

Southwestern Public Service Company

Peak Demand Information

Total System for:

(a) Twelve Months of the Test Year, (c) Four Years Prior to the Test Year, and (d) Five Years Beyond the Test Year by Month
New Mexico Retail for the Twelve Months of the Test Year

Line No.	Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
17	2019 - Forecast												
18	Total System ⁽¹⁾			3,471	3,974	3,964	4,143	4,048	3,855	3,282	3,320	3,468	
19	2020 - Forecast												
20	Total System ⁽¹⁾	3,418	3,413	3,213	3,244	3,686	4,033	4,151	4,058	3,860	3,272	3,319	3,464
21	2021 - Forecast												
22	Total System ⁽¹⁾	3,412	3,406	3,205	3,232	3,669	4,003	4,186	4,095	3,892	3,298	3,341	3,487
23	2022 - Forecast												
24	Total System ⁽¹⁾	3,434	3,427	3,225	3,252	3,693	3,907	4,078	4,002	3,754	3,224	3,246	3,376
25	2023 - Forecast												
26	Total System ⁽¹⁾	3,352	3,340	3,144	3,154	3,608	3,930	4,110	4,026	3,774	3,241	3,261	3,392
27	2024 - Forecast												
28	Total System ⁽¹⁾	3,366	3,354	3,160	3,169	3,626	3,907	4,084	4,000	3,749	3,208	3,227	3,360

⁽¹⁾ No allocation study has been developed for this period to determine the New Mexico demand.
Note: Peak Demand data provided is based on Production Peaks.

Southwestern Public Service Company

Peak Demand Information

(b) (i) Functional Classification for the New Mexico Jurisdiction

Southwestern Public Service Company does not forecast system peak in a way that can be broken down into functional classification.

Southwestern Public Service Company
Peak Demand Information

Part (b) (ii) (2 & 3)
NON-COINCIDENT CLASS PEAK DEMAND
FOR THE TEST PERIOD ENDING: MARCH 31, 2019

NON-COINCIDENT PEAK DEMAND AT THE METER

Line No.	Total		Total		Total		Total		Total Retail
	Loss Level 6	Loss Level 5	Loss Level 4	Loss Level 3	Loss Level 2	Loss Level 1	Loss Level 0		
1	222,340	148,124	200,952	-	-	-	-	571,415	
2	310,407	184,267	227,964	-	-	-	-	722,637	
3	326,874	195,596	221,661	-	-	-	-	744,130	
4	356,696	184,290	212,142	-	-	-	-	753,128	
5	320,201	183,367	220,570	-	-	-	-	724,138	
6	314,612	183,249	238,005	-	-	-	-	735,865	
7	244,621	146,693	201,561	-	-	-	-	592,875	
8	271,059	116,392	206,740	-	-	-	-	594,191	
9	287,066	126,646	215,703	-	-	-	-	629,415	
10	308,599	124,663	218,467	-	-	-	-	651,729	
11	289,010	130,684	230,218	-	-	-	-	649,912	
12	274,795	134,145	228,580	-	-	-	-	637,519	
13	356,696	195,596	238,005	-	-	-	-	753,128	

NON-COINCIDENT PEAK DEMAND AT THE SOURCE

Line No.	Total		Total		Total		Total		Total New Mexico Retail NCP Demand
	Loss Level 6	Loss Level 5	Loss Level 4	Loss Level 3	Loss Level 2	Loss Level 1	Loss Level 0		
14	259,368	172,085	227,279	-	-	-	-	658,733	
15	362,101	214,075	257,831	-	-	-	-	834,007	
16	381,311	227,237	250,702	-	-	-	-	859,249	
17	416,100	214,102	239,936	-	-	-	-	870,138	
18	373,527	213,031	249,468	-	-	-	-	836,026	
19	367,007	212,892	269,187	-	-	-	-	849,087	
20	285,360	170,424	227,969	-	-	-	-	683,752	
21	316,201	135,220	233,826	-	-	-	-	685,247	
22	334,873	147,134	243,963	-	-	-	-	725,970	
23	359,993	144,830	247,089	-	-	-	-	751,912	
24	337,141	151,825	260,380	-	-	-	-	749,346	
25	320,559	155,845	258,527	-	-	-	-	734,931	
26	416,100	227,237	269,187	-	-	-	-	870,138	

