

**EXH. JJJ-4
DOCKETS UE-240004/UG-240005
2024 PSE GENERAL RATE CASE
WITNESS: JOSHUA J. JACOBS**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

**Docket UE-240004
Docket UG-240005**

**THIRD EXHIBIT (NONCONFIDENTIAL) TO THE
PREFILED DIRECT TESTIMONY OF**

JOSHUA J. JACOBS

ON BEHALF OF PUGET SOUND ENERGY

MARCH 4, 2024

F23 Final Electric Demand Forecast

Customers

Year	Month	Customers							
		Residential	Commercial - Core	Commercial - EV	Industrial	Streetlight	Resale	Total	Transport Sch 449/459
2023		1,077,135	134,382	103	3,195	8,185	8	1,223,008	15
2024		1,087,865	135,767	323	3,174	8,333	8	1,235,470	15
2025		1,099,285	137,260	599	3,149	8,485	8	1,248,785	15
2026		1,110,982	138,736	960	3,130	8,636	8	1,262,451	15
2027		1,122,589	140,211	1,424	3,112	8,788	8	1,276,132	15
2028		1,134,172	141,695	1,996	3,094	8,941	8	1,289,906	15
2023	1	1,072,470	133,671	16	3,200	8,113	8	1,217,478	15
2023	2	1,073,376	133,756	32	3,199	8,129	8	1,218,500	15
2023	3	1,074,502	133,848	48	3,195	8,152	8	1,219,753	15
2023	4	1,075,087	134,060	64	3,198	8,160	8	1,220,577	15
2023	5	1,075,655	134,314	79	3,198	8,171	8	1,221,425	15
2023	6	1,076,298	134,455	95	3,197	8,182	8	1,222,235	15
2023	7	1,076,694	134,602	111	3,196	8,192	8	1,222,803	15
2023	8	1,077,684	134,714	127	3,194	8,202	8	1,223,929	15
2023	9	1,078,909	134,745	143	3,193	8,212	8	1,225,210	15
2023	10	1,080,279	134,773	159	3,191	8,222	8	1,226,632	15
2023	11	1,081,724	134,803	175	3,189	8,235	8	1,228,134	15
2023	12	1,082,937	134,842	191	3,187	8,249	8	1,229,414	15
2024	1	1,083,813	134,876	211	3,185	8,262	8	1,230,355	15
2024	2	1,084,494	135,094	231	3,183	8,275	8	1,231,285	15
2024	3	1,085,190	135,224	252	3,181	8,288	8	1,232,143	15
2024	4	1,085,584	135,425	272	3,179	8,301	8	1,232,769	15
2024	5	1,086,152	135,644	293	3,177	8,314	8	1,233,588	15
2024	6	1,086,800	135,815	313	3,175	8,327	8	1,234,438	15
2024	7	1,087,221	135,993	333	3,173	8,340	8	1,235,068	15
2024	8	1,088,256	136,129	354	3,171	8,352	8	1,236,270	15
2024	9	1,089,541	136,183	374	3,168	8,365	8	1,237,639	15
2024	10	1,090,986	136,230	394	3,166	8,378	8	1,239,162	15
2024	11	1,092,518	136,272	415	3,163	8,391	8	1,240,767	15
2024	12	1,093,823	136,322	435	3,161	8,403	8	1,242,152	15
2025	1	1,094,797	136,362	460	3,159	8,416	8	1,243,202	15
2025	2	1,095,577	136,584	486	3,157	8,429	8	1,244,241	15
2025	3	1,096,369	136,718	511	3,155	8,441	8	1,245,202	15
2025	4	1,096,856	136,921	536	3,153	8,454	8	1,245,928	15
2025	5	1,097,510	137,142	561	3,151	8,466	8	1,246,838	15
