230 (1P @ Bell)
P2-3: BKF A394 Bell S2 230 - Usk position (1P @ Bell)
P2-3: BKF A478 Hot Springs 500/230kV XFMR position (1P @ Hot Springs 230)
P2-3: BKF A554 Bell S3 230 - Lancaster position (1P @ Bell)
P2-3: BKF A558 Bell S3 230 - Coulee #3 position (1P @ Bell)
P2-3: BKF A572 Bell S3 230 - Boundary #3 position (1P @ Bell)
P2-3: BKF A574 Bell S4 230 - Beacon S position (1P @ Bell)
P2-3: BKF B600 Kerr 115-Kalispell position (1P @ Kalispell)
P2-3: BKF Wallula 230 - McNary position (1P @ Wallula)
P4.2: BKF A1588 Libby 230 kV (Libby-Flathead position) 1LG
P4.2: BKF A1593 Libby 230 kV (Libby-Noxon position) 1LG
P4.2: BKF A286 Hot Springs 230 kV (Hot Springs-Flathead position) 1lG
P4.2: BKF A305 Columbia Falls S1 230 kV (Columbia Falls-Flathead position) 1LG
P4.2: BKF A306 Columbia Falls S1 230 kV (Columbia Falls-Flathead/Hungry Horse position) 1LG
P4.3: BKF A309 Columbia Falls S2 230 kV (230/115 kV TX#2 position) 1LG
P4.6: BKF A313 Columbia Falls BSB 230 kV 1LG
P4-2: BKF A1588 Libby-Flathead 1 230kV SLG @Libby
P4-2: BKF A1593 Libby-Noxon 230kV SLG @Libby
P4-3: BKF A1592 Libby 230-115kV SLG @Libby 230
P4-5: Boundary E 230kV 3PH
P4-5: Boundary W 230kV SLG
P5.2: Flathead-Hot Springs #1 230 kV (Fault Plus Failure of Non-Redundant TT) 1LG
P5-2: LINE Libby-Flathead 230 kV SLG @ Libby (delayed clearing)
P5-5: Bell 115kV SLG (FailledBusDif)
P5-5: Bell 500kV SLG (FailledBusDif)
P5-5: Bell S0 230kV SLG (FailledBusDif)
P5-5: BUS Libby 230kV SLG (FailledBusDif)

P7.1: CTR Libby-Noxon 230 kV & Libby-Flathead 230 kV
P7: CTR Garrison-Taft & Hot Springs-Taft 500 (1P @ Garrison)
P7-1: CTR Broadview-Garrison #1 & #2 500 (1P @ Garrison)
P7-1: CTR Garrison-Taft #1 & #2 500 (1P @ Garrison) COLATR/GRT/MCDCT
P7-1: CTR Garrison-Taft & Dworshak-Taft 500 (1P @ Dworshak)
P7-1: CTW Libby-Noxon 230kV & Libby-Flathead 230kV SLG @Libby

Area	NERC Category	Contingency Name
SE Idaho	P1-3	P1-3 Hooper Springs 138/115KV
SE Idaho	P1-1	P1-1 HORSE BUTTE WIND GEN
SE Idaho	P1-1	P1-1 PALS GEN UNIT
SE Idaho	P1-2	P1-2 E JACKSON-JACKSON J 115KV
SE Idaho	P1-2	P1-2 GOSH-CATTLE CREEK 115KV
SE Idaho	P1-2	P1-2 GOSH-DRUMM 161KV
SE Idaho	P1-2	P1-2 GOSH-SWVY 161KV
SE Idaho	P1-2	P1-2 JACKSON J-SNRV 115KV
SE Idaho	P1-2	P1-2 PALS-CAT CRK 115KV
SE Idaho	P1-2	P1-2 PALS-SNRV 115KV
SE Idaho	P1-2	P1-2 PALS-SWVY 115KV
SE Idaho	P1-2	P1-2 SNRV-DRY CREEK 115 KV
SE Idaho	P1-2	P1-2 SNRV-TINCUP 115KV
SE Idaho	P1-2	P1-2 SWVY-TETN #1 115KV
SE Idaho	P1-2	P1-2 SWVY-TETN #2 115KV
SE Idaho	P1-2	P1-2 TARG-DRUMM 115KV
SE Idaho	P1-2	P1-2 TETN-E JACKSON 115KV
SE Idaho	P1-2	P1-2 TETN-JACKSON J 115KV
SE Idaho	P1-2	P1-2 TINCUP # - DRYCRK L 115KV
SE Idaho	P1-2	P1-2 TINCUP-DRY CREEK 69KV
SE Idaho	P1-3	P1-3 -3MIK 345/138KV
SE Idaho	P1-3	P1-3 DRUMM 161/115KV
SE Idaho	P1-3	P1-3 GOSH 161/115 #1
SE Idaho	P1-3	P1-3 GOSH 161/115 #2
SE Idaho	P1-3	P1-3 GOSHEN 345/161 #1
SE Idaho	P1-3	P1-3 GOSHEN 345/161 #2
SE Idaho	P1-3	P1-3 GOSHEN 345/161 #3
SE Idaho	P1-3	P1-3 SWVY 161/115KV
SE Idaho	P1-3	P1-3MIK 345/138KV
SE Idaho	P1-4	P1-4 DRUMM 115KV SHUNT CAP
SE Idaho	P1-4	P1-4 Goshen 161
SE Idaho	P1-4	P1-4 MADISON 115KV SHUNT CAP
SE Idaho	P1-4	P1-4 TARGHEE 115KV SHUNT CAP
SE Idaho	P1-4	P1-4 TETON 115KV SHUNT CAP
SE Idaho	P1-4	P1-4 TINCUP 115KV SHUNT CAP
SE Idaho	P2-1	P2-1 CRYSTL S 115 - TETON 115
SE Idaho	P2-1	P2-1 DRY CREE - DRY CK T 69
SE Idaho	P2-1	P2-1 DRYCRK TO VALLEY L 115
SE Idaho	P2-1	P2-1 HOBACK J - SNAKE R 115
SE Idaho	P2-1	P2-1 Hooper Springs N - Lanes Creek 115KV
SE Idaho	P2-1	P2-1 Hooper Springs S - Valley L 115KV
SE Idaho	P2-1	P2-1 SWAN VLY - TARGEE T 115
SE Idaho	P2-1	P2-1 TARGEE T - TETON 115
SE Idaho	P2-1	P2-1 TARGEE T - VICTOR F
SE Idaho	P2-1	P2-1 TINCUP - FREEDOM 69
SE Idaho	P2-1	P2-1 TINCUP - LANES CK 115

SE Idaho	P2-1	P2-1 TINCUP - SNAKE R 115
SE Idaho	P2-1	P2-1 TINCUP T - SNAKE R 115
SE Idaho	P2-2	P2-2 GOSHEN 161
SE Idaho	P2-3	P2-3 BKF 3Mi Knoll 345kV
SE Idaho	P2-3	P2-3 BKF DRUMM 161 (at Goshen)
SE Idaho	P2-3	P2-3 BKF Drummond 115
SE Idaho	P2-3	P2-3 BKF Goshen 345kV
SE Idaho	P2-3	P2-3 BKF Kinport 345kV
SE Idaho	P2-3	P2-3 BKF PALS 115KV
SE Idaho	P2-3	P2-3 BKF Snake River 115kV
SE Idaho	P2-3	P2-3 BKF Swan Valley 115kV
SE Idaho	P2-3	P2-3 BKF SWVY 161 (at Goshen)
SE Idaho	P2-3	P2-3 BKF Teton 115kV
SE Idaho	P2-3	P2-3 BKF Tincup 115kV
SE Idaho	P3-1	P3-1 HORSE BUTTE WIND GEN & PALS GEN UNIT
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & E JACKSON-JACKSON J 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & GOSH-DRUMM 161KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & GOSHEN-CTCK 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & GOSH-SWVY 161KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & JACKSON J-SNRV 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & PALS-CAT CRK 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & PALS-SNRV 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & PALS-SWVY 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & SNRV-DRY CK 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & SNRV-TINCUP 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & SWVY-TETN #1 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & SWVY-TETN #2 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & TARG-DRUMM 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & TETN-E JACKSON 115KV
SE Idaho	P3-2	P3-2 HORSE BUTTE WIND GEN & TINCUP-DRY CREEK 69KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & E JACKSON-JACKSON J 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & GOSH-CATTLE CREEK 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & GOSH-DRUMM 161KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & GOSH-SWVY 161KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & JACKSON J-SNRV 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & PALS-CAT CRK 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & PALS-SNRV 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & PALS-SWVY 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & SNRV-DRY CREEK 115 KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & SNRV-TINCUP 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & SWVY-TETN #1 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & SWVY-TETN #2 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & TARG-DRUMM 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & TETN-E JACKSON 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & TETN-JACKSON J 115KV
SE Idaho	P3-2	P3-2 PALS Generator Unit & TINCUP-DRY CREEK 69KV
SE Idaho	P3-3	P3-3 HORSE BUTTE & DRUMMOND 161 TRANS