Southwestern Public Service Company
Peak Demand Information

Part (b) (ii) (2 & 3)
NON-COINCIDENT CLASS PEAK DEMAND
FOR THE TEST PERIOD ENDING: MARCH 31, 2019

NON-COINCIDENT PEAK DEMAND AT THE METER

Line No.	(RL) Residential Service	(RH) Residential With Heating	Total Residential	(SGS) Small General Service	(SL) Street Lighting	(AL) Area Lighting	(SMS) Small Municipa and School Service	Total Loss Level 6 Sec: Non-Demand
1	104,125	89,669	193,795	20,012	3,323	3,823	1,387	222,340
2	163,526	108,755	272,281	29,124	3,323	3,823	1,855	310,407
3	177,309	108,499	285,807	31,780	3,323	3,823	2,140	326,874
4	194,430	121,460	315,890	31,560	3,323	3,823	2,100	356,696
5	175,244	107,012	282,257	28,865	3,323	3,823	1,932	320,201
6	173,507	101,884	275,391	29,920	3,323	3,823	2,155	314,612
7	133,946	78,617	212,564	23,393	3,323	3,823	1,518	244,621
8	129,791	110,551	240,343	22,051	3,323	3,823	1,519	271,059
9	133,643	120,025	253,668	24,612	3,323	3,823	1,639	287,066
10	141,556	131,706	273,262	26,586	3,323	3,823	1,605	308,599
11	124,560	130,488	255,048	25,218	3,323	3,823	1,598	289,010
12	121,231	119,691	240,923	25,143	3,323	3,823	1,583	274,795
13	194,430	131,706	315,890	31,780	3,323	3,823	2,155	356,696
	Max							

NON-COINCIDENT PEAK DEMAND AT THE SOURCE

Line No.	(RL) Residential Service	(RH) Residential With Heating	Total Residential	(SGS) Small General Service	(SL) Street Lighting	(AL) Area Lighting	(SMS) Small Municipa and School Service	Total Loss Level 6 Sec: Non-Demand
14	121,466	104,603	226,069	23,345	3,877	4,460	1,618	259,368
15	190,759	126,867	317,626	33,975	3,877	4,460	2,164	362,101
16	206,838	126,568	333,405	37,072	3,877	4,460	2,496	381,311
17	226,810	141,688	368,498	36,816	3,877	4,460	2,449	416,100
18	204,429	124,834	329,264	33,672	3,877	4,460	2,254	373,527
19	202,403	118,852	321,255	34,902	3,877	4,460	2,514	367,007
20	156,254	91,710	247,964	27,289	3,877	4,460	1,770	285,360
21	151,407	128,962	280,369	25,723	3,877	4,460	1,772	316,201
22	155,900	140,014	295,913	28,711	3,877	4,460	1,912	334,873
23	165,131	153,640	318,771	31,013	3,877	4,460	1,872	359,993
24	145,304	152,219	297,523	29,417	3,877	4,460	1,864	337,141
25	141,421	139,625	281,046	29,330	3,877	4,460	1,847	320,559
26	226,810	153,640	368,498	37,072	3,877	4,460	2,514	416,100
	Max							