2025	6	1,098,236	137,313	586	3,149	8,479	8	1,247,771	15
2025	7	1,098,727	137,489	612	3,148	8,491	8	1,248,475	15
2025	8	1,099,821	137,624	637	3,146	8,504	8	1,249,740	15
2025	9	1,101,155	137,675	662	3,144	8,516	8	1,251,160	15
2025	10	1,102,640	137,720	687	3,143	8,529	8	1,252,727	15
2025	11	1,104,201	137,761	713	3,141	8,542	8	1,254,366	15
2025	12	1,105,528	137,808	738	3,139	8,554	8	1,255,775	15
2026	1	1,106,516	137,846	772	3,138	8,567	8	1,256,847	15
2026	2	1,107,302	138,067	806	3,136	8,579	8	1,257,898	15
2026	3	1,108,096	138,199	840	3,135	8,592	8	1,258,870	15
2026	4	1,108,580	138,399	874	3,133	8,604	8	1,259,598	15
2026	5	1,109,228	138,617	909	3,132	8,617	8	1,260,511	15
2026	6	1,109,946	138,787	943	3,130	8,630	8	1,261,444	15
2026	7	1,110,427	138,963	977	3,129	8,642	8	1,262,146	15
2026	8	1,111,510	139,097	1,011	3,127	8,655	8	1,263,408	15
2026	9	1,112,834	139,148	1,045	3,126	8,667	8	1,264,828	15
2026	10	1,114,308	139,193	1,079	3,124	8,680	8	1,266,392	15
2026	11	1,115,860	139,233	1,114	3,123	8,693	8	1,268,031	15
2026	12	1,117,177	139,280	1,148	3,121	8,705	8	1,269,439	15
2027	1	1,118,155	139,319	1,190	3,120	8,718	8	1,270,510	15
2027	2	1,118,934	139,539	1,233	3,118	8,731	8	1,271,563	15
2027	3	1,119,721	139,672	1,275	3,117	8,743	8	1,272,536	15
2027	4	1,120,197	139,872	1,318	3,115	8,756	8	1,273,266	15
2027	5	1,120,840	140,092	1,360	3,114	8,769	8	1,274,183	15
2027	6	1,121,552	140,261	1,403	3,113	8,782	8	1,275,119	15
2027	7	1,122,029	140,438	1,445	3,111	8,794	8	1,275,825	15
2027	8	1,123,108	140,572	1,488	3,110	8,807	8	1,277,093	15
2027	9	1,124,428	140,624	1,530	3,108	8,820	8	1,278,518	15
2027	10	1,125,899	140,668	1,573	3,107	8,832	8	1,280,087	15
2027	11	1,127,447	140,711	1,615	3,105	8,845	8	1,281,731	15
2027	12	1,128,763	140,758	1,658	3,104	8,858	8	1,283,149	15
2028	1	1,129,739	140,797	1,710	3,102	8,871	8	1,284,227	15
2028	2	1,130,516	141,020	1,762	3,101	8,883	8	1,285,290	15
2028	3	1,131,302	141,153	1,814	3,099	8,896	8	1,286,272	15
2028	4	1,131,778	141,356	1,866	3,098	8,909	8	1,287,015	15
2028	5	1,132,420	141,576	1,918	3,097	8,922	8	1,287,941	15
2028	6	1,133,133	141,746	1,970	3,095	8,934	8	1,288,886	15
2028	7	1,133,610	141,923	2,022	3,094	8,947	8	1,289,604	15
2028	8	1,134,689	142,059	2,074	3,092	8,960	8	1,290,882	15
2028	9	1,136,011	142,111	2,126	3,091	8,973	8	1,292,320	15
2028	10	1,137,483	142,156	2,178	3,089	8,985	8	1,293,899	15
2028	11	1,139,033	142,199	2,229	3,088	8,998	8	1,295,555	15
2028	12	1,140,350	142,247	2,281	3,087	9,011	8	1,296,984	15

