

Appendix A2: Annual Demand Forecast (Dth) – Expected Case

Region/Sector	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2025 / 2026	2026 / 2027	2027 / 2028
BC Lower Mainland & Van. Island	160,878,749	164,332,617	166,866,335	169,223,755	171,787,497	174,443,949	177,005,620	179,614,681	182,223,743	184,880,195
Residential	57,516,965	58,594,374	59,643,729	60,683,625	61,739,764	62,803,428	63,867,092	64,930,755	65,994,419	67,058,083
Commercial	46,539,919	47,857,480	49,194,573	50,551,235	51,863,988	53,157,864	54,451,739	55,745,614	57,039,489	58,333,365
Industrial	39,524,206	40,535,712	40,730,373	40,691,236	40,886,084	41,137,607	41,389,129	41,640,652	41,892,174	42,143,697
Power Generation	17,297,660	17,345,051	17,297,660	17,297,660	17,297,660	17,345,051	17,297,660	17,297,660	17,297,660	17,345,051
W. Washington	253,869,360	253,252,567	249,992,675	278,695,181	281,414,130	282,359,562	283,612,423	287,120,729	287,177,236	292,654,063
Residential	76,920,544	78,269,917	78,824,742	79,281,424	79,821,182	80,534,698	80,440,789	80,702,574	81,074,634	81,753,876
Commercial	46,190,785	46,520,469	46,343,340	46,464,730	46,675,685	46,937,123	46,888,038	46,989,177	47,127,016	47,402,681
Industrial	80,454,539	80,639,818	80,614,464	80,847,922	81,159,249	81,417,523	81,609,167	81,879,130	82,163,437	82,488,037
Power Generation	50,303,492	47,822,364	44,210,128	72,101,104	73,758,014	73,470,217	74,674,430	77,549,849	76,812,149	81,009,470
W. Oregon	135,939,776	136,989,980	137,446,192	138,165,251	138,741,265	139,572,341	139,878,181	140,415,631	140,893,096	141,556,982
Residential	39,666,410	40,085,354	40,149,392	40,340,255	40,514,363	40,826,039	40,784,733	40,873,315	40,924,811	41,093,775
Commercial	25,261,026	25,617,621	25,914,959	26,369,698	26,819,998	27,352,945	27,667,083	28,068,311	28,458,016	28,947,578
Industrial	50,055,115	50,329,780	50,424,614	50,498,072	50,449,679	50,436,132	50,469,139	50,516,779	50,553,042	50,558,403
Power Generation	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226
BC Interior	62,845,963	63,300,981	63,843,275	64,278,198	64,755,068	65,251,167	65,747,386	66,243,605	66,739,824	67,236,044
Residential	18,756,010	19,103,459	19,434,862	19,759,705	20,094,180	20,433,238	20,772,296	21,111,354	21,450,412	21,789,470
Commercial	11,221,119	11,301,993	11,377,119	11,446,208	11,519,960	11,596,116	11,672,272	11,748,428	11,824,583	11,900,739
Industrial	32,868,835	32,895,529	33,031,293	33,072,285	33,140,928	33,221,813	33,302,819	33,383,824	33,464,829	33,545,835
Power Generation	-	-	-	-	-	-	-	-	-	-
E. Washington & N. Idaho	81,813,126	82,261,139	83,190,567	83,507,440	84,094,629	84,594,964	85,501,715	86,389,561	86,857,674	87,229,290
Residential	20,917,564	21,219,121	21,366,205	21,499,417	21,592,249	21,917,036	21,913,818	21,896,308	21,870,977	21,907,080
Commercial	17,472,578	17,613,030	17,683,051	17,746,927	17,813,269	17,918,132	17,925,284	17,939,547	17,970,669	18,046,214
Industrial	29,252,492	29,621,943	29,961,491	30,278,720	30,603,436	30,938,803	31,221,460	31,498,733	31,778,986	32,068,927
Power Generation	14,170,492	13,807,045	14,179,820	13,982,375	14,085,675	13,820,993	14,441,153	15,054,973	15,237,042	15,207,070