1.166539

DEMAND LOSS FACTOR

Southwestern Public Service Company
Peak Demand Information

Part (b) (ii) (2 & 3)
NON-COINCIDENT CLASS PEAK DEMAND
FOR THE TEST PERIOD ENDING: MARCH 31, 2019

NON-COINCIDENT PEAK DEMAND AT THE METER

Line No.	(IP) Irrigation Service	(LMS)		(SG)		Primary QF's PQF	(PG) Primary General Service	Total		Sub-Trans.		BB Transmission	
		Large Municipal and School Service	Sec General Service	Loss Level 5 NCP Demand	Loss Level 4 NCP Demand			Loss Level 3 NCP Demand	Loss Level 2 NCP Demand	Loss Level 4 NCP Demand	Loss Level 3 NCP Demand	Loss Level 2 NCP Demand	Loss Level 2 NCP Demand
1	APRIL 18	15,535	19,972	112,616	148,124	129	200,823	200,952	-	-	-	-	-
2	MAY	17,622	25,424	141,222	184,267	150	227,814	227,964	-	-	-	-	-
3	JUNE	21,306	23,026	151,264	195,596	151	221,510	221,661	-	-	-	-	-
4	JULY	19,005	23,564	141,721	184,290	149	211,993	212,142	-	-	-	-	-
5	AUGUST	17,561	29,152	136,654	183,367	141	220,430	220,570	-	-	-	-	-
6	SEPTEMBER	19,346	29,723	134,180	183,249	140	237,865	238,005	-	-	-	-	-
7	OCTOBER	10,821	23,822	112,051	146,693	142	201,420	201,561	-	-	-	-	-
8	NOVEMBER	5,174	18,032	93,186	116,392	134	206,606	206,740	-	-	-	-	-
9	DECEMBER	4,946	18,271	103,430	126,646	139	215,564	215,703	-	-	-	-	-
10	JANUARY 19	3,917	16,996	103,751	124,663	137	218,330	218,467	-	-	-	-	-
11	FEBRUARY	6,293	18,293	106,097	130,684	132	230,086	230,218	-	-	-	-	-
12	MARCH	12,065	17,393	104,687	134,145	136	228,443	228,580	-	-	-	-	-
13	Max	21,306	29,723	151,264	195,596	151	237,865	238,005	-	-	-	-	-

NON-COINCIDENT PEAK DEMAND AT THE SOURCE

Line No.	(IP) Irrigation Service	(LMS)		(SG)		Primary QF's PQF	(PG) Primary General Service	Total		Sub-Trans.		BB Transmission	
		Large Municipal and School Service	Sec General Service	Loss Level 5 NCP Demand	Loss Level 4 NCP Demand			Loss Level 3 NCP Demand	Loss Level 2 NCP Demand	Loss Level 4 NCP Demand	Loss Level 3 NCP Demand	Loss Level 2 NCP Demand	Loss Level 2 NCP Demand
14	APRIL 18	18,049	23,203	130,833	172,085	146	227,134	227,279	-	-	-	-	-
15	MAY	20,472	29,536	164,067	214,075	169	257,661	257,831	-	-	-	-	-
16	JUNE	24,752	26,751	175,733	227,237	171	250,531	250,702	-	-	-	-	-
17	JULY	22,079	27,376	164,647	214,102	168	239,767	239,936	-	-	-	-	-
18	AUGUST	20,402	33,868	158,761	213,031	159	249,309	249,468	-	-	-	-	-
19	SEPTEMBER	22,475	34,532	155,886	212,892	158	269,029	269,187	-	-	-	-	-
20	OCTOBER	12,571	27,675	130,177	170,424	160	227,809	227,969	-	-	-	-	-
21	NOVEMBER	6,011	20,949	108,260	135,220	151	233,675	233,826	-	-	-	-	-
22	DECEMBER	5,746	21,227	120,161	147,134	157	243,806	243,963	-	-	-	-	-
23	JANUARY 19	4,550	19,745	120,535	144,830	155	246,934	247,089	-	-	-	-	-
24	FEBRUARY	7,311	21,253	123,261	151,825	149	260,231	260,380	-	-	-	-	-
25	MARCH	14,017	20,206	121,622	155,845	154	258,373	258,527	-	-	-	-	-
26	Max	24,752	34,532	175,733	227,237	171	269,029	269,187	-	-	-	-	-

Southwestern Public Service Company

Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST YEAR ENDED: MARCH 31, 2019