SE Idaho	P3-3	p3-3 HORSE BUTTE & SWAN VLY 161 TRANS
SE Idaho	P3-3	p3-3 HRSBT & GOSHEN #1 161 TRANS
SE Idaho	P3-3	p3-3 HRSBT & GOSHEN #2 161 TRANS
SE Idaho	P3-3	p3-3 HRSBT & GOSHEN 161 TRANS
SE Idaho	P3-3	p3-3 HRSBT & HOOPER SPRINGS 138 TRANS
SE Idaho	P3-3	p3-3 PALIS & DRUMMOND 161 TRANS
SE Idaho	P3-3	p3-3 PALIS & GOSHEN #1 161 TRANS
SE Idaho	P3-3	p3-3 PALIS & GOSHEN #2 161 TRANS
SE Idaho	P3-3	p3-3 PALIS & GOSHEN 345 TRANS
SE Idaho	P3-3	p3-3 PALIS & HOOPER SPRINGS 138 TRANS
SE Idaho	P3-3	p3-3 PALIS & SWAN VLY 161 TRANS
SE Idaho	P3-4	P3-4 HORSE BUTTE WIND GEN & DRUMM 115KV SHUNT CAP
SE Idaho	P3-4	P3-4 HORSE BUTTE WIND GEN & MADISON 115KV SHUNT CAP
SE Idaho	P3-4	P3-4 HORSE BUTTE WIND GEN & TARG 115KV SHUNT CAP
SE Idaho	P3-4	P3-4 HORSE BUTTE WIND GEN & TETON 115KV SHUNT CAP
SE Idaho	P3-4	P3-4 HORSE BUTTE WIND GEN & TINCUP 115KV SHUNT CAP
SE Idaho	P3-4	p3-4 HRSBT & GOSHEN 161 SHUNT
SE Idaho	P3-4	p3-4 PALIS & GOSHEN 161 SHUNT
SE Idaho	P3-4	P3-4 PALS Generator Unit & DRUMM 115KV SHUNT CAP
SE Idaho	P3-4	P3-4 PALS Generator Unit & MADISON 115KV SHUNT CAP
SE Idaho	P3-4	P3-4 PALS Generator Unit & TARGHEE 115KV SHUNT CAP
SE Idaho	P3-4	P3-4 PALS Generator Unit & TETON 115KV SHUNT CAP
Burley	P3-4	P3-4 PALS Generator Unit & TINCUP 115KV SHUNT CAP
Burley	P1-1	P1-1_GEN_BRIDGE
Burley	P1-1	P1-1_GEN_Milner Unit #1
Burley	P1-1	P1-1_GEN_Milner Unit #2
Burley	P1-1	P1-1_GEN_Minidoka Unit #6
Burley	P1-1	P1-1_GEN_Minidoka Unit #7
Burley	P1-1	P1-1_GEN_Minidoka Unit #8
Burley	P1-1	P1-1_GEN_Minidoka Unit #9
Burley	P1-2	P1-2_LIN_Adelaide - Minidoka 138kV
Burley	P1-2	P1-2_LIN_Adelaide - Paul - Heyburn 138kV
Burley	P1-2	P1-2_LIN_Adelaide - Roes - Heyburn 138kV
Burley	P1-2	P1-2_LIN_American Falls - Raft River - Minidoka 138kV
Burley	P1-2	P1-2_LIN_Bridge - Cedar Ck 138kV
Burley	P1-2	P1-2_LIN_Bridge - Grouse C 138kV
Burley	P1-2	P1-2_LIN_Heyburn - Riverton 138kV
Burley	P1-2	P1-2_LIN_Minidoka - Bridge 138kV
Burley	P1-2	P1-2_LIN_Minidoka - Canal - Unity 138kV
Burley	P1-2	P1-2_LIN_Pacific - Unity 138kV
Burley	P1-2	P1-2_LIN_Unity - Heyburn 138kV
Burley	P1-3	P1-3_TXF_Adelaide 345/138kV #1
Burley	P1-3	P1-3_TXF_Adelaide 345/138kV #2
Burley	P1-3	P1-3_TXF_Bridge - BRIDGE 138/12.5kV
Burley	P1-3	P1-3_TXF_Canal 138/34.5kV #1
Burley	P1-3	P1-3_TXF_Milner - Milner PP 138/13.8kV #1
Burley	P1-3	P1-3_TXF_Minidoka 138/2.4kV

Burley	P1-3	P1-3_TXF_Minidoka 138/4.16kV
Burley	P1-4	P1-4_SNT_Bridge #c1
Burley	P1-4	P1-4_SNT_Bridge #c2
Burley	P2-1	P2-1_LSO_Adelaide - Heyburn Jct #1 138kV
Burley	P2-1	P2-1_LSO_Adelaide - Minidoka #1 138kV
Burley	P2-1	P2-1_LSO_Adelaide - Roes Tap #1 138kV
Burley	P2-1	P2-1_LSO_Bridge - Cedar Creek #1 138kV
Burley	P2-1	P2-1_LSO_Bridge - GrouceC #1 138kV
Burley	P2-1	P2-1_LSO_Bypass - Milner #1 138kV
Burley	P2-1	P2-1_LSO_Canal - Canal Tap #1 138kV
Burley	P2-1	P2-1_LSO_East Hill - Unity #1 138kV
Burley	P2-1	P2-1_LSO_Haymill - Hayburn #1 138kV
Burley	P2-1	P2-1_LSO_Heyburn - Riverton #1 138kV
Burley	P2-1	P2-1_LSO_Heyburn Junction - Paul #1 138kV
Burley	P2-1	P2-1_LSO_Milner - Milner PP #1 138kV
Burley	P2-1	P2-1_LSO_Milner Junction - Milner #1 138kV
Burley	P2-1	P2-1_LSO_MiniCo - Heyburn #1 138kV
Burley	P2-1	P2-1_LSO_Minidoka - Canal Tap #1 138kV
Burley	P2-1	P2-1_LSO_Minidoka - Idahome #1 138kV
Burley	P2-1	P2-1_LSO_Minidoka - Raft River Tap #1 138kV
Burley	P2-1	P2-1_LSO_Pacific - Unity #1 138kV
Burley	P2-1	P2-1_LSO_Unity - Heyburn #1 138kV
Burley	P2-2	P2-2_BUS_Adelaide 138kV
Burley	P2-2	P2-2_BUS_Adelaide 345kV
Burley	P2-2	P2-2_BUS_American Falls 138kV
Burley	P2-2	P2-2_BUS_BRIDGE 12.5kV
Burley	P2-2	P2-2_BUS_Bridge 138kV
Burley	P2-2	P2-2_BUS_Canal 138kV
Burley	P2-2	P2-2_BUS_Heyburn 138kV
Burley	P2-2	P2-2_BUS_Milner 138kV
Burley	P2-2	P2-2_BUS_Minidoka 138kV
Burley	P2-2	P2-2_BUS_Paul 138kV
Burley	P2-2	P2-2_BUS_Unity 138kV
Burley	P3-1	P3-1_GEN_BRIDGE + GEN_Milner Unit #1
Burley	P3-1	P3-1_GEN_BRIDGE + GEN_Milner Unit #2
Burley	P3-1	P3-1_GEN_BRIDGE + GEN_Minidoka Unit #6
Burley	P3-1	P3-1_GEN_BRIDGE + GEN_Minidoka Unit #7
Burley	P3-1	P3-1_GEN_BRIDGE + GEN_Minidoka Unit #8
Burley	P3-1	P3-1_GEN_BRIDGE + GEN_Minidoka Unit #9
Burley	P3-1	P3-1_GEN_Milner Unit #1 + GEN_Milner Unit #2
Burley	P3-1	P3-1_GEN_Milner Unit #1 + GEN_Minidoka Unit #6
Burley	P3-1	P3-1_GEN_Milner Unit #1 + GEN_Minidoka Unit #7
Burley	P3-1	P3-1_GEN_Milner Unit #1 + GEN_Minidoka Unit #8
Burley	P3-1	P3-1_GEN_Milner Unit #1 + GEN_Minidoka Unit #9
Burley	P3-1	P3-1_GEN_Milner Unit #2 + GEN_Minidoka Unit #6
Burley	P3-1	P3-1_GEN_Milner Unit #2 + GEN_Minidoka Unit #7
Burley	P3-1	P3-1_GEN_Milner Unit #2 + GEN_Minidoka Unit #8

Burley	P3-1	P3-1_GEN_Milner Unit #2 + GEN_Minidoka Unit #9
Burley	P3-1	P3-1_GEN_Minidoka Unit #6 + GEN_Minidoka Unit #7
Burley	P3-1	P3-1_GEN_Minidoka Unit #6 + GEN_Minidoka Unit #8
Burley	P3-1	P3-1_GEN_Minidoka Unit #6 + GEN_Minidoka Unit #9
Burley		P3-1_GEN_Minidoka Unit #7 + GEN_Minidoka Unit #8
Burley	P3-1	P3-1_GEN_Minidoka Unit #7 + GEN_Minidoka Unit #9
Burley	P3-1	P3-1_GEN_Minidoka Unit #8 + GEN_Minidoka Unit #9
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Adelaide - Minidoka 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Adelaide - Paul - Heyburn 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Adelaide - Roes - Heyburn 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_American Falls - Raft River - Minidoka 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Bridge - Cedar Ck 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Bridge - Grouse C 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Heyburn - Riverton 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Hunt - Milner - Paul 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Hunt - Milner 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Minidoka - Bridge 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Minidoka - Canal - Unity 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Pacific - Unity 138kV
Burley	P3-2	P3-2_GEN_BRIDGE + LIN_Unity - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Adelaide - Minidoka 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Adelaide - Paul - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Adelaide - Roes - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Bridge - Cedar Ck 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Bridge - Grouse C 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Heyburn - Riverton 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Hunt - Milner - Paul 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Hunt - Milner 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Milner - Milner PP #1 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Minidoka - Bridge 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Minidoka - Canal - Unity 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Pacific - Unity 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #1 + LIN_Unity - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #2 + LIN_Bridge - Cedar Ck 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #2 + LIN_Bridge - Grouse C 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #2 + LIN_Heyburn - Riverton 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #2 + LIN_Hunt - Milner - Paul 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #2 + LIN_Hunt - Milner 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #2 + LIN_Milner - Milner PP #1 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #2 + LIN_Minidoka - Bridge 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #2 + LIN_Minidoka - Canal - Unity 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #2 + LIN_Pacific - Unity 138kV
Burley	P3-2	P3-2_GEN_Milner Unit #2 + LIN_Unity - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Adelaide - Minidoka 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Adelaide - Paul - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Adelaide - Roes - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_American Falls - Raft River - Minidoka 138kV

Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Bridge - Cedar Ck 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Bridge - Grouse C 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Heyburn - Riverton 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Hunt - Milner - Paul 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Hunt - Milner 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Milner - Milner PP #1 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Minidoka - Bridge 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Minidoka - Canal - Unity 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Pacific - Unity 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #6 + LIN_Unity - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Adelaide - Minidoka 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Adelaide - Paul - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Adelaide - Roes - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Bridge - Cedar Ck 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Bridge - Grouse C 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Heyburn - Riverton 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Hunt - Milner - Paul 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Hunt - Milner 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_MidPoint - Hunt 230kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Milner - Milner PP #1 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Minidoka - Bridge 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Minidoka - Canal - Unity 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Pacific - Unity 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #7 + LIN_Unity - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #8 + LIN_Adelaide - Paul - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #8 + LIN_Adelaide - Roes - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #8 + LIN_Bridge - Cedar Ck 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #8 + LIN_Bridge - Grouse C 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #8 + LIN_Heyburn - Riverton 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #8 + LIN_Milner - Milner PP #1 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #8 + LIN_Minidoka - Bridge 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #8 + LIN_Minidoka - Canal - Unity 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #8 + LIN_Pacific - Unity 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #8 + LIN_Unity - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Adelaide - Minidoka 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Adelaide - Paul - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Adelaide - Roes - Heyburn 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Bridge - Cedar Ck 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Bridge - Grouse C 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Heyburn - Riverton 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Hunt - Milner - Paul 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Hunt - Milner 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_MidPoint - Hunt 230kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Milner - Milner PP #1 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Minidoka - Bridge 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Minidoka - Canal - Unity 138kV
Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Pacific - Unity 138kV