F23 Final Electric Demand Forecast						
	Base Forecast without EVs and before DSR (MWh) (b)	EVs (MWh)	Base Demand Forecast before DSR (MWh) (b)+(c)	Total DSR including Energy Efficiency, Codes and Standards, Combined Heat and Power, and Distribution Efficiency (MWh)	Solar (MWh)	Total Delivered Demand Forecast after DSR (MWh) (d)-(e)-(f)
2023	21,113,341	115,548	21,228,889	126,728	11,524	21,090,637
2024	21,343,819	233,590	21,577,409	350,745	39,784	21,186,880
2025	21,476,303	389,994	21,866,297	520,833	63,670	21,281,794
2026	21,707,911	594,195	22,302,106	727,186	73,164	21,501,756
2027	21,879,974	853,934	22,733,908	950,146	85,456	21,698,306
2028	22,119,634	1,182,173	23,301,807	1,148,926	100,899	22,051,983

DSR = Demand Side Resources

F23 Final Gas Demand Forecast

Customers

Large Volume customers are a subset of the respective Interruptible category. The Total accounts for this and does not double count. Firm Transport customers and Interruptible Transport customers within the commercial or industrial classes are an overlapping set. We do not forecast which of these customers have both firm and interruptible service. The Total uses the higher of the two customer cc

Year	Month	Customers										Total	
		Residential	Commercial	Industrial	Commercial Interruptible	Commercial Large Volume	Industrial Interruptible	Industrial Large Volume	Commercial Interruptible Transport	Commercial Firm Transport	Industrial Interruptible Transport		Industrial Firm Transport
2023		817,113	57,084	2,248	131	92	12	8	105	99	98	75	876,791
2024		818,792	57,334	2,229	127	89	12	8	105	99	98	75	878,697
2025		818,792	57,578	2,213	123	86	12	8	105	99	98	75	878,921
2026		818,792	57,810	2,198	119	84	12	8	105	99	98	75	879,133
2027		818,792	58,039	2,182	115	81	12	8	105	99	98	75	879,343
2028		818,792	58,272	2,167	112	78	12	8	105	99	98	75	879,557
2023	1	813,479	56,945	2,266	134	94	12	8	105	100	98	76	873,039
2023	2	814,245	56,994	2,264	133	94	12	8	105	99	98	75	873,851
2023	3	815,692	57,015	2,263	133	93	12	8	105	99	98	75	875,318
2023	4	816,358	57,035	2,256	132	93	12	8	105	99	98	75	875,996
2023	5	817,017	57,055	2,252	132	93	12	8	105	99	98	75	876,671
2023	6	817,669	57,075	2,243	131	92	12	8	105	99	98	75	877,333
2023	7	817,992	57,098	2,242	131	92	12	8	105	99	98	75	877,678
2023	8	818,260	57,118	2,240	130	92	12	8	105	99	98	75	877,963
2023	9	818,474	57,138	2,238	130	91	12	8	105	99	98	75	878,195
2023	10	818,633	57,159	2,237	130	91	12	8	105	99	98	75	878,374
2023	11	818,739	57,179	2,235	129	91	12	8	105	99	98	75	878,497
2023	12	818,792	57,200	2,240	129	91	12	8	105	99	98	75	878,576
2024	1	818,792	57,220	2,243	129	90	12	8	105	99	98	75	878,599
2024	2	818,792	57,241	2,244	128	90	12	8	105	99	98	75	878,620
2024	3	818,792	57,261	2,243	128	90	12	8	105	99	98	75	878,639
2024	4	818,792	57,282	2,236	128	90	12	8	105	99	98	75	878,653
2024	5	818,792	57,303	2,233	127	89	12	8	105	99	98	75	878,670
2024	6	818,792	57,324	2,225	127	89	12	8	105	99	98	75	878,683
2024	7	818,792	57,345	2,223	127	89	12	8	105	99	98	75	878,702
2024	8	818,792	57,366	2,222	126	89	12	8	105	99	98	75	878,721
2024	9	818,792	57,386	2,221	126	89	12	8	105	99	98	75	878,740