ADJUSTED COINCIDENT PEAK DEMAND AT THE METER

Line No.	(RL) Residential Service	(RH) Residential With Heating	Total Residential	(SGS) Small General Service	(SL) Street Lighting	(AL) Area Lighting	(SMS) Small Muni and School Service	Total Loss Level 6 Sec Non-Demand
1	88,660	56,978	145,639	15,211	-	-	1,192	162,042
2	149,375	98,513	247,888	26,362	-	-	1,465	275,715
3	159,295	103,569	262,864	27,463	-	-	1,867	292,194
4	170,596	109,451	280,047	31,183	-	-	1,923	313,153
5	163,519	96,972	260,492	25,490	-	-	1,654	287,636
6	148,598	79,703	228,301	24,664	-	-	1,333	254,299
7	118,614	73,745	192,359	23,031	-	-	1,385	216,775
8	108,475	98,145	206,621	19,557	-	-	1,260	227,438
9	104,410	110,776	215,186	21,565	1,525	1,754	1,483	241,514
10	132,483	107,889	240,372	19,414	1,525	1,754	1,476	264,541
11	105,325	118,528	223,854	20,928	-	-	1,556	246,338
12	87,636	114,799	202,435	23,495	-	-	1,437	227,368
13	128,082	97,423	225,505	23,197	254	292	1,503	250,751
14	160,502	97,424	257,926	27,200	-	-	1,694	286,820
15	170,596	118,528	289,047	31,183	1,525	1,754	1,923	313,153

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

Line No.	(RL) Residential Service	(RH) Residential With Heating	Total Residential	(SGS) Small General Service	(SL) Street Lighting	(AL) Area Lighting	DEMAND LOSS FACTOR		Total Loss Level 6 Sec Non-Demand
							(SMS) Small Muni and School Service	(SMS) Small Muni and School Service	
16	103,426	66,468	169,893	17,744	-	-	1,390	189,028	
17	174,252	114,919	289,171	30,753	-	-	1,709	321,633	
18	185,823	120,818	306,641	32,036	-	-	2,178	340,855	
19	199,007	127,679	326,686	36,376	-	-	2,243	365,305	
20	190,752	113,122	303,874	29,735	-	-	1,929	335,538	
21	173,345	92,977	266,322	28,772	-	-	1,556	296,650	
22	138,368	86,026	224,394	26,866	-	-	1,616	252,876	
23	126,541	114,490	241,031	22,814	-	-	1,470	265,315	
24	121,798	129,224	251,022	25,157	1,779	2,047	1,730	281,735	
25	154,546	125,857	280,403	22,647	1,779	2,047	1,722	308,598	
26	122,866	138,268	261,134	24,414	-	-	1,815	287,363	
27	102,231	133,918	236,149	27,408	-	-	1,676	265,233	
28	149,413	113,647	263,060	27,060	297	341	1,753	292,511	
29	187,232	113,649	300,881	31,730	-	-	1,976	334,587	
30	199,007	138,268	326,686	36,376	1,779	2,047	2,243	365,305	

Southwestern Public Service Company
Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST YEAR ENDED: MARCH 31, 2019