Burley	P3-2	P3-2_GEN_Minidoka Unit #9 + LIN_Unity - Heyburn 138kV
Burley	P3-3	P3-3_GEN_BRIDGE + TXF_Adelaide 345/138kV #1
Burley	P3-3	P3-3_GEN_BRIDGE + TXF_Adelaide 345/138kV #2
Burley	P3-3	P3-3_GEN_BRIDGE + TXF_Bridge - BRIDGE 138/12.5kV
Burley	P3-3	P3-3_GEN_BRIDGE + TXF_Canal 138/34.5kV #1
Burley	P3-3	P3-3_GEN_BRIDGE + TXF_Milner - Milner PP 138/13.8kV #1
Burley	P3-3	P3-3_GEN_BRIDGE + TXF_Minidoka 138/2.4kV
Burley	P3-3	P3-3_GEN_BRIDGE + TXF_Minidoka 138/4.16kV
Burley	P3-3	P3-3_GEN_Milner Unit #1 + TXF_Adelaide 345/138kV #1
Burley	P3-3	P3-3_GEN_Milner Unit #1 + TXF_Adelaide 345/138kV #2
Burley	P3-3	P3-3_GEN_Milner Unit #1 + TXF_Bridge - BRIDGE 138/12.5kV
Burley	P3-3	P3-3_GEN_Milner Unit #1 + TXF_Canal 138/34.5kV #1
Burley	P3-3	P3-3_GEN_Milner Unit #1 + TXF_Hunt 230/138kV #1
Burley	P3-3	P3-3_GEN_Milner Unit #1 + TXF_Hunt 230/138kV #2
Burley	P3-3	P3-3_GEN_Milner Unit #1 + TXF_Hunt 230/138kV #3
Burley	P3-3	P3-3_GEN_Milner Unit #1 + TXF_Milner - Milner PP 138/13.8kV #1
Burley	P3-3	P3-3_GEN_Milner Unit #1 + TXF_Minidoka 138/2.4kV
Burley	P3-3	P3-3_GEN_Milner Unit #1 + TXF_Minidoka 138/4.16kV
Burley	P3-3	P3-3_GEN_Milner Unit #2 + TXF_Adelaide 345/138kV #1
Burley	P3-3	P3-3_GEN_Milner Unit #2 + TXF_Adelaide 345/138kV #2
Burley	P3-3	P3-3_GEN_Milner Unit #2 + TXF_Bridge - BRIDGE 138/12.5kV
Burley	P3-3	P3-3_GEN_Milner Unit #2 + TXF_Canal 138/34.5kV #1
Burley	P3-3	P3-3_GEN_Milner Unit #2 + TXF_Hunt 230/138kV #1
Burley	P3-3	P3-3_GEN_Milner Unit #2 + TXF_Hunt 230/138kV #2
Burley	P3-3	P3-3_GEN_Milner Unit #2 + TXF_Hunt 230/138kV #3
Burley	P3-3	P3-3_GEN_Milner Unit #2 + TXF_Milner - Milner PP 138/13.8kV #1
Burley	P3-3	P3-3_GEN_Milner Unit #2 + TXF_Minidoka 138/2.4kV
Burley	P3-3	P3-3_GEN_Milner Unit #2 + TXF_Minidoka 138/4.16kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #6 + TXF_Adelaide 345/138kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #6 + TXF_Adelaide 345/138kV #2
Burley	P3-3	P3-3_GEN_Minidoka Unit #6 + TXF_Bridge - BRIDGE 138/12.5kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #6 + TXF_Canal 138/34.5kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #6 + TXF_Hunt 230/138kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #6 + TXF_Hunt 230/138kV #2
Burley	P3-3	P3-3_GEN_Minidoka Unit #6 + TXF_Hunt 230/138kV #3
Burley	P3-3	P3-3_GEN_Minidoka Unit #6 + TXF_Milner - Milner PP 138/13.8kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #6 + TXF_Minidoka 138/2.4kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #6 + TXF_Minidoka 138/4.16kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #7 + TXF_Adelaide 345/138kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #7 + TXF_Adelaide 345/138kV #2
Burley	P3-3	P3-3_GEN_Minidoka Unit #7 + TXF_Bridge - BRIDGE 138/12.5kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #7 + TXF_Canal 138/34.5kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #7 + TXF_Hunt 230/138kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #7 + TXF_Hunt 230/138kV #2
Burley	P3-3	P3-3_GEN_Minidoka Unit #7 + TXF_Hunt 230/138kV #3
Burley	P3-3	P3-3_GEN_Minidoka Unit #7 + TXF_Milner - Milner PP 138/13.8kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #7 + TXF_Minidoka 138/2.4kV

Burley	P3-3	P3-3_GEN_Minidoka Unit #7 + TXF_Minidoka 138/4.16kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #8 + TXF_Adelaide 345/138kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #8 + TXF_Adelaide 345/138kV #2
Burley	P3-3	P3-3_GEN_Minidoka Unit #8 + TXF_Bridge - BRIDGE 138/12.5kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #8 + TXF_Canal 138/34.5kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #8 + TXF_Hunt 230/138kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #8 + TXF_Hunt 230/138kV #2
Burley	P3-3	P3-3_GEN_Minidoka Unit #8 + TXF_Hunt 230/138kV #3
Burley	P3-3	P3-3_GEN_Minidoka Unit #8 + TXF_Milner - Milner PP 138/13.8kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #8 + TXF_Minidoka 138/2.4kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #8 + TXF_Minidoka 138/4.16kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #9 + TXF_Adelaide 345/138kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #9 + TXF_Adelaide 345/138kV #2
Burley	P3-3	P3-3_GEN_Minidoka Unit #9 + TXF_Bridge - BRIDGE 138/12.5kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #9 + TXF_Canal 138/34.5kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #9 + TXF_Hunt 230/138kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #9 + TXF_Hunt 230/138kV #2
Burley	P3-3	P3-3_GEN_Minidoka Unit #9 + TXF_Hunt 230/138kV #3
Burley	P3-3	P3-3_GEN_Minidoka Unit #9 + TXF_Milner - Milner PP 138/13.8kV #1
Burley	P3-3	P3-3_GEN_Minidoka Unit #9 + TXF_Minidoka 138/2.4kV
Burley	P3-3	P3-3_GEN_Minidoka Unit #9 + TXF_Minidoka 138/4.16kV
Burley	P3-4	P3-4_GEN_American Falls Unit #1 + SNT_Bridge #c1
Burley	P3-4	P3-4_GEN_American Falls Unit #1 + SNT_Bridge #c2
Burley	P3-4	P3-4_GEN_American Falls Unit #1 + SNT_Hunt #c1
Burley	P3-4	P3-4_GEN_American Falls Unit #1 + SNT_Hunt #r1
Burley	P3-4	P3-4_GEN_American Falls Unit #2 + SNT_Bridge #c1
Burley	P3-4	P3-4_GEN_American Falls Unit #2 + SNT_Bridge #c2
Burley	P3-4	P3-4_GEN_American Falls Unit #2 + SNT_Hunt #c1
Burley	P3-4	P3-4_GEN_American Falls Unit #2 + SNT_Hunt #r1
Burley	P3-4	P3-4_GEN_American Falls Unit #3 + SNT_Bridge #c1
Burley	P3-4	P3-4_GEN_American Falls Unit #3 + SNT_Bridge #c2
Burley	P3-4	P3-4_GEN_American Falls Unit #3 + SNT_Hunt #c1
Burley	P3-4	P3-4_GEN_American Falls Unit #3 + SNT_Hunt #r1
Burley	P3-4	P3-4_GEN_BRIDGE + SNT_Bridge #c1
Burley	P3-4	P3-4_GEN_BRIDGE + SNT_Bridge #c2
Burley	P3-4	P3-4_GEN_BRIDGE + SNT_Hunt #c1
Burley	P3-4	P3-4_GEN_BRIDGE + SNT_Hunt #r1
Burley	P3-4	P3-4_GEN_Milner Unit #1 + SNT_Bridge #c1
Burley	P3-4	P3-4_GEN_Milner Unit #1 + SNT_Bridge #c2
Burley	P3-4	P3-4_GEN_Milner Unit #1 + SNT_Hunt #c1
Burley	P3-4	P3-4_GEN_Milner Unit #2 + SNT_Bridge #c1
Burley	P3-4	P3-4_GEN_Milner Unit #2 + SNT_Bridge #c2
Burley	P3-4	P3-4_GEN_Milner Unit #2 + SNT_Hunt #c1
Burley	P3-4	P3-4_GEN_Milner Unit #2 + SNT_Hunt #r1
Burley	P3-4	P3-4_GEN_Minidoka Unit #6 + SNT_Bridge #c1
Burley	P3-4	P3-4_GEN_Minidoka Unit #6 + SNT_Bridge #c2
Burley	P3-4	P3-4_GEN_Minidoka Unit #6 + SNT_Hunt #c1

Burley	P3-4	P3-4_GEN_Minidoka Unit #6 + SNT_Hunt #r1
Burley	P3-4	P3-4_GEN_Minidoka Unit #7 + SNT_Bridge #c1
Burley	P3-4	P3-4_GEN_Minidoka Unit #7 + SNT_Bridge #c2
Burley	P3-4	P3-4_GEN_Minidoka Unit #7 + SNT_Hunt #c1
Burley	P3-4	P3-4_GEN_Minidoka Unit #7 + SNT_Hunt #r1
Burley	P3-4	P3-4_GEN_Minidoka Unit #8 + SNT_Bridge #c1
Burley	P3-4	P3-4_GEN_Minidoka Unit #8 + SNT_Bridge #c2
Burley	P3-4	P3-4_GEN_Minidoka Unit #8 + SNT_Hunt #c1
Burley	P3-4	P3-4_GEN_Minidoka Unit #8 + SNT_Hunt #r1
Burley	P3-4	P3-4_GEN_Minidoka Unit #9 + SNT_Bridge #c1
Burley	P3-4	P3-4_GEN_Minidoka Unit #9 + SNT_Bridge #c2
Burley	P3-4	P3-4_GEN_Minidoka Unit #9 + SNT_Hunt #c1
Burley	P3-4	P3-4_GEN_Minidoka Unit #9 + SNT_Hunt #r1

Area	NERC Category	Transient CTG Name
SE Idaho	P0	ALIS_Normal System
SE Idaho	P2-3	Bus_Goshen_161kV
SE Idaho	P1-2	LIN Goshen-Drummond 115kV
SE Idaho	P1-2	LIN Goshen-Cattle Creek 115kV
SE Idaho	P1-2	LIN Goshen-Swan Valley 115kV
Burley	P0	ALIS_Normal System
Burley	P2-3	Bus_Adelaide_138
Burley	P2-3	Bus_Adelaide_345
Burley	P2-3	BUS_American Falls 138
Burley	P2-3	Bus_Bridge 138
Burley	P2-3	Bus Heyburn 138
Burley	P2-3	Bus Minidoka 138
Burley	P2-3	Bus Unity 138
Burley	P6-1-1	LIN Adelaide-Minidoka 138 & LIN Unity-Heyburn 138
Burley	P1-2	LIN Adelaide-Heyburn 138
Burley	P1-2	LIN Adelaide-Paul 138
Burley	P1-2	LIN Minidoka-Bridge 138
Burley	P1-2	LIN Minidoka-Unity 138
Burley	P1-2	LIN Unity-Heyburn 138

From: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2

Sent: Wed Aug 11 13:58:37 2021

To: April Owen

Subject: RE: POPD/Ponderay Renewable Fiber questions

Importance: Normal

Hi April,

Thank you for your patience while I checked on your question. It sounds like the deal you have for energy from Shell is independent of the transmission you have with BPA. The fact that Pend Oreille is a PTP customer, gives you this flexibility.

Please let me know if you have additional questions!