2024	10	818,792	57,407	2,219	126	88	12	8	105	99	98	75	878,759
2024	11	818,792	57,428	2,218	125	88	12	8	105	99	98	75	878,778
2024	12	818,792	57,448	2,224	125	88	12	8	105	99	98	75	878,804
2025	1	818,792	57,469	2,226	125	88	12	8	105	99	98	75	878,827
2025	2	818,792	57,489	2,227	124	87	12	8	105	99	98	75	878,847
2025	3	818,792	57,509	2,226	124	87	12	8	105	99	98	75	878,866
2025	4	818,792	57,529	2,220	124	87	12	8	105	99	98	75	878,880
2025	5	818,792	57,549	2,217	123	87	12	8	105	99	98	75	878,896
2025	6	818,792	57,569	2,209	123	86	12	8	105	99	98	75	878,908
2025	7	818,792	57,589	2,207	123	86	12	8	105	99	98	75	878,926
2025	8	818,792	57,608	2,206	122	86	12	8	105	99	98	75	878,943
2025	9	818,792	57,628	2,205	122	86	12	8	105	99	98	75	878,962
2025	10	818,792	57,647	2,203	122	86	12	8	105	99	98	75	878,979
2025	11	818,792	57,666	2,202	121	85	12	8	105	99	98	75	878,996
2025	12	818,792	57,686	2,208	121	85	12	8	105	99	98	75	879,022
2026	1	818,792	57,705	2,210	121	85	12	8	105	99	98	75	879,043
2026	2	818,792	57,724	2,211	120	85	12	8	105	99	98	75	879,062
2026	3	818,792	57,743	2,211	120	84	12	8	105	99	98	75	879,081
2026	4	818,792	57,762	2,205	120	84	12	8	105	99	98	75	879,094
2026	5	818,792	57,781	2,201	119	84	12	8	105	99	98	75	879,108
2026	6	818,792	57,800	2,193	119	84	12	8	105	99	98	75	879,119
2026	7	818,792	57,819	2,192	119	84	12	8	105	99	98	75	879,137
2026	8	818,792	57,838	2,191	119	83	12	8	105	99	98	75	879,155
2026	9	818,792	57,857	2,189	118	83	12	8	105	99	98	75	879,171
2026	10	818,792	57,876	2,188	118	83	12	8	105	99	98	75	879,189
2026	11	818,792	57,895	2,187	118	83	12	8	105	99	98	75	879,207
2026	12	818,792	57,914	2,192	117	82	12	8	105	99	98	75	879,230
2027	1	818,792	57,933	2,195	117	82	12	8	105	99	98	75	879,252
2027	2	818,792	57,953	2,196	117	82	12	8	105	99	98	75	879,273
2027	3	818,792	57,972	2,195	116	82	12	8	105	99	98	75	879,290
2027	4	818,792	57,991	2,189	116	82	12	8	105	99	98	75	879,303
2027	5	818,792	58,010	2,186	116	81	12	8	105	99	98	75	879,319
2027	6	818,792	58,029	2,178	115	81	12	8	105	99	98	75	879,329
2027	7	818,792	58,049	2,176	115	81	12	8	105	99	98	75	879,347
2027	8	818,792	58,068	2,175	115	81	12	8	105	99	98	75	879,365
2027	9	818,792	58,087	2,174	114	80	12	8	105	99	98	75	879,382
2027	10	818,792	58,107	2,173	114	80	12	8	105	99	98	75	879,401
2027	11	818,792	58,126	2,171	114	80	12	8	105	99	98	75	879,418
2027	12	818,792	58,145	2,177	113	80	12	8	105	99	98	75	879,442
2028	1	818,792	58,165	2,179	113	80	12	8	105	99	98	75	879,464
2028	2	818,792	58,184	2,181	113	79	12	8	105	99	98	75	879,485
2028	3	818,792	58,204	2,180	113	79	12	8	105	99	98	75	879,504
2028	4	818,792	58,223	2,174	112	79	12	8	105	99	98	75	879,516
2028	5	818,792	58,243	2,171	112	79	12	8	105	99	98	75	879,533
2028	6	818,792	58,262	2,162	112	78	12	8	105	99	98	75	879,543
2028	7	818,792	58,281	2,161	111	78	12	8	105	99	98	75	879,560
2028	8	818,792	58,301	2,160	111	78	12	8	105	99	98	75	879,579
2028	9	818,792	58,320	2,159	111	78	12	8	105	99	98	75	879,597
2028	10	818,792	58,340	2,157	110	78	12	8	105	99	98	75	879,614
2028	11	818,792	58,359	2,156	110	77	12	8	105	99	98	75	879,632
2028	12	818,792	58,379	2,162	110	77	12	8	105	99	98	75	879,658