ADJUSTED COINCIDENT PEAK DEMAND AT THE METER

Line No.	(IRR) Irrigation Service	(LMS) Large Municipal and School Service	(SG) Sec General Service	Total		Primary QFs PQF	(PG) Primary General Service	Total		Sub-Trans. Loss Level 3 Transmission	BB - Transmission Loss Level 2 Transmission
				Loss Level 5 Secondary- Demand	Loss Level 4 Primary Distributor			Loss Level 4 Primary Distributor	Loss Level 3 Transmission		
1	APRIL 18	10,964	15,318	103,025	129,307	-	192,520	192,520	20,952	280,408	
2	MAY	16,476	18,099	129,845	164,420	-	223,817	223,817	12,699	266,847	
3	JUNE	17,982	17,989	136,923	172,893	-	207,494	207,494	22,771	291,288	
4	JULY	17,060	22,898	137,817	177,775	-	204,362	204,362	20,212	285,598	
5	AUGUST	17,040	21,674	125,930	164,645	-	214,844	214,844	22,825	282,701	
6	SEPTEMBER	17,098	17,214	103,577	137,889	-	200,378	200,378	19,947	288,522	
7	OCTOBER	7,722	21,568	111,003	140,293	-	196,519	196,519	17,595	278,475	
8	NOVEMBER	525	12,035	79,724	92,284	115	198,611	198,726	22,342	264,388	
9	DECEMBER	1,025	13,122	94,288	108,435	120	209,413	209,533	15,389	284,534	
10	JANUARY 19	469	10,058	75,478	86,005	121	198,443	198,563	21,843	275,283	
11	FEBRUARY	1,248	13,333	89,630	104,210	116	217,567	217,683	18,917	271,127	
12	MARCH	766	16,754	101,691	119,211	-	202,087	202,087	18,444	274,545	
13	12-CP	9,031	16,672	107,411	133,114	39	205,505	205,544	18,995	278,628	
14	4-CP	17,295	19,944	126,062	163,300	-	206,769	206,769	21,439	287,027	
15	MAX PEAK	17,982	22,898	137,817	177,775	121	223,817	223,817	22,825	291,288	

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

Line No.	(IRR) Irrigation Service	(LMS) Large Municipal and School Service	(SG) Sec General Service	Total		Primary QFs PQF	(PG) Primary General Service	Total		Sub-Trans. Loss Level 3 Transmission	BB - Transmission Loss Level 2 Transmission
				Loss Level 5 Secondary- Demand	Loss Level 4 Primary Distributor			Loss Level 4 Primary Distributor	Loss Level 3 Transmission		
16	APRIL 18	12,738	17,796	119,691	150,225	-	217,743	217,743	21,601	287,044	
17	MAY	19,141	21,027	150,850	191,018	-	253,141	253,141	13,092	273,162	
18	JUNE	20,891	20,898	159,072	200,861	-	234,679	234,679	23,476	298,182	
19	JULY	19,820	26,602	160,112	206,534	-	231,136	231,136	20,837	292,357	
20	AUGUST	19,797	25,180	146,302	191,279	-	242,992	242,992	23,532	289,392	
21	SEPTEMBER	19,864	19,998	120,333	160,195	-	226,630	226,630	20,564	295,351	
22	OCTOBER	8,971	25,057	128,960	162,988	-	222,266	222,266	11,954	285,066	
23	NOVEMBER	610	13,982	92,621	107,213	130	224,632	224,762	23,034	270,645	
24	DECEMBER	1,191	15,245	109,541	125,977	136	236,849	236,985	15,866	291,084	
25	JANUARY 19	545	11,685	87,688	99,918	137	224,442	224,578	22,520	281,799	
26	FEBRUARY	1,450	15,490	104,129	121,068	131	246,072	246,203	19,502	277,543	
27	MARCH	890	19,465	118,141	138,496	-	228,563	228,563	19,015	281,043	
28	12-CP	10,492	19,369	124,787	154,648	44	232,429	232,473	19,583	285,222	
29	4-CP	20,093	23,170	146,455	189,717	-	233,859	233,859	22,102	293,821	
30	MAX PEAK	20,891	26,602	160,112	206,534	137	253,141	253,141	23,532	298,182	

Southwestern Public Service Company
Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST YEAR ENDED: MARCH 31, 2019

ADJUSTED COINCIDENT PEAK DEMAND AT THE METER

Line No.	Total		Total		Total		Total		New Mexico	
	Loss Level	5	Loss Level	4	Loss Level	3	Loss Level	2	Retail CP Demand	
1	165,518	132,081	196,650	20,952	280,408	795,608				
2	273,651	163,189	222,141	12,699	266,847	938,526				
3	291,670	172,583	207,122	22,771	291,288	985,434				
4	311,669	176,933	203,393	20,212	285,598	997,804				
5	276,395	158,211	206,448	15,553	283,889	940,496				
6	255,874	138,743	201,619	19,947	288,522	904,704				
7	220,837	142,922	200,201	11,595	278,475	854,029				
8	232,168	94,203	202,857	22,342	264,388	815,959				
9	250,193	112,386	217,160	19,579	276,215	875,533				
10	270,474	87,958	203,069	21,843	275,283	858,627				
11	252,116	106,655	222,786	18,917	271,127	871,599				
12	229,024	120,080	203,559	18,444	274,545	845,652				
13	252,466	133,828	207,251	18,738	278,049	890,331				
14	283,902	161,617	204,646	19,620	287,324	957,109				
15	311,669	176,933	222,786	22,771	291,288	997,804				