E. Oregon & Medford	125,255,926	124,088,039	125,865,236	124,322,868	124,375,074	123,297,309	127,080,681	131,317,790	131,822,276	132,047,021
Residential	8,008,170	8,149,878	8,279,760	8,372,129	8,498,570	8,643,930	8,771,904	8,878,423	9,007,339	9,155,194
Commercial	5,630,115	5,697,269	5,756,640	5,791,407	5,845,022	5,907,764	5,960,578	5,995,648	6,043,283	6,101,703
Industrial	10,654,653	10,753,582	10,855,012	10,950,321	11,046,164	11,143,948	11,250,984	11,359,030	11,470,099	11,582,597
Power Generation	100,962,988	99,487,311	100,973,824	99,209,011	98,985,319	97,601,666	101,097,215	105,084,689	105,301,555	105,207,527
S. Idaho	117,152,970	119,269,760	120,360,052	121,985,799	123,596,741	125,039,069	126,598,741	128,136,389	129,649,604	131,186,449
Residential	42,248,797	43,602,806	44,611,049	45,776,461	46,952,348	48,068,863	49,221,467	50,369,802	51,508,954	52,655,651
Commercial	4,316,185	4,410,965	4,459,947	4,532,327	4,604,375	4,668,845	4,738,477	4,807,194	4,874,801	4,943,452
Industrial	59,587,989	60,255,989	60,289,055	60,677,011	61,040,018	61,301,361	61,638,797	61,959,392	62,265,850	62,587,346
Power Generation	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000
PNW Annual Demand - Base	937,755,871	943,495,083	947,564,331	980,178,492	988,764,405	994,558,360	1,005,424,748	1,019,238,387	1,025,363,453	1,036,790,045
Residential	264,034,459	269,024,908	272,309,739	275,713,016	279,212,656	283,227,232	285,772,098	288,762,532	291,831,547	295,413,128
Commercial	156,631,726	159,018,827	160,729,631	162,902,532	165,142,297	167,538,789	169,303,471	171,293,918	173,337,857	175,675,732
Industrial	302,397,827	305,032,352	305,906,302	307,015,567	308,325,558	309,597,187	310,881,495	312,237,541	313,588,417	314,974,841
Power Generation	214,691,859	210,418,996	208,618,658	234,547,376	236,083,894	234,195,153	239,467,684	246,944,396	246,605,632	250,726,344

Appendix A3: Annual Demand Forecast (Dth) – High Case

Region/Sector	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2025 / 2026	2026 / 2027	2027 / 2028
BC Lower Mainland & Van. Island	163,105,470	168,504,163	172,700,190	176,788,797	181,177,753	185,747,545	190,310,208	195,009,538	199,799,799	204,730,066
Residential	57,945,213	59,427,366	60,813,633	62,206,946	63,633,852	65,085,704	66,555,023	68,042,014	69,546,886	71,069,850
Commercial	47,584,173	49,879,625	52,055,623	54,307,080	56,566,882	58,862,185	61,214,146	63,623,959	66,092,840	68,622,030
Industrial	40,278,423	41,852,122	42,533,275	42,977,110	43,679,359	44,454,606	45,243,379	46,045,905	46,862,413	47,693,135
Power Generation	17,297,660	17,345,051	17,297,660	17,297,660	17,297,660	17,345,051	17,297,660	17,297,660	17,297,660	17,345,051
W. Washington	308,207,069	312,399,816	315,883,820	317,056,528	323,459,511	328,288,952	331,218,467	337,077,330	337,726,351	343,269,530
Residential	84,723,391	86,989,442	87,868,723	88,693,824	89,934,039	91,959,327	92,213,528	93,520,546	95,283,790	96,575,349
Commercial	52,131,745	53,555,503	54,008,385	54,557,099	55,449,304	56,678,582	56,857,671	57,808,592	58,993,662	59,970,429
Industrial	86,387,535	87,159,074	87,297,751	87,711,557	88,203,463	88,739,845	88,882,146	89,409,948	90,002,245	90,459,585