2027	4	43,903,269	19,535,122	1,626,866	2,467,162	145,229	288,064	21,071	4,325,925	16,596,041	65,231,557	2,755,226	20,921,966	88,908,749	1,007,057	89,915,806
2027	5	25,481,279	14,812,551	1,133,713	2,517,465	152,864	267,557	19,587	3,813,375	19,331,524	41,599,994	2,785,022	23,144,899	67,529,915	764,902	68,294,817
2027	6	17,605,738	12,190,692	942,112	2,123,943	137,912	313,010	19,168	3,913,886	19,559,315	30,895,622	2,436,953	23,473,201	56,805,776	643,431	57,449,207
2027	7	13,537,464	10,370,036	801,970	2,127,177	146,475	318,276	18,124	3,373,469	19,637,974	24,874,069	2,445,453	23,011,443	50,330,965	570,092	50,901,057
2027	8	13,131,163	11,410,791	903,212	2,260,542	155,890	324,054	18,456	3,420,338	18,770,532	25,619,512	2,584,596	22,190,870	50,394,978	570,817	50,965,795
2027	9	17,238,646	13,901,670	1,226,837	2,113,329	139,060	251,388	16,773	3,557,706	20,297,074	32,522,986	2,364,717	23,854,780	58,742,483	665,368	59,407,851
2027	10	36,245,625	23,598,659	1,281,791	3,001,857	179,536	265,451	19,547	3,314,200	16,031,829	61,325,158	3,267,308	19,346,029	83,938,495	950,760	84,889,255
2027	11	60,221,054	32,199,115	2,071,643	3,174,543	180,373	287,289	20,841	4,106,870	16,898,420	94,693,026	3,461,832	21,005,290	119,160,148	1,349,710	120,509,858
2027	12	81,345,094	38,041,756	2,627,950	3,965,195	218,121	317,536	22,836	4,447,732	17,209,062	122,255,757	4,282,731	21,656,794	148,195,282	1,678,587	149,873,869
2028	1	79,592,465	33,047,345	2,279,547	3,174,143	175,093	293,042	21,359	4,370,097	15,490,330	115,115,809	3,467,185	19,860,427	138,443,421	1,568,129	140,011,550
2028	2	69,104,394	29,931,221	2,139,470	3,139,303	174,399	285,947	21,057	4,839,486	18,464,434	101,370,541	3,425,250	23,303,920	128,099,711	1,450,968	129,550,679
2028	3	62,849,271	26,805,921	2,004,005	2,997,339	170,187	302,870	22,390	4,306,428	15,209,770	91,851,774	3,300,209	19,516,198	114,668,181	1,298,831	115,967,012
2028	4	43,052,373	19,425,924	1,575,723	2,387,227	141,084	283,983	21,052	4,325,483	16,494,717	64,216,156	2,671,210	20,820,200	87,707,566	993,451	88,701,017
2028	5	25,070,626	14,766,659	1,094,137	2,439,808	148,575	263,706	19,569	3,815,134	19,228,657	41,099,566	2,703,514	23,043,791	66,846,871	757,165	67,604,036
2028	6	17,321,439	12,191,141	902,720	2,060,846	134,027	309,127	19,149	3,913,374	19,456,604	30,568,476	2,369,973	23,369,978	56,308,427	637,798	56,946,225
2028	7	13,401,708	10,419,624	768,810	2,067,106	142,476	314,551	18,115	3,375,603	19,540,739	24,750,733	2,381,657	22,916,342	50,048,732	566,895	50,615,627
2028	8	13,071,710	11,484,084	868,349	2,198,166	151,769	320,484	18,453	3,427,996	18,677,077	25,594,365	2,518,650	22,105,073	50,218,088	568,813	50,786,901
2028	9	17,092,666	13,956,608	1,187,067	2,053,704	135,377	248,218	16,770	3,565,884	20,199,909	32,388,488	2,301,922	23,765,793	58,456,203	662,125	59,118,328
2028	10	35,791,067	23,624,419	1,247,673	2,912,612	174,678	261,820	19,543	3,321,401	15,936,629	60,857,380	3,174,432	19,258,030	83,289,842	943,412	84,233,254
2028	11	59,381,894	32,112,161	2,024,297	3,075,316	175,280	284,625	20,833	4,112,922	16,801,020	93,714,465	3,359,941	20,913,942	117,988,348	1,336,438	119,324,786
2028	12	80,086,809	37,727,770	2,569,245	3,836,004	211,751	315,468	22,825	4,462,766	17,496,067	120,618,400	4,151,472	21,958,833	146,728,705	1,661,976	148,390,681

F23 Final Gas Demand Forecast			
	Base Demand Forecast before DSR (therms)	Total DSR including Energy Efficiency and Codes and Standards (therms)	Total Delivered Demand Forecast after DSR (therms) (b)-(c)
2023	1,167,104,774	2,437,889	1,164,666,885
2024	1,142,469,111	9,369,996	1,133,099,115
2025	1,133,850,223	18,062,425	1,115,787,798
2026	1,146,418,018	27,793,350	1,118,624,668
2027	1,145,603,947	38,256,320	1,107,347,627
2028	1,147,071,476	48,267,381	1,098,804,095

DSR = Demand Side Resources