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

Line No.	Total		Total		Total		Total		New Mexico	
	Loss Level	5	Loss Level	4	Loss Level	3	Loss Level	2	Retail CP Demand	
16	193,083	153,448	222,414	21,601	287,044	877,589				
17	319,224	189,588	251,245	13,092	273,162	1,046,311				
18	340,244	200,501	234,259	23,476	298,182	1,096,662				
19	363,574	205,555	230,040	20,837	292,357	1,112,363				
20	322,426	183,804	233,496	16,034	290,608	1,046,369				
21	298,487	161,187	228,034	20,564	295,351	1,003,622				
22	257,614	166,042	226,431	11,954	285,066	947,107				
23	270,833	109,443	229,435	23,034	270,645	903,390				
24	291,860	130,566	245,612	20,185	282,752	970,975				
25	315,518	102,186	229,674	22,520	281,799	951,697				
26	294,103	123,908	251,974	19,502	277,543	967,031				
27	267,166	139,505	230,228	19,015	281,043	936,957				
28	294,511	155,478	234,403	19,318	284,629	988,339				
29	331,183	187,762	231,457	20,228	294,125	1,064,754				
30	363,574	205,555	251,974	23,476	298,182	1,112,363				

Southwestern Public Service Company

Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST YEAR ENDED: MARCH 31, 2019

ADJUSTED COINCIDENT PEAK DEMAND AT THE METER

Line No.	(RL) Residential Service	(RH) Residential With Heating	Total Residential	(SGS) Small General Service	(SL) Street Lighting	(AL) Area Lighting	(SMS) Small Muni and School Service	Total Loss Level 6 Sec. Non-Demand
1	90,562	58,201	148,763	15,537	-	-	1,217	165,518
2	148,256	97,775	246,032	26,165	-	-	1,454	273,651
3	159,009	103,384	262,393	27,413	-	-	1,864	291,670
4	169,788	108,932	278,720	31,035	-	-	1,914	311,669
5	157,129	93,183	250,312	24,494	-	-	1,589	276,395
6	149,518	80,197	229,715	24,817	-	-	1,342	255,874
7	120,837	75,127	195,963	23,462	-	-	1,411	220,837
8	110,732	100,187	210,919	19,963	-	-	1,286	232,168
9	108,214	114,812	223,025	22,351	1,754	-	1,537	250,193
10	135,491	110,339	245,830	19,855	1,754	-	1,509	270,474
11	107,796	121,308	229,104	21,419	-	-	1,592	252,116
12	88,275	115,636	203,910	23,667	-	-	1,447	229,024
13	128,800	98,257	227,057	23,348	254	292	1,514	252,466
14	158,861	96,424	255,285	26,940	-	-	1,677	283,902
15	169,788	121,308	278,720	31,035	1,525	1,754	1,914	311,669
								1,166,539