Adelle

From: April Owen <aowen@popud.org>
Sent: Thursday, August 5, 2021 8:27 AM
To: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2 <alharris@bpa.gov>
Subject: [EXTERNAL] POPD/Ponderay Renewable Fiber questions

Adelle,

Per our phone conversation this morning, here are the 2 additional questions that we have regarding studies:

1. If the mill does not restart and the customer adds 30aMW of cryptomining instead, what would the estimated timeline be for the new load studies? Substantially different than if it was just returning mill load?

2. Starting in 2021, we entered into an agreement with Shell Energy where they purchase our Box Canyon resource and then sell us energy to cover our current load. The Box Canyon energy is tagged as specified source (so they can use as a carbon-free resource), and the energy coming in to our system is also tagged. This was not in place when the mill was operating previously – Box Canyon was used to supply the mill. Does this make a difference in looking at transmission? Is there a physical energy use vs. a contractual use difference?

Thank you for all your help Adelle!

April Owen

Director, Audit, Finance & Power Supply

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington Ave

Newport, WA 99156
509.447.9321 | www.popud.org

Pend Oreille County Public Utility District #1

From: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2

Sent: Wed Aug 11 16:28:23 2021

To: Colin Willenbrock

Cc: April Owen; Tyler Whitney; Christopher Mckey (christopher@energywestllc.com)

Subject: RE: POPD transmission study questions

Importance: Normal

Hi Colin,

I completely understand your concerns. Unfortunately Pend Oreille's Customer Service Engineer Jared Lacambra is out of the office this week and I will be out tomorrow. I am checking with Jared's group to see if someone is available to stand in for a call on Friday and I will let you know if that's possible. Otherwise it may be Monday when Jared returns.

Adelle

From: Colin Willenbrock <cwillenbrock@popud.org>
Sent: Wednesday, August 11, 2021 2:24 PM
To: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2 <alharris@bpa.gov>
Cc: April Owen <aowen@popud.org>; Tyler Whitney <TWhitney@popud.org>; Christopher Mckey (christopher@energywestllc.com) <christopher@energywestllc.com>

Subject: [EXTERNAL] RE: POPD transmission study questions

Adelle,

Unfortunately, four-months to get back to historic loads at this site isn't going to work for the customer. The PNC site operated at 85aMW for decades prior to the shutdown last year. Our balancing authority (Avista) has confirmed in our most recently renewed dynamic services agreement that they can support the restart of the historic loads. Can we jump on a call in advance of the August 18 meeting to discuss options going forward. We are free this afternoon and tomorrow if that works for you.

Thank you,

Colin

F. Colin Willenbrock

General Manager

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington

Newport, Washington 99156

509.447.3137 | cwillenbrock@popud.org | www.popud.org

From: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2 <alharris@bpa.gov>
Sent: Thursday, August 5, 2021 5:04 PM
To: April Owen <aowen@popud.org>
Subject: RE: POPD transmission study questions

CAUTION: This email originated from outside of the POPUD. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi April,

From the information I was able to gather, it sounds like we won't know if a System Impact Study (SIS) is needed until we meet with Pend Oreille later this month so a timeframe is difficult to nail down at this point. However if it is determined that a SIS is not needed, then BPA will move forward with a Facilities Study. An environmental study may be required as well. So an October 1 start date is looking extremely difficult at this point.

My understanding is that there is no particular threshold that triggers the need for a study; any new load is required to go through the study process and even the mill load is considered new at this point because it's been offline for more than a year.

For your second question regarding a difference in physical vs. contractual energy, I am still looking for an answer, but have a call scheduled with someone in the morning that I am hopeful will be able to answer the question.

Stay tuned.

Adelle

From: April Owen <aowen@popud.org>
Sent: Thursday, August 5, 2021 9:53 AM
To: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2 <alharris@bpa.gov>
Subject: [EXTERNAL] POPD transmission study questions

Adelle,

Thank you again for our conversation this morning. I wanted to clarify with you for my notes that the most probable path at this point is that studies will be needed before the mill can restart production, and that those studies may take four months or longer. I understand that more will be clarified at the initial LLIP meeting scheduled on August 18th.

Another question came up as I was thinking through the process: Is there a particular threshold that triggers the need for a transmission study? What if we have, for example, 5 cryptomining customers that each add 5 MW during the year? Does that need to be studied or is it a single customer threshold? Is it tied directly to whether there is a BPA interconnection? What if Ponderay added 9.9 of cryptoming load (just under the New Large Single Load designation)? Just want to make sure that we are working through the process correctly.

Thanks again for the help, Adelle!

April.

April Owen

Director, Audit, Finance & Power Supply

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington Ave

Newport, WA 99156
509.447.9321 | www.popud.org

Pend Oreille County Public Utility District #1

From: Galbraith,Brian T (BPA) - TPCC-TPP-4

Sent: Wed Aug 11 16:48:20 2021

To: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2; Wick,Martin A (BPA) - TPCV-TPP-4; David Hodder:; cwillenbrock@popud.org; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB; Cosola,Anna M (BPA) - TPCC-TPP-4

Subject: POPUD L0494 Q & A Pre Kickoff

Importance: Normal

From: comments@bpa.gov

Sent: Fri Aug 13 09:12:47 2021

To: aowen@popud.org

Subject: FY2022 Net Requirements Public Notice

Importance: Normal

Thank you for submitting your comment on FY2022 Net Requirements Public Notice

Below is a copy of what you submitted

Name: April Owen
Representing: Public Utility District No. 1 of Pend Oreille County
Group: Public Utility
Email: aowen@popud.org
Phone:
Address: 130 N. Washington Ave
City: Newport
State: WA
Zip: 99156
Country: USA
Comment: Pend Oreille PUD has received an updated load forecast from its potential industrial customer, Allrise Capital, Inc. The following reflects Allrise's updated load forecast for BPA FY22: • Beginning October 1, 2021 = 25 aMW • Beginning November 1, 2021 = 115 aMW • Beginning January 1, 2022 = 140 aMW • Beginning April 1, 2022 = 165 aMW Based on prior correspondence and communications with the customer, Pend Oreille PUD is assuming that the first 87 aMW of this customer's load will be dedicated to restarted operations at the former Ponderay Newsprint Company mill site, with the remainder of load being dedicated to cryptocurrency/data processing. As previously noted, Pend Oreille PUD has been informed by BPA Transmission that studies will likely

be required before power can be delivered to the former Ponderay Newsprint mill site. While the full scope or impact of these studies is not yet known, BPA-T has indicated those studies may continue into the first several months of FY 2022.

From: Galbraith,Brian T (BPA) - TPCC-TPP-4

Sent: Mon Aug 16 09:43:13 2021

To: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2; Wick,Martin A (BPA) - TPCV-TPP-4; David Hodder:; cwillenbrock@popud.org; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB; Cosola,Anna M (BPA) - TPCC-TPP-4

Cc: Mendez-Sierra,Akira M (BPA) - TPPC-OPP-3; Rochelle,Patrick R (BPA) - TPPB-OPP-3

Subject: POPUD L0494 Q & A Pre Kickoff

Importance: Normal

*Resending with correct phone bridge passcode

From: April Owen

Sent: Mon Aug 16 09:58:59 2021

To: Galbraith,Brian T (BPA) - TPCC-TPP-4

Subject: [EXTERNAL] RE: POPUD L0494 Q & A Pre Kickoff

Importance: Normal

Brian,

I was unable to get into this call – it would not recognize the ID number. Is it correct?

April Owen

Director, Audit, Finance & Power Supply

Public Utility District No. 1 of Pend Oreille County

P.O. Box 190 | 130 N. Washington Ave

Newport, WA 99156
509.447.9321 | www.popud.org

-----Original Appointment-----
From: Galbraith,Brian T (BPA) - TPCC-TPP-4 <btgalbraith@bpa.gov>
Sent: Wednesday, August 11, 2021 5:18 PM
To: Galbraith,Brian T (BPA) - TPCC-TPP-4; Tyler Whitney; April Owen; Harris,Adelle L (TFE)(BPA) - TSES-TPP-2; Wick,Martin A (BPA) - TPCV-TPP-4; David Hodder:; Colin Willenbrock; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB; Cosola,Anna M (BPA) - TPCC-TPP-4
Subject: POPUD L0494 Q & A Pre Kickoff
When: Monday, August 16, 2021 10:00 AM-11:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: 503.230.4000 ID:(b)(6) [redacted]

-----Original Appointment-----
From: Galbraith,Brian T (BPA) - TPCC-TPP-4 <btgalbraith@bpa.gov>
Sent: Wednesday, August 11, 2021 4:49 PM
To: Galbraith,Brian T (BPA) - TPCC-TPP-4; Harris,Adelle L (TFE)(BPA) - TSES-TPP-2; Wick,Martin A (BPA) - TPCV-TPP-4; David Hodder:; Colin Willenbrock; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB; Cosola,Anna M (BPA) - TPCC-TPP-4
Subject: POPUD L0494 Q & A Pre Kickoff
When: Monday, August 16, 2021 10:00 AM-11:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: 503.230.4000 ID:(b)(6) [redacted]

Pend Oreille County Public Utility District #1

From: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2

Sent: Wed Aug 18 09:22:18 2021

To: April Owen

Subject: Transmission Service Request - POPUD / Allrise load

Importance: Normal

Attachments: PTP-TSR-Procedures.pdf; Requesting-Transmission-Service-BP.pdf

Hi April,

If Pend Oreille needs additional transmission, a request will need to be submitted over OASIS per the instructions given in the attached business practice. Please let me know if you have any questions and I can set-up a call.

Adelle L. Harris

Transmission Account Executive

Dark Fiber / Commercial Wireless Program Manager

TSE/TPP-2

'(360) 619-6090 | '[redacted] y alharris@bpa.gov

Bonneville Power Administration

Requesting Transmission Service

BPA Transmission Business Practice

Version 40

8/11/2021

Requesting Transmission Service

Version 40

This business practice describes the process and guidelines for requesting Point-to-Point (PTP) or Network Integration (NT) Transmission Service from BPA on the Open Access Same-Time Information System (OASIS).

BPA Policy References

- Open Access Transmission Tariff (OATT): Sections 13, 14, 16, 17, 18, 22
- Transmission Rate Schedules/Provisions: Reservation Fee; Network Integration Rate; Point-to-Point Rate; Southern Intertie Rate; and Montana Intertie Rate

For more information, visit the BPA Transmission Business Practices webpage or submit questions to techforum@bpa.gov.

Table of Contents

A. Pre-Evaluation of Transmission Service Availability

1. BPA has provided both the Long-Term Transmission Inventory Map(s) and the Transmission Reservation & Available Transfer Capability (ATC) Analysis Request available on the Transmission Availability webpage for Customers to determine whether there is sufficient ATC across specific points on BPA's Transmission System prior to submitting a Long-Term Frim TSR on OASIS,

B. TSR Requirements

1. A Customer must have a signed Service Agreement with BPA.
    a. Refer to the Becoming a BPA Transmission Services Customer webpage for required information and procedures.
2. A Customer must have access to the Open Access Same-Time Information System (OASIS).
3. Customers must submit Long-Term, Short-Term and Hourly TSRs on OASIS.
4. TSRs over the Network, Southern Intertie, and the Montana Intertie must be submitted as separate requests for transmission service and are evaluated independently.
5. TSRs must be submitted within the reservation windows in Section E.
6. TSR must be submitted per the current Western Electricity Coordinating Council (WECC) Preschedule Calendar.