Power Generation	84,964,399	84,695,797	86,708,962	86,094,048	89,872,705	90,911,198	93,265,122	96,338,244	93,446,655	96,264,167
W. Oregon	136,682,633	152,208,392	155,120,446	157,193,726	159,094,339	161,201,046	162,781,834	164,557,452	166,251,477	168,103,781
Residential	39,725,203	45,930,053	46,316,304	46,955,465	47,602,753	48,400,995	48,878,566	49,492,701	50,080,375	50,790,260
Commercial	25,308,474	27,911,245	28,262,189	28,855,877	29,439,683	30,092,094	30,529,078	31,042,111	31,538,668	32,126,307
Industrial	50,691,730	57,409,868	59,584,727	60,425,158	61,094,678	61,750,732	62,416,964	63,065,414	63,675,208	64,229,988
Power Generation	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226
BC Interior	63,960,439	65,309,461	66,610,940	67,817,833	69,087,299	70,395,928	71,724,005	73,071,688	74,439,268	75,827,037
Residential	18,931,201	19,442,643	19,908,481	20,372,792	20,852,325	21,341,994	21,837,149	22,337,839	22,844,115	23,356,029
Commercial	11,493,347	11,820,838	12,096,918	12,372,385	12,658,839	12,954,048	13,255,569	13,563,532	13,878,066	14,199,305
Industrial	33,535,891	34,045,981	34,605,541	35,072,656	35,576,135	36,099,886	36,631,287	37,170,318	37,717,087	38,271,704
Power Generation	-	-	-	-	-	-	-	-	-	-
E. Washington & N. Idaho	85,633,509	87,387,410	88,404,466	88,770,141	90,295,857	90,937,631	92,201,616	93,004,122	93,624,925	94,402,575
Residential	21,335,609	21,738,376	21,988,500	22,218,339	22,414,755	22,827,897	22,908,869	22,975,544	23,036,079	23,161,134
Commercial	17,828,031	18,026,646	18,155,373	18,272,151	18,394,963	18,548,571	18,601,537	18,660,905	18,738,126	18,861,283
Industrial	30,143,635	30,540,165	30,906,709	31,251,069	31,603,369	31,966,861	32,276,615	32,581,774	32,890,135	33,208,790
Power Generation	16,326,234	17,082,223	17,353,883	17,028,582	17,882,771	17,594,301	18,414,596	18,785,899	18,960,586	19,171,368
E. Oregon & Medford	136,167,280	144,542,358	145,786,191	143,340,074	148,402,662	147,653,158	152,338,380	155,020,834	155,237,722	156,740,528
Residential	8,268,427	8,429,642	8,579,898	8,707,720	8,858,397	9,024,533	9,172,589	9,297,960	9,447,098	9,616,532
Commercial	5,809,353	5,887,324	5,957,975	6,010,814	6,077,238	6,150,994	6,214,501	6,259,246	6,317,320	6,386,941
Industrial	11,000,804	11,116,749	11,235,802	11,348,818	11,462,434	11,578,315	11,703,152	11,829,181	11,958,390	12,089,435
Power Generation	111,088,697	119,108,643	120,012,516	117,272,721	122,004,593	120,899,317	125,248,139	127,634,447	127,514,915	128,647,620
S. Idaho	121,231,886	124,685,435	126,565,554	129,928,973	132,828,002	135,542,191	138,534,403	141,402,880	144,261,173	147,167,500
Residential	43,624,975	45,672,955	47,342,472	49,177,532	51,028,384	52,813,527	54,637,212	56,457,106	58,266,679	60,084,397
Commercial	4,408,122	4,544,492	4,631,094	4,742,852	4,854,429	4,957,742	5,066,625	5,174,549	5,281,255	5,389,093
Industrial	62,198,789	63,467,989	63,591,989	65,008,589	65,945,189	66,770,922	67,830,566	68,771,226	69,713,238	70,694,010
Power Generation	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000
PNW Annual Demand - Base	1,014,988,286	1,055,037,036	1,071,071,608	1,080,896,071	1,104,345,423	1,119,766,452	1,139,108,913	1,159,143,845	1,171,340,716	1,190,241,018