    The WECC Preschedule Calendar can be accessed on the WECC website.
7. Prior to submitting a PTP TSR, the Customer must:
    a. Refer to the PTP TSR Procedures Business Practice for the applicable request type submittal.
    b. Refer to the Conditional Firm Transmission Service and the TSR Study and Expansion Process Business Practices for conditional firm offer details.
8. The MW requested in a LTF PTP TSR must be a flat transmission capacity MW profile for the full duration of the reservation.
9. Prior to submitting a NT TSR, the customer must:
    a. Refer to the Network Integration (NT) Transmission Service Business Practice.
    b. Refer to the Network Integration (NT) Transmission Service TSR Procedures Business Practice.
    c. Refer to the Partial Service Business Practice for partial offer details.
    d. Refer to the TSR Study and Expansion Process Business Practices.
10. A TSR must be WITHDRAWN and resubmitted as a new TSR if the Customer wants to make any changes to any field.
    a. This does not apply to updating the Customer Comments field.
    b. A new Queue Position will be determined based on the TSR's queued time.

c. If BPA directs the Customer to submit a conformance TSR and Parent TSR is identified in the Deal Ref field, BPA will override the queue time to retain the Queue Position of the Parent TSR.

11. For TSR submittals other than ORIGNAL (Deferrals, Redirects, Renewals (Reservation Priority), Consolidation and Resales) the Customer must refer to the applicable business practices for specific requirements.

C. Partial Service Consideration Criteria for LT

1. Partial Service is Firm PTP Transmission Service that can be provided for a portion of the term (from six (6) months up to four (4) years) and/or demand (MW) of the TSR.
2. Under certain circumstances, BPA may be able to offer Partial Service without Reservation Priority (Renewal) and Extensions of Commencement of Service (Deferral).
    a. To be considered for such a Partial Service offer, the Customer must, at the time of the TSR submittal, specify in the TSR Customer Comment field that the Customer wants the TSR considered for Partial Service without Reservation Priority and Deferral rights. (Example: Partial Service w/o Renewal/Deferral)
    b. A TSR for which a Customer includes this comment will also be eligible for offers of Partial Service that include Reservation Priority (Renewal) and Extensions for Commencement of Service (Deferral) consideration.
3. If the Customer does not provide a Partial Service Customer comment, the TSR will only be considered for Partial Service offers with Reservation Priority and Extensions for Commencement of Service consideration.
4. If a TSR whose remaining duration is less than one (1) year but 60 Calendar Days or more from the requested Stop Date, a Partial Service offer would be for the remainder of the requested term.

D. Newpoint Designation

1. The Customer must designate Newpoint on its TSR when either the POR or the POD is at an interconnection point on BPA's transmission system when:
    a. No substation yet exists; or
    b. The transmission facilities do exist, but the point is not posted on OASIS.
2. Prior to approving a Newpoint designation, BPA will consider whether granting the Newpoint will negatively impact transmission service to other transmission customers and is consistent with good utility practice and contractual commitments.
3. Newpoint can only be designated for a LTF-YEARLY PTP or LTF-YEARLY NT request.
    a. The Source or Sink must be NEWPOINT
    b. The POR or POD must be NEWPOINTBPAT
4. Newpoint Interconnection on BPA's flow-based paths where no substation yet exists:
    a. The TSR must include the specific geographical reference point information and/or the specific associated Generation Interconnection Request (GI) number(s), if applicable, in the Comments field of the TSR.

i. The specific geographical reference point information and the specific associated GI number(s) included in the Comments field cannot be modified once the TSR is submitted.

b. If the POR and POD are both known, even though there is not yet a substation at the interconnection point, select the appropriate POR and POD and use NEWPOINT in only the Source or Sink field.

i. To do this, the Customer will need to first select the relevant POR/POD, type NEWPOINT in the relevant Source/Sink field, and then click Enter.

5. Newpoint Interconnection on BPA's 1:1 paths where no substation yet exists:

a. Subject to Section D.1, Newpoint designations for interconnection points on BPA's 1:1 paths are limited to new interconnections between existing facilities.

b. The 1:1 path Newpoint cannot be an expansion or extension of the Intertie beyond BPA's service area.

c. The TSR must reference an existing facility and/or specify associated GI number(s) in the Comments field of the OASIS Reservation Entry Form, if applicable.

i. The specific geographical reference point information and the specific associated GI number(s) included in the Comments field cannot be modified once the TSR is submitted.

d. The Customer will incur the applicable 1:1 or flow-based path rate depending on the location of the POR and POD.

6. General Provisions for Newpoint Interconnection where no substation yet exists:

a. Within 15 Calendar Days of receipt of a TSR designating Newpoint at an interconnection point where no substation yet exists, BPA will:

i. Determine an existing location (substation and voltage) to assess flow-based and/or 1:1 path impacts, consistent with the Customer Comments provided in Sections D.4.a or D.5.c.

ii. Provide notice to the Customer via the Seller Comment field of the Newpoint TSR of the assessment location.

b. Subject to Section D.1.a, if BPA determines it can make an offer of service to a TSR designating Newpoint at an interconnection point where no substation yet exists, BPA will offer the Customer a Service Agreement, Exhibit (Exhibit) with a Source or Sink consistent with the assessment location.

i. The Customer must conform its Newpoint TSR by submitting a new TSR that matches the TSR conformance instructions the Customer receives from its assigned Transmission Account Executive within five (5) Business Days.

ii. Within 15 Calendar Days of the Date of Tender, the Customer must sign (execute) the Exhibit for the offer of service.

iii. If the Customer fails to execute the Exhibit for the offer of service, BPA will update the OASIS status of both the conformed TSR and the Newpoint TSR to DECLINED and the TSRs will receive no further consideration.

   c. Customers granted an offer of service pursuant to the procedures described in Section D.6.b have the right to utilize that service per the OATT.

7. BPA may build and identify a new OASIS Source/Sink and/or POR/POD consistent with the location identified in Sections D.4.a or D.5.c when the interconnection facilities are energized.
   a. The customer must conform its TSR to the identified Source/Sink and/or POR/POD as directed by BPA in order to use the service from the interconnection location.
      i. If a PTP Customer was granted an offer of service based on a conformed TSR, pursuant to the procedures described in Section D.6.b, the PTP Customer must further conform their TSR by submitting a Redirect TSR. Refer to the Redirect Business Practice for guidelines on submitting a Redirect Request.
      ii. If the Redirect TSR is received within 30 Calendar Days from the date BPA identifies a new Source/Sink and/or POR/POD on OASIS consistent with the location identified in Sections D.4.a or D.5.c, BPA will deem the Redirect TSR to have no ATC impacts and will grant the Redirect TSR.
      iii. If the Redirect TSR received after 30 Calendar Days, it will be assessed for ATC impacts as a new Redirect Request.
      iv. BPA will give NT Customers specific instructions on how to conform their TSR(s).
8. Newpoint for existing facilities (substation and voltage) when no Source or Sink is designated on OASIS:
   a. The TSR must reference an existing facility in the Comments field of the TSR.
      i. The existing facility in the Comments field cannot change once the TSR is submitted.
   b. Subject to Section D.1.b, BPA will build and identify a new Source/Sink and/or POR/POD on OASIS and notify the Customer by email to conform its TSR to the new point.
      i. The Customer must conform its Newpoint TSR by submitting a new conformance TSR that matches the TSR conformance instructions the Customer receives from its assigned Transmission Account Executive within five (5) Business Days or its Newpoint TSR will be DECLINED and removed from the queue.
      ii. The Deal Ref of the conformance TSR must reference the parent Newpoint TSR number in order to preserve the Customer's queue time.

E. TSR Submittal Timelines

1. The Customer must submit TSRs in accordance with the reservation timeframes specified below.

Transmission Service Products	Transmission Service Classification	NERC Priority	Reservation Window	Duration
F-Yearly PTP or F-Yearly NT	Firm	7	Beginning 10 years prior to the service commencement date (SCD), up to 60 days in advance of the calendar month in which service is to commence, and less time as practicable	Begins 00:00 hours on the first day of the month for no less than a year (12 calendar months) and no more than 30 years
STF-Monthly PTP, STF-Monthly NT	Firm	7	No earlier than 365 days before delivery, up to 20 minutes prior to the start of flow	Begins 00:00 hours one day and ends 00:00 hours of a following day for no less than 28 days and no more than 364 days; end date can be no later than 13 months from the TSR queue date
STF-Weekly PTP, STF-Weekly NT	Firm	7	No earlier than 14 days before delivery, up to 20 minutes prior to the start of flow	Begins 00:00 hours one day and ends 00:00 hours of a following day for no less than 7 days and no more than 27 days
STF-Daily PTP, STF-Daily NT	Firm	7	No earlier than 7 days before delivery, up to 20 minutes prior to the start of flow	Begins 00:00 hours one day and ends 00:00 hours of a following day for no less than 1 day and no more than 6 days
F-Daily Loss Return	Firm	7	No earlier than 7 days before delivery, up to 15:00 of the WECC Preschedule day	Begins 00:00 hours one day and ends 00:00 hours of a following day for no less than 1 day and no more than 6 days
F-Hourly Loss Return	Firm	7	No earlier than 7 days before delivery, up to 15:00 of the WECC Preschedule day	Begins at XX:00 one day and may continue up to 00:00 hours of the following day for no more than 24 hours
F-Hourly PTP, F-Hourly NT	Firm	7	Beginning at 9:00 of the WECC Preschedule day, up to	Begins at XX:00 one day and may continue up to 00:00

Transmission Service Products	Transmission Service Classification	NERC Priority	Reservation Window	Duration
			twenty (20) minutes prior to the start of the operating day.	hours of the following day for no more than 24 hours
ST Non-Firm Monthly NT	Non-Firm	6	No earlier than 60 days before delivery, up to 20 minutes prior to the start of flow	Begins 00:00 hours one day and ends 00:00 hours of a following day for no less than 28 days and no more than 364 days
ST Non-Firm Weekly NT	Non-Firm	6	No earlier than 14 days before delivery, up to 20 minutes prior to the start of flow	Begins 00:00 hours one day and ends 00:00 hours of a following day for no less than 7 days and no more than 27 days
ST Non-Firm Daily NT	Non-Firm	6	No earlier than 2 days before delivery, up to 20 minutes prior to the start of flow	Begins 00:00 hours one day and ends 00:00 hours of a following day for no less than 1 day and no more than 6 days
NF-Hourly NT	Non-Firm	6	Beginning at 10:00 of the WECC Preschedule day, up to the end of the Operating Hour.	Begins XX:00 one day and may continue up to 00:00 hours of the following day for no more than 24 hours
ST Non-Firm Monthly PTP	Non-Firm	5	No earlier than 60 days before delivery, up to 20 minutes prior to the start of flow	Begins 00:00 hours one day and ends 00:00 hours of a following day for no less than 28 days and no more than 364 days
ST Non-Firm Weekly PTP	Non-Firm	4	No earlier than 14 days before delivery, up to 20 minutes prior to the start of flow	Begins 00:00 hours one day and ends 00:00 hours of a following day for no less than 7 days and no more than 27 days
ST Non-Firm Daily PTP	Non-Firm	3	No earlier than 2 days before delivery, up to 20 minutes prior to the start of flow	Begins 00:00 hours one day and ends 00:00 hours of a following day for no