Residential	274,554,020	287,630,476	292,818,010	298,332,619	304,324,505	311,453,977	316,202,936	322,123,709	328,505,021	334,653,552
Commercial	164,563,244	171,625,673	175,167,557	179,118,258	183,441,338	188,244,216	191,739,126	196,132,894	200,839,937	205,555,388
Industrial	314,236,806	325,591,948	329,755,793	333,794,958	337,564,625	341,361,166	344,984,109	348,873,766	352,818,715	356,646,647
Power Generation	261,634,215	270,188,940	273,330,247	269,650,236	279,014,955	278,707,093	286,182,743	292,013,476	289,177,042	293,385,431

Appendix A4: Annual Demand Forecast (Dth) – Low Case

Region/Sector	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2025 / 2026	2026 / 2027	2027 / 2028
BC Lower Mainland & Van. Island	156,849,364	157,054,444	156,944,154	156,681,590	156,582,034	156,553,686	156,416,857	156,314,174	156,198,682	156,118,191
Residential	56,708,523	57,037,898	57,485,079	57,908,057	58,331,596	58,747,464	59,148,690	59,535,534	59,908,248	60,267,083
Commercial	45,450,554	45,778,556	46,305,188	46,825,637	47,279,890	47,693,199	48,084,516	48,454,511	48,803,838	49,133,133
Industrial	37,392,628	36,892,939	35,856,228	34,650,236	33,672,888	32,767,972	31,885,990	31,026,469	30,188,936	29,372,924
Power Generation	17,297,660	17,345,051	17,297,660	17,297,660	17,297,660	17,345,051	17,297,660	17,297,660	17,297,660	17,345,051
W. Washington	221,786,072	222,821,300	223,998,269	223,880,039	224,065,723	225,468,574	227,429,865	229,545,703	230,193,574	231,358,215
Residential	67,551,347	68,339,136	68,970,989	68,892,674	68,925,136	69,627,912	70,038,914	70,184,412	70,020,575	70,640,127
Commercial	41,341,723	41,836,324	42,258,373	42,275,862	42,487,352	42,998,774	43,425,440	43,652,680	43,716,564	44,400,120
Industrial	73,821,468	73,679,507	73,756,828	73,854,042	74,026,976	74,264,400	74,563,157	74,743,259	74,871,894	75,277,055
Power Generation	39,071,535	38,966,334	39,012,079	38,857,462	38,626,259	38,577,487	39,402,354	40,965,352	41,584,540	41,040,913
W. Oregon	136,351,961	137,840,983	135,724,719	135,231,976	134,611,640	134,245,482	133,427,771	132,829,499	132,180,529	131,692,056
Residential	39,596,745	45,644,812	45,471,952	45,275,757	45,025,528	44,866,786	44,370,996	43,964,606	43,502,012	43,113,732
Commercial	25,200,212	27,743,744	27,988,862	28,385,485	28,781,119	29,256,294	29,533,978	29,894,606	30,244,841	30,688,054
Industrial	50,597,778	43,495,201	41,306,679	40,613,508	39,847,768	39,165,176	38,565,572	38,013,061	37,476,450	36,933,045
Power Generation	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226	20,957,226
BC Interior	60,437,158	59,092,079	58,166,074	57,169,470	56,233,132	55,335,910	54,459,969	53,604,556	52,769,043	51,952,823
Residential	18,356,055	18,335,670	18,373,989	18,400,917	18,431,676	18,461,558	18,486,396	18,506,335	18,521,517	18,532,080
Commercial	10,985,394	10,858,278	10,770,890	10,678,106	10,589,981	10,504,355	10,418,971	10,333,842	10,248,978	10,164,388
Industrial	31,095,709	29,898,131	29,021,195	28,090,448	27,211,474	26,369,998	25,554,601	24,764,378	23,998,548	23,256,355
Power Generation	-	-	-	-	-	-	-	-	-	-