Transmission Service Products	Transmission Service Classification	NERC Priority	Reservation Window	Duration
				less than 1 day and no more than 6 days
NF-Hourly PTP	Non-Firm	2	Beginning at 10:00 of the WECC Preschedule day, up to the end of the Operating Hour	Begins XX:00 one day and may continue up to 00:00 hours of the following day for no more than 24 hours
NF-Secondary Hourly PTP	Non-Firm	1	Beginning at 10:00 of the WECC Preschedule day, to the end of the Operating Hour	Begins XX:00 one day and may continue up to 00:00 hours of the following day for no more than 24 hours

F. Short-Term & Hourly TSR Processes

1. ST NT TSRs:
    a. Monthly, Weekly, and Daily Short-Term Frim and Secondary Non-Firm requests may contain a shaped MW demand.
    b. The shaped MW demand may only be in the increments of service requested:
        i. Monthly NT Service may be shaped in monthly increments.
        ii. Weekly NT Service may be shaped in weekly increments.
        iii. Daily NT Service may be shaped in daily increments.
        iv. Hourly NT Service may be shaped in hourly increments.
    c. A shaped service in the Monthly, Weekly, and Daily increments may not start or end with 0 MW.
    d. A shaped service in Hourly increments may start or end with 0 MW.
2. ST PTP TSRs
    a. Monthly, Weekly, and Daily Short-Term Firm and Non-Firm requests MW demand cannot be shaped.
    b. Hourly requests can be shaped.
        i. 0 MW is a valid demand in a shaped Hourly TSR.
3. Upon submittal, Short-Term Firm and Non-Firm requests are evaluated for ATC and Network Congestion impacts per the Transmission Service Requests Evaluation Business Practice.
4. If BPA has sufficient ATC to make a full offer, the TSR will be given an OASIS status of ACCEPTED.
    a. If the TSR was submitted Preconfirmed, the OASIS status of the TSR will automatically change to CONFIRMED.

   b. If the TSR was not submitted Preconfirmed, the Customer may WITHDRAW or CONFIRM the TSR on OASIS within the specified time limit in the Response Field of the TSR. The time limit can be found in Section O.
      i. If the Customer does not respond within the specified time limit, the OASIS status of the TSR will automatically change to a final state of RETRACTED, and the TSR will receive no further consideration.

5. If BPA does not have sufficient ATC to make a full offer, but has sufficient ATC to make a Partial Service offer per the Partial Service Business Practice, BPA will make a COUNTEROFFER.
   a. Monthly, Weekly, and Daily Short-Term Firm requests will be COUNTEROFFERed in flat Daily increments.
      i. Hourly requests may be COUNTEROFFERed in shaped Hourly increments.
   b. A Customer may REBID capacity once BPA changes a request for PTP or NT Transmission Service to a COUNTEROFFER status on OASIS. See Section P for REBID information.
6. A Customer may submit an annulment request for a CONFIRMED TSR (Reservation) to the Reservation Desk at tblresdesk@bpa.gov with the following information:
   a. AREF of the Reservation to be annulled;
   b. The reason for the annulment; and
   c. Replacement TSR.
7. BPA will be unable to annul a Reservation when:
   a. The Reservation was submitted in error and the Customer is unable to provide a Replacement TSR to prove correction of the error; or
   b. The Reservation has any actions (i.e., Redirects, Resales, or E-Tags) that decrement the Reservation.

G. Service Across Multiple Transmission Systems (SAMTS)

1. Customers may submit a SAMTS TSR on OASIS that is linked to other requests or reservations.
   a. A linked request is referred to as a coordinated request.
   b. A group of requests and/or reservations is referred to as a Coordinated Group (CG).
2. The following Service Types and increments are eligible to be coordinated requests.
   a. LTF-YEARLY PTP
   b. LTF-YEARLY NT
   c. STF-MONTHLY PTP
   d. STF-MONTHLY PTP
   e. STF-MONTHLY NT

   f. NF-MONTHLY PTP
   g. NF-MONTHLY NT
3. Newpoint and Resale requests/reservations are not eligible for coordinated requests.
4. Coordinated requests (CR TSR) in the CG do not have to have the same capacity or duration as the other requests.
5. CR TSRs are queued and evaluated the same as any other request per the TSR Evaluation Business Practice.
6. A CG is not considered valid unless there are at least 2 different Transmission Providers within the CG.
7. Within 24 hours of the coordinated request submittal, the Customer must attest that the CG has a contiguous reservable market path.
   a. BPA will not accept or counteroffer a coordinated request until the Customer meets the attestation requirement
8. The Customer must update the OASIS status from PROPOSED to ATTESTED within 24 hours from the request queue time.
   a. The OASIS status will automatically be updated to INVALID if the Customer does not attest within the 24 hours.
9. After the evaluation of the CR TSR, BPA will the update the OASIS status of the CR TSR to CR_ACCEPTED or CR_COUNTEROFFER if a full or partial offer of service is awardable.
10. BPA can change the OASIS status of the CR TSR to a final state (i.e., INVALID, REFUSED, etc.) at any time per BPA business practices.
11. A Customer may REBID capacity of a coordinated request in a CR_ACCEPTED or CR_COUNTEROFFER state when any request in the CG is denied or the capacity offered is less than the capacity requested.
   a. Refer to the PTP TSR Procedures Business Practice for REBID information.
   b. A Customer cannot rebid if all of the coordinated requests in the CG are CONFIRMED.
12. The Customer has the option to change the status from CR_ACCEPTED or CR_COUNTEROFFER to CONFIRMED prior to knowing the final disposition of all coordinated requests.
13. The Customer must change the TSRs CR Disposition to the type of service being offered (i.e. Full, Partial, None), and enter the CR Disposition Time to notify the Transmission Providers impacted by the coordinated request when a response has been made to any of the requests in the CG
14. The process for offering and confirming service is the same as any other request once the confirmation time limit of the coordinated request is initiated. The confirmation time limit is initiated when all requests in the coordinated group have been placed in CR_ACCEPTED, CR_COUNTEROFFER, or REFUSED status.

H. Third Party Supply of Balancing Reserves TSR Submittal:

1. Reserved on Firm Hourly, Daily, Weekly, or Monthly PTP Transmission Service.
2. Delivered to new Third Party Supply or Self Supply Centroid. A Centroid is a unique scheduling point designated by BPA for delivery of power from an INC Resource to supply balancing to a virtual facility.
3. BPA will not evaluate AFC impacts, nor encumber AFC capacity on BPA's flow-based paths.
4. BPA will evaluate ATC impacts and will encumber ATC capacity on BPA's 1:1 paths.
5. Reservations on BPA's 1:1 paths will be subject to Short Term (ST) Competitions and Preemption.
6. Reservations used for Third Party Supply or Self Supply Balancing Reserves will be charged per the prevailing Firm PTP Rate Schedule.
7. Customers will receive a billing credit for the transmission allocation scheduled for delivery of Third Party Supply or Self Supply of Balancing Reserves.

I. TSR Validation Denial Reasons

1. If a TSR is deemed INVALID, REFUSED or DECLINED, one of the denial reasons in Section I will be stated in the Seller Comment field of the TSR describing why the TSR was denied.

TSR Validation Rules	
Denial Reason (Seller Comments)	**Rule Description**
Insufficient Available Flowgate Capacity (AFC)	Verifies the AFC requested by the TSR is available
Insufficient ATC	Verifies the ATC requested by the TSR for the intertie and/or regional interconnection is available
INVALID Cust, Cont #, or Type	Validates the Customer's contract and the requested type of service is valid for the specified contract
INVALID Deferral Criteria	Verifies that the Deferral TSR is prepared in accordance with the documented Deferral rules
INVALID Matching Criteria	Verifies Competition matching criteria are completed correctly
INVALID POR or POD	Verifies that the POR/POD data on the TSR match BPA TS' PORs and PODs
INVALID POR/Source or POD/Sink (LT only)	Verifies that the TSR Source/Sink (if entered) map to the POR/POD
INVALID Price Entered	Verifies ceiling price entered on TSR
INVALID Redirect Criteria	Verifies that the Redirect TSR is prepared in accordance with the documented Redirect rules
INVALID Renewal Criteria	Verifies that the Renewal TSR is prepared in accordance with the documented Renewal rules
INVALID Resale Criteria	Verifies that the Resale TSR is prepared in accordance with the documented Resale rules

TSR Validation Rules	
Denial Reason (Seller Comments)	**Rule Description**
INVALID Source/Sink	Verifies that the Source/Sink data on the TSR match BPA TS' Source/Sink data
Timing Validation Failed	Verifies service timing rules and verifies WECC Preschedule Calendar and BPA TS' timing rules
3PS, .SS, and SUP TSR Checks	Verifies TSRs with PORs or PODs ending in .3PS, .SS, or .SUP are for Firm Hourly, Daily, Weekly, or Monthly PTP service
Failure in SOA Pilot Rules	Verifies TSRs with PORs or PODs of BPAT.RD; Customer codes participating in Pilot, STF/NF PTP to/from BPAT.RD, only request type of Original

2. BPA TS retains the right to add or change denial reasons without notice.
3. BPA will change the status of the LTF TSR from QUEUED to RECEIVED, once BPA verifies that the information in each of the required TSR fields is valid.