E. Washington & N. Idaho	77,670,145	75,344,998	75,760,315	75,695,609	76,048,495	76,445,042	76,992,023	77,559,006	77,803,587	77,775,792
Residential	20,498,823	20,704,688	20,761,041	20,807,386	20,814,350	21,041,339	20,962,225	20,868,309	20,765,277	20,720,770
Commercial	17,119,520	17,207,560	17,227,922	17,244,472	17,264,155	17,316,972	17,282,828	17,256,730	17,246,774	17,280,373
Industrial	28,354,627	28,699,780	29,016,594	29,310,846	29,612,289	29,923,747	30,183,253	30,436,741	30,692,890	30,958,271
Power Generation	11,697,175	8,732,970	8,754,759	8,332,905	8,357,702	8,162,984	8,563,717	8,997,225	9,098,646	8,816,378
E. Oregon & Medford	115,223,022	94,154,928	92,890,176	89,328,906	87,971,321	86,963,271	89,868,327	93,243,534	93,014,477	91,613,374
Residential	7,748,264	7,865,349	7,970,553	8,044,849	8,150,449	8,272,937	8,381,163	8,469,888	8,579,730	8,707,320
Commercial	5,451,094	5,505,026	5,551,126	5,576,160	5,618,643	5,669,449	5,711,807	5,737,787	5,775,622	5,823,571
Industrial	10,306,623	10,387,809	10,474,203	10,557,702	10,642,835	10,730,431	10,827,954	10,926,549	11,028,874	11,132,499
Power Generation	91,717,041	70,396,744	68,894,294	65,150,194	63,559,394	62,290,454	64,947,404	68,109,310	67,630,250	65,949,984
S. Idaho	114,839,388	115,705,477	116,235,245	116,924,476	117,619,506	118,257,515	118,931,605	119,600,648	120,261,029	120,928,867
Residential	41,193,204	42,054,898	42,567,760	43,239,121	43,921,094	44,543,159	45,201,625	45,855,793	46,500,693	47,153,204
Commercial	4,238,406	4,296,240	4,314,799	4,352,688	4,390,781	4,422,295	4,458,127	4,493,274	4,527,438	4,562,485
Industrial	58,407,779	58,354,339	58,352,685	58,332,667	58,307,630	58,292,061	58,271,853	58,251,581	58,232,898	58,213,178
Power Generation	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000
PNW Annual Demand - Base	883,157,110	862,014,207	859,718,951	854,912,067	853,131,852	853,269,479	857,526,417	862,697,120	862,420,920	861,439,319
Residential	251,652,961	259,982,451	261,601,362	262,568,762	263,599,829	265,561,154	266,590,009	267,384,878	267,798,053	269,134,317
Commercial	149,786,903	153,225,729	154,417,160	155,338,409	156,411,921	157,861,339	158,915,666	159,823,431	160,564,054	162,052,125
Industrial	289,976,611	281,407,703	277,784,411	275,409,449	273,321,861	271,513,785	269,852,381	268,162,039	266,490,490	265,143,326
Power Generation	191,740,636	167,398,325	165,916,018	161,595,447	159,798,241	158,333,201	162,168,361	167,326,773	167,568,323	165,109,551

Appendix A5: Peak Day Firm Demand/Supply Balance (Dth) – Expected Case

DEMAND (Region/Sector)	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025	2025 / 2026	2026 / 2027	2027 / 2028
BC Lower Main & Van. Island (I-5 Corridor)	1,200,323	1,225,620	1,248,294	1,270,404	1,293,059	1,315,802	1,338,544	1,361,287	1,384,030	1,406,773
Residential	539,428	549,278	558,867	568,366	578,017	587,738	597,459	607,180	616,901	626,622
Commercial	448,629	460,950	473,438	486,090	498,336	510,408	522,480	534,552	546,624	558,695
Industrial	164,875	168,001	168,598	168,556	169,315	170,265	171,215	172,165	173,114	174,064
Power Generation	47,391	47,391	47,391	47,391	47,391	47,391	47,391	47,391	47,391	47,391