J. TSR Deposits and Non-Refundable Processing Fees

1. The following table delineates which transactions require a TSR Deposit , Processing Fee, and/or supplemental information:

TSR	Deposit Required	$2500 Non-Refundable Processing Fee Required	Supplemental Information Required
Original LTF PTP	Yes	Yes	None
Original LTF NT TSR for a New Network Customer	Yes	Yes	Attestation
LTF NT TSR for service to New Network Load	Yes	Yes	Attestation
NT: Short-Term Firm (STF), Hourly Firm, and Hourly Non-Firm	No	No	Attestation
PTP: Short-Term Firm (STF) Hourly Firm, Hourly Non-Firm	No	No	None
Addition or Modification of a Designated Network Resource (DNR)to an existing NT Service Agreement	No	No	Attestation
Redirect (PTP Firm)	No	No	None
Renewal (Reservation Priority)	No	No	None
Deferral (Extension for Commencement of Service)	No, refer to the Deferral Service Business Practice	No	None

TSR	Deposit Required	$2500 Non-Refundable Processing Fee Required	Supplemental Information Required
	for reservation fee requirements		
Transfer of Transmission Service	No	No	Transfer Template
Resale of Transmission Service	No	No	None
Follow-on TSR	No	No	None

2. The Customer must provide a TSR Deposit and a Non-Refundable Processing Fee when the Customer submits an eligible LTF PTP or NT TSR.
3. LTF PTP TSR Deposit Amount:
    a. The TSR Deposit is equal to the charge for one (1) month of PTP Transmission Service using the applicable monthly rate for PTP Transmission Service in effect at the time the TSR is placed into a QUEUED status on OASIS.
    b. The amount of the TSR Deposit is calculated based on the TSR MWs requested and does not reflect associated Ancillary Services costs or credits for Short Distance Discount (SDD).
    c. All TSR Deposits are non-transferrable and may not be used to cover the TSR Deposit for another TSR.
4. LTF NT TSR Deposit amount:
    a. The TSR Deposit is equal to the charge for one (1) month of NT Transmission Service based on the MWs requested using the NT Rate Base Charge in effect at the time the TSR is placed into a QUEUED status on OASIS
    b. The amount of the TSR Deposit is calculated based on the TSR MWs requested and does not reflect associated Ancillary Services costs or credits for SDD.
5. Non-Refundable Processing Fee:
    a. In addition to a TSR Deposit, when a LTF PTP or NT TSR is submitted on OASIS, the Customer must provide a separate $2500 Non-Refundable Processing Fee to BPA for each TSR.
    b. Please refer to the table in Section J, for a list of TSRs which require the $2500 Non-Refundable Processing Fee.
6. Receipt of TSR Deposit and Non-Refundable Processing Fee:
    a. The TSR Deposit must be received by BPA, or into an Escrow Account, by Close of Business (COB) no later than five (5) Business Days after the OASIS status of the TSR is changed to RECEIVED or the TSR status will be changed to DECLINED and will receive no further consideration.
    b. The Non-Refundable Processing Fee must be received by BPA by COB no later than five (5) Business Days after the OASIS status of the TSR is changed to RECEIVED or the TSR status will be changed to DECLINED and will receive no further consideration.

7. TSR Deposit Funds and Non-Refundable Processing Fee Payment Options
    a. Funds may be deposited either directly with BPA or into an Escrow Account established by the Customer.
    b. The Non-Refundable Processing Fee must be paid directly to BPA and cannot be placed into an Escrow Account.
    c. Customers submitting a TSR Deposit with BPA may include the Non-Refundable Processing Fee with the same payment.
    d. Funds deposited with BPA will not earn interest.
    e. TSR Deposit Funds and Non-Refundable Processing Fees Paid Directly to BPA
        i. TSR Deposit Funds and Non-Refundable Processing Fees must be remitted in accordance with instructions available at the How to Pay BPA webpage. Customers may also contact BPA's Accounts Receivable at (503) 230-5788 or their assigned Transmission Account Executive for instructions.
        ii. When making electronic payments, Customers must include the words "TSR Deposit and/or Non-Refundable Processing Fee" in the memo field.
    f. If a Customer is unable to pay electronically, BPA will allow the submittal of paper checks. Prior to sending a paper check, the Customer must contact BPA's Accounts Receivable at (503) 230-5788, their assigned Transmission Account Executive, or the Fee Administrator at (360) 619-6097 for instructions.
8. Establishing and funding an Escrow Account for TSR Deposits
    a. An escrow agreement must be established in advance of submitting a TSR in order to meet the deposit timelines set out in Section J.
    b. The Customer must acknowledge in the agreement that the Escrow Account is for the benefit of BPA.
    c. An Escrow Account and the related agreement must be with a federally chartered financial institution specified by BPA, which will act as Trustee for the Customer. For a list of institution(s), please contact the Fee Administrator either by telephone at (360) 619-6097 or email at escrow@bpa.gov.
    d. The Customer is solely responsible for the setup costs and administrative fees associated with the Escrow Account.
    e. The Customer must notify the Fee Administrator of the establishment of an Escrow Account.
    f. The Customer must ensure that the Trustee notifies the Fee Administrator of the Trustee's receipt of the deposited funds when deposited.
    g. The Customer must notify the Fee Administrator in writing that the funds have been deposited into the established Escrow Account.
    h. The Customer must place the required Deposit for each TSR into the Escrow Account.
    i. Additional deposits for separate TSR(s) may be made into the existing Escrow Account, but must be separately identified and accounted for in a sub-account.
9. TSR Deposit Treatment

a. For TSRs with a final OASIS status of DECLINED, REFUSED, WITHDRAWN, RETRACTED or CONFIRMED:

i. If the TSR Deposit is paid directly to BPA, the TSR Deposit will be returned within 30 Calendar Days of the status change of the TSR on OASIS.

ii. If the TSR Deposit is in an Escrow Account, BPA will authorize the release of the TSR Deposit with any accrued interest within 30 Calendar Days of the status change of the TSR on OASIS.

b. A pending refund may not be used as the TSR Deposit for a new TSR

c. All TSR Deposits are non-transferable and may not be used as a deposit for a new TSR.

K. Completed Application Criteria

1. A Completed Application for Long Term Firm (LTF) PTP or NT Transmission Service includes:
   a. TSR is in a RECEIVED status on OASIS.
   b. Required deposits paid.
   c. Supplemental information is submitted, if required.
2. Once BPA receives a Completed Application, BPA will change the OASIS status of the TSR to STUDY.
3. Within 30 days of receiving a Completed Application, BPA will respond to the Customer with either an offer of service or a notice that an offer cannot be made at this time.
4. Changes cannot be made to an existing TSR, the TSR must be WITHDRAWN by the Customer.
5. If the Customer submits a new TSR, the queue time will be the time the TSR is QUEUED on OASIS.
6. If the TSR is for conformance, the queue time will be overridden to match the Parent TSR's queue time.

L. Offering Long-Term Firm Transmission Service

1. BPA will offer a Customer a Service Agreement, Exhibit once BPA determines there is:
   a. Sufficient LTF ATC on impacted Network Flowgates, external interconnections, or interties; and
   b. No Subgrid or local area issue(s).
2. If BPA is able to make a full service offer to the Customer:
   a. BPA will tender the Customer a signed original of the Exhibit for PTP or NT Transmission Service.
   b. The Customer must sign (execute) and return the original Exhibit to BPA no later than COB on the 15th Calendar Day from the Date of Tender to the Customer.

c. If the Customer fails to execute and return the original Exhibit within the specified timeframe, BPA will change the OASIS status of the TSR to DECLINED and the TSR will receive no further consideration.

d. If the Customer executes and returns the original Exhibit within the specified timeframe BPA will change the OASIS status of the TSR to ACCEPTED.

   i. If the TSR is Preconfirmed, the TSR status will automatically update to a CONFIRMED status on OASIS.

   ii. If the TSR is not Preconfirmed, the Customer must change the OASIS status of the TSR to CONFIRMED no later than COB on the 15th Calendar Day after the date BPA changed the OASIS status to ACCEPTED; and

   iii. If the Customer does not place the TSR into a CONFIRMED status within the specified time limit, the TSR status will automatically be changed to RETRACTED and the TSR will receive no further consideration.

e. The Customer may REBID a non-Preconfirmed TSR that is in ACCEPTED status. If the Customer submits a REBID, BPA will revise the Exhibit to reflect the reduced capacity due to the REBID and proceed again with Sections L.2.a through L.2.e.

3. If BPA is able to make a Partial Service offer to the Customer:

   a. BPA will tender the Customer a signed original of the Exhibit for PTP or NT Transmission Service.

   b. The Customer must sign (execute) and return the original Exhibit to BPA no later than COB on the 15th Calendar Day from the Date of Tender to the Customer.

   c. If the Customer fails to execute and return the original Exhibit within the specified timeframe, BPA will change the OASIS status of the TSR to DECLINED and the TSR will receive no further consideration.

   d. If the Customer executes and returns the original Exhibit within the specified timeframe BPA will change the OASIS status of the TSR to COUNTEROFFER.

   e. The Customer will have 15 Calendar Days to change the OASIS status of the TSR to REBID, CONFIRMED or WITHDRAWN within the specified time limit, whether or not the TSR has been Preconfirmed.

      i. The Customer may confirm the COUNTEROFFER (See the PTP TSR Procedures Business Practice for counteroffer confirmation process steps); or

      ii. The Customer may rebid the COUNTEROFFER (See Section P of this business practice for information and the PTP TSR Procedures Business Practice for rebid process steps).

4. If the Customer does not respond within the specified time limit, BPA will update the OASIS to DECLINED, for REBID, OASIS will automatically change the status to RETRACTED and the TSR will receive no further consideration.

5. If the termination date of a Partial Service offer that has Reservation Priority is one year or less from its Stop Date, the Customer must submit a Renewal TSR on the same day the Partial Service TSR is CONFIRMED to maintain Reservation Priority.

M. Remainder TSR Submittal due to Partial Service offer

1. A Customer that accepts an offer of Partial Service may submit a Remainder TSR for the portion of the term and/or amount of demand that the Customer initially requested but was not included in the offer of Partial Service (Parent TSR).
2. The Customer must submit a Remainder TSR within five (5) Business Days of the Parent TSR being CONFIRMED on OASIS.
    a. BPA will provide the Customer with the parameters for submitting a Remainder TSR(s) when it tenders an offer of Partial Service for the Parent TSR.
    b. BPA will override the queue time of the Remainder TSR to match the queue time of the Parent TSR once BPA changes the Remainder TSR's status to RECEIVED/STUDY.
        i. Remainder TSR will hold the same queue position as the Parent TSR.
        ii. Remainder TSR will continue to encumber for the capacity not awarded in the Partial Service offer.
    c. If more than one Remainder TSR is needed to retain the remaining Parent TSR capacity, queue order will be determined first by queue time, then by the Remainder TSR AREF with the oldest AREF holding the higher queued position.
3. If the Customer fails to submit a Remainder TSR(s) by the fifth (5^{th}) Business Day, the remaining capacity that is being encumbered for the Parent TSR will be released.
4. Remainder TSRs will be evaluated for per the Transmission Service Reservation Evaluation Business Practice.
5. If the CONFIRMED Parent TSR is a REBID, the Customer may not submit a Remainder TSR for the capacity released by the REBID.

N. REFUSED 60 Calendar Days prior to TSR Stop Date

1. When a pending LTF TSR has a remaining duration of less than 60 Calendar Days (that is, there are less than 60 Calendar Days until the requested service termination date), BPA will update the OASIS status to REFUSED and the TSR will receive no further consideration.
    a. If the pending TSR is associated with BPA's Cluster Study or an Individual Study refer to the TSR Study and Expansion Process Business Practice.