W. Washington (I-5 Corridor)	1,827,586	1,841,329	1,862,639	1,873,520	1,882,279	1,892,228	1,899,941	1,904,667	1,912,690	1,920,985
Residential	864,109	876,203	892,515	898,764	902,656	906,797	910,499	911,585	914,570	917,965
Commercial	359,794	360,794	365,492	369,531	373,264	377,643	380,778	383,442	387,238	391,024
Industrial	221,329	221,979	222,279	222,870	224,004	225,434	226,309	227,285	228,528	229,642
Power Generation	382,354	382,354	382,354	382,354	382,354	382,354	382,354	382,354	382,354	382,354
W. Oregon (I-5 Corridor)	1,180,725	1,187,869	1,194,164	1,200,666	1,207,598	1,214,783	1,221,960	1,229,185	1,236,302	1,243,207
Residential	583,403	587,235	590,055	592,875	596,122	599,475	602,710	605,892	608,884	611,579
Commercial	315,767	318,680	322,163	325,795	329,628	333,509	337,400	341,380	345,463	349,675
Industrial	69,250	69,649	69,641	69,691	69,543	69,494	69,545	69,607	69,649	69,648
Power Generation	212,305	212,305	212,305	212,305	212,305	212,305	212,305	212,305	212,305	212,305
BC Interior	422,920	427,683	432,454	436,843	441,480	446,231	450,981	455,732	460,483	465,233
Residential	202,120	205,864	209,435	212,936	216,540	220,194	223,848	227,501	231,155	234,809
Commercial	135,669	136,605	137,467	138,252	139,097	139,973	140,848	141,724	142,600	143,475
Industrial	85,131	85,214	85,552	85,655	85,843	86,064	86,285	86,506	86,728	86,949
Power Generation	0	0	0	0	0	0	0	0	0	0
E. Washington & N. Idaho	600,261	604,895	609,323	613,624	617,604	622,539	625,957	629,810	633,575	637,592
Residential	227,263	230,083	232,717	235,210	237,447	240,494	242,304	244,351	246,313	248,433
Commercial	148,255	149,221	150,164	151,113	151,987	152,992	153,716	154,622	155,516	156,492
Industrial	92,708	93,557	94,407	95,267	96,135	97,018	97,902	98,802	99,712	100,633
Power Generation	132,035	132,035	132,035	132,035	132,035	132,035	132,035	132,035	132,035	132,035
E. Oregon & Medford (Non I-5 Supply)	673,156	674,498	675,824	676,936	678,229	679,565	680,798	682,108	683,418	684,756
Residential	79,261	80,001	80,736	81,321	82,028	82,756	83,415	84,123	84,829	85,550
Commercial	50,819	51,225	51,616	51,942	52,326	52,730	53,100	53,496	53,893	54,302
Industrial	36,361	36,558	36,758	36,959	37,161	37,365	37,569	37,775	37,982	38,190
Power Generation	506,714	506,714	506,714	506,714	506,714	506,714	506,714	506,714	506,714	506,714
S. Idaho	671,401	684,218	695,236	706,080	716,973	727,892	738,777	749,676	760,577	771,471
Residential	376,978	387,451	398,176	408,699	419,273	429,880	440,448	451,031	461,617	472,196
Commercial	18,788	19,132	19,425	19,747	20,066	20,377	20,694	21,010	21,325	21,641
Industrial	142,135	144,135	144,135	144,135	144,135	144,135	144,135	144,135	144,135	144,135
Power Generation	133,500	133,500	133,500	133,500	133,500	133,500	133,500	133,500	133,500	133,500
Total Design (Peak) Day Demand	6,576,373	6,646,113	6,717,934	6,778,072	6,837,222	6,899,038	6,956,959	7,012,464	7,071,074	7,130,019
Total Supply*	6,477,561	6,890,121	6,890,121	7,006,621	7,006,621	7,036,621	7,036,621	7,036,621	7,036,621	7,052,621
Supply Surplus/(Shortfall)	(98,812)	244,008	172,187	228,549	169,399	137,583	79,662	24,157	(34,453)	(77,398)

*T-South to Huntingdon derated to 1.4 Dth/day for 2018-19 only, due to 10/09/18 rupture