O. TSR Response Timing Requirements

1. BPA follows the TSR response times outlined below:

Class	Increment	Queued Prior to Start	Evaluation Time Limit	Confirmation Time Limit[1] ACCEPTED or COUNTEROFFER[2]	Confirmation Time Limit[1] CR_ACCEPTED or CR_COUNTEROFFER	Transmission Provider Counter Time Limit after REBID[7]
Firm or Non-Firm	Hourly	<1 hour	Best effort	5 minutes	N/A	5 minutes

Class	Increment	Queued Prior to Start	Evaluation Time Limit	Confirmation Time Limit[1] ACCEPTED or COUNTEROFFER[2]	Confirmation Time Limit[1] CR_ACCEPTED or CR_COUNTEROFFER	Transmission Provider Counter Time Limit after REBID[7]
Firm or Non-Firm	Hourly	>1 hour and < 24 hours	30 minutes	5 minutes	N/A	5 minutes
Firm or Non-Firm	Hourly	>24 hours	30 minutes	30 minutes	N/A	10 minutes
Firm	Daily	< 24 Hours	Best Effort	2 Hours[3]	N/A	30 minutes
Firm	Daily	N/A	Best effort, but less than 30 days (iv)	24 Hours[3]	N/A	4 Hours
Non-Firm	Daily	N/A	30 minutes	2 Hours[3]	N/A	10 minutes
Firm	Weekly	< 86 Hours	30 Days	2 Hours[4]	N/A	30 minutes
Firm	Weekly	86 - 110 Hours	30 Days	24 Hours[4]	N/A	4 Hours
Firm	Weekly	N/A	Best effort, but less than 30 days[4]	48 Hours[3]	N/A	4 Hours
Non-Firm	Weekly	N/A	4 Hours	24 Hours[3]	N/A	4 Hours
Firm	Monthly	< 86 Hours	30 Days	2 Hours[4]	N/A	30 minutes
Firm	Monthly	86-110 Hours	30 Days	24 Hours[4]	N/A	4 Hours
Firm	Monthly	110-158 Hours	30 Days	48 Hours[4]	N/A	4 Hours
Firm	Monthly	N/A	Best effort, but less than 30 Days[4]	4 Days[3]	4 Days	4 Hours
Non-Firm	Monthly	N/A	2 Days[6]	24 Hours[3]	24 Hours	4 Hours
Firm	Yearly	< 60 days[5]	30 Days	15 Days	15 Days	4 Hours

[1]Confirmation time limits are not to be interpreted to extend reservation deadlines or to override Preemption deadlines set forth in Section 13.2 of the Tariff and in the Preemption of Short-Term Requests and Reservations Business Practice.
[2]Measurement starts at the time the request is first moved to either Accepted or COUNTEROFFER. The time limit does not reset on subsequent changes of state.
[3]The Confirmation Time Limit or 20 minutes prior to flow of the Preschedule day, whichever is earlier.
[4]Subject to expedited time requirements. BPA TS will make best efforts to respond within 72 hours, or prior to the reservation scheduling deadline, whichever is earlier, to a request for Monthly/Weekly/Daily Firm Service received during period 2-30 days ahead of the service start time.
[5]BPA TS may process TSRs queued < 60 days prior to start if practicable.
[6]Days are defined as calendar days.
[7]Measurement starts at the time the Transmission Customer changes the state to REBID. The time limit does not reset on subsequent changes of state.

P. REBID Offers of Service

1. The Customer may REBID capacity once BPA changes a request for PTP or NT Transmission Service to COUNTEROFFER/CR_COUNTEROFFER or ACCEPTED/CR_ACCEPTED status on OASIS.
    a. A Preconfirmed request that is ACCEPTED/CR_ACCEPTED cannot be rebid.
    b. Refer to the PTP TSR Procedures Business Practice for Rebid submittal information.
2. The Customer must submit a REBID within the specified time limit set forth in the TSR Response Timing Requirements table in Section O.
3. The Customer may REBID capacity multiple times but subsequent REBIDs do not restart the Customer's Confirmation time limit.
4. The Customer can only REBID for capacity that is less than what BPA has COUNTEROFFER/CR_COUNTEROFFER or ACCEPTED/CR_ACCEPTED.
5. BPA will ACCEPT a Customer's REBID within the time limit per the TSR Reservation Response Timing Requirements table in Section O.
6. After BPA ACCEPTs the REBID TSR, a Customer must enter the final capacity into the MW Req field of the TSR and CONFIRM the TSR within the confirmation time limit set forth in the table in Section O.
7. If the Customer REBIDs capacity offered by BPA through a full or Partial Service offer, the Customer cannot submit a Remainder TSR for any of the offered capacity released once the REBID is CONFIRMED.

From: Vierck,Alexandra L (CONTR) - TPCC-TPP-4

Sent: Fri Aug 20 09:03:59 2021

To: cwillenbrock@popud.org; David Hodder:

Cc: Galbraith,Brian T (BPA) - TPCC-TPP-4

Subject: RE: L0494 Ponderay Renewable Fiber and Blockchain Project LLIR Kickoff Meeting Minutes DRAFT

Importance: Normal

Attachments: LLIP_Kickoff Meeting Meeting Minutes DRAFT_L0494.docx

Good morning,

Please see the attached Kickoff Meeting Minutes for L0494 and make any edits as needed. Feel free to forward to those in attendance that are not reflected on this email. Forward back to me by **1:00pm Wednesday August 25th** for processing. Failure to respond will be considered approval of the notes as written.

Thank you,

Alexandra (Murphy) Vierck
(ContR)

Program Support Specialist

Customer Service Engineering, Contract Administration

Bonneville Power Administration
bpa.gov | P 360-418-2551

-----Original Appointment-----
From: Vierck,Alexandra L (CONTR) - TPCC-TPP-4 **On Behalf Of** Galbraith,Brian T (BPA) - TPCC-TPP-4
Sent: Monday, July 19, 2021 09:34
To: Harris,Adelle L (TFE)(BPA) - TSES-TPP-2; Lacambra,Jared M (BPA) - TPCF-MEAD-GOB; Wick,Martin A (BPA) - TPCV-TPP-4; Cosola,Anna M (BPA) - TPCC-TPP-4; Vierck,Alexandra L (CONTR) - TPCC-TPP-4; Huntington,Joseph J (TFE)(BPA) - TSES-TPP-2; Mendez-Sierra,Akira M (BPA) - TPPC-OPP-3; Ngoy,Prachthearat (BPA) - TPMC-OPP-3; cwillenbrock@popud.org; David Hodder:
Subject: L0494 Ponderay Renewable Fiber and Blockchain Project LLIR Kickoff Meeting
When: Wednesday, August 18, 2021 08:30-09:30 (UTC-08:00) Pacific Time (US & Canada).
Where: Phone Conference: (b)(6) [redacted]

Good morning,

Please see attached agenda for the Line and Load Kickoff meeting regarding L0494 occurring August 18th, 2021 from 8:30 to 9:30am.

For those of you that are calling in, the phone bridge information is listed in the attached agenda as well as here below:

Telephone Bridge

(b)(6) [redacted]

Thank you.

Date	August 18th, 2021	**Customer Name**	Pend Oreille PUD
Time	8:30 to 9:30am	**Project**	L0494 Ponderay Renewable Fiber and Blockchain
Room	Phone Conference		
Phone Bridge/Call-In #	509-822-4485 Call ID is: [redacted]		

Attendees	**Pend Oreille PUD**	**BPA**
	Colin Willenbrock	Adelle Harris, Account Executive
	David Hodder	Jared Lacambra (host), Customer Service Engineer
	Todd Baron	Martin Wick, L&L Lead
	Dave with Allrise	Anna Cosola, GI Administrator
	Steve Wood	Brian Galbraith, L&L Administrator
		Joseph Huntington, Account Services
		Akira Sierra-Mendez, Planning
		Prachthearat Ngoy, Planning
		~~Murphy Vierck, Program Support~~

Kickoff Meeting Agenda

Topic	SME	Notes
Welcome / Introductions - All	N/A	
Project Description	Customer	Ponderay Industries/Ponderay Data will be operating the project. POPUD wants to restart the mill as it was operated previously with same product mix at 85 MW. Additionally, a 215 MW data center to start at beginning of 4th qtr. +/- 85 MW initially and have data center operational by January bringing load up to 115 MW. Add 25 additional MW per quarter until 300 MW is reached. Longer term the load may change depending on market conditions. Paper market is strong right now. Sense of urgency from POPUD customers. Load will mostly likely be behind existing meter.
Identify Issues	BAA, Planning, Communications, Environment, Energization Date	POPUD wanting to bifurcate study. Re-energizing mill is most important. BPA planning feels a full study is necessary regardless. Martin suggests breaking up into 2 separate study requests, studying for 85 MW mill load first. Akira thinks it'll be easier to keep together. Load went dark. Removed from WECC base case. System assessments are done each year. System assessment last year did not include mill load. It's unknown if the 85 MW will have an impact. Study must be completed. Akira says one report would be the better option.

		On Power side, BPA has to commit to loads to be served by October per Dave H with POPUD. POPUD hoping for at least 10-20 MW by 10/1. Skip FES, start with SIS. Load will be in Avista BAA. Might be possible for a milestone report out but not sure how long it will take. 10/1 is very aggressive as it's 32 business days away. Site currently is disconnected so discussions with field personnel will need to happen because of relays and other equipment. Using third party for any aspect of the study process as POPUD suggested will not buy time and will actually take longer.

Next Steps

Action	Due Date
BPA will tender an Interconnection System Impact Study Agreement	LLISIS will be tendered. Deposit $30k. 60 day from tender date.
BPA will tender a NEPA Study Agreement	NEPA process will be minimal.

From: Normandeau,Mike (BPA) - PSE-RONAN

Sent: Tue Aug 24 08:45:41 2021

To: April Owen

Subject: RE: Pend Oreille FY2022 Forecast Breakout 2021-8-18.xlsx

Importance: Normal

Give you a call this afternoon. Out the remainder of the morning.

We'll figure it out.

Mike

From: April Owen <aowen@popud.org>
Sent: Tuesday, August 24, 2021 9:10 AM
To: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>; Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>
Subject: [EXTERNAL] RE: Pend Oreille FY2022 Forecast Breakout 2021-8-18.xlsx

Hi Mike,

Give me a call when you get a chance – Transmission has said that it will be at least 3 months before they will finish their studies for the mill load, and longer for any cryptocurrency load. I'm curious as to how a mid-year start affects anything, if at all. By my calculations I don't think it affects total NR allocation, but I don't know if it affects monthly deliveries at all.

I'm around until 8:45 (PST), then available from noon on for a call.

Thanks!

April.

April Owen
Director, Audit, Finance & Power Supply

Public Utility District No. 1 of Pend Oreille County
P.O. Box 190 | 130 N. Washington | Newport, WA 99156
509.447.9321 | aowen@popud.org | www.popud.org

From: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Sent: Monday, August 23, 2021 3:12 PM
To: Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>; April Owen <aowen@popud.org>
Subject: RE: Pend Oreille FY2022 Forecast Breakout 2021-8-18.xlsx

Hi April,

Curious to know if you have any concerns about Andres' revised forecast? We'd like to run it through the Net Requirements process to see how it modifies the annual amount. No pressure. Just want to keep the process moving along. Let us know if you want to go over the numbers.

Thanks.

Mike

From: Cicarelli,Andres A (BPA) - KSL-BELL-1 <aacicarelli@bpa.gov>
Sent: Friday, August 20, 2021 1:09 PM
To: April Owen <aowen@popud.org>
Cc: Normandeau,Mike (BPA) - PSE-RONAN <mrnormandeau@bpa.gov>
Subject: Pend Oreille FY2022 Forecast Breakout 2021-8-18.xlsx

Hi April,

Attached is the revised FY2022 forecast for Pend Oreille based on the PUD's comments. Any thoughts?

Talk to you later,

Andres

Pend Oreille County Public Utility District #1