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

Line No.	(RL) Residential Service	(RH) Residential With Heating	Total Residential	(SGS) Small General Service	(SL) Street Lighting	(AL) Area Lighting	(SMS) Small Muni and School Service	Total Loss Level 6 Sec. Non-Demand
16	105,644	67,893	173,538	18,125	-	-	1,420	193,083
17	172,947	114,059	287,005	30,522	-	-	1,696	319,224
18	185,490	120,601	306,092	31,979	-	-	2,174	340,244
19	198,064	127,074	325,138	36,204	-	-	2,232	363,574
20	183,298	108,701	291,999	28,573	-	-	1,854	322,426
21	174,418	93,553	267,971	28,950	-	-	1,565	298,487
22	140,961	87,638	228,599	27,370	-	-	1,646	257,614
23	129,173	116,872	246,045	23,288	-	-	1,501	270,833
24	126,235	133,932	260,168	26,073	1,779	2,047	1,793	291,860
25	158,056	128,714	286,770	23,162	1,779	2,047	1,761	315,518
26	125,748	141,511	267,259	24,986	-	-	1,858	294,103
27	102,976	134,893	237,869	27,608	-	-	1,688	267,166
28	150,251	114,620	264,871	27,237	297	341	1,766	294,511
29	185,318	112,482	297,800	31,427	-	-	1,956	331,183
30	198,064	141,511	325,138	36,204	1,779	2,047	2,232	363,574

Southwestern Public Service Company
Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST YEAR ENDED: MARCH 31, 2019

ADJUSTED COINCIDENT PEAK DEMAND AT THE METER

Line No.	(IRR) Irrigation Service	(LMS) Large Municipal and School Service	(SG) Sec General Service	Total Loss Level 5 Secondary- Demand	Primary QFs PQF	(PG) Primary General Service	Total Loss Level 4 Primary Distribution	Sub-Trans. Loss Level 3 Transmission	BB - Transmission Loss Level 2 Transmission
1	11,200	15,647	105,235	132,081	-	196,650	196,650	20,952	280,408
2	16,353	17,964	128,872	163,189	-	222,141	222,141	12,699	266,847
3	17,950	17,956	136,677	172,583	-	207,122	207,122	22,771	291,288
4	16,374	22,790	137,164	176,933	-	203,393	203,393	20,212	285,598
5	16,374	22,790	121,009	158,211	-	206,448	206,448	15,553	283,889
6	17,204	17,320	104,219	138,743	-	201,619	201,619	19,947	288,522
7	7,867	21,972	113,083	142,922	-	200,201	200,201	11,595	278,475
8	536	12,285	81,582	94,203	115	202,742	202,857	22,342	264,388
9	1,062	13,600	97,723	112,386	118	217,042	217,160	19,579	276,215
10	479	10,286	77,192	87,958	121	202,949	203,069	21,843	275,283
11	1,277	13,646	91,732	106,655	116	222,670	222,786	18,917	271,127
12	772	16,877	102,431	120,080	-	203,559	203,559	18,444	274,545
13	9,004	16,764	108,060	133,828	39	207,211	207,251	18,738	278,049
14	17,127	19,723	124,767	161,617	-	204,646	204,646	19,620	287,324
15	17,950	22,790	137,164	176,933	121	222,670	222,786	22,771	291,288

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

Line No.	(IRR) Irrigation Service	(LMS) Large Municipal and School Service	(SG) Sec General Service	Total Loss Level 5 Secondary- Demand	Primary QFs PQF	(PG) Primary General Service	Total Loss Level 4 Primary Distribution	Sub-Trans. Loss Level 3 Transmission	BB - Transmission Loss Level 2 Transmission
16	13,011	18,178	122,258	153,448	-	222,414	222,414	21,601	287,044
17	18,998	20,870	149,720	189,588	-	251,245	251,245	13,092	273,162
18	20,853	20,861	158,787	200,501	-	234,259	234,259	23,476	298,182
19	19,726	26,476	159,353	205,555	-	230,040	230,040	20,837	292,357
20	19,023	24,196	140,585	183,804	-	233,496	233,496	16,034	290,608
21	19,987	20,122	121,078	161,187	-	228,034	228,034	20,564	295,351
22	9,140	25,526	131,376	166,042	-	226,431	226,431	11,954	285,066
23	623	14,272	94,548	109,443	130	229,305	229,435	23,034	270,645
24	1,234	15,801	113,532	130,566	134	245,478	245,612	20,185	282,752
25	557	11,950	89,679	102,186	137	229,538	229,674	21,799	281,799
26	1,484	15,853	106,571	123,908	131	251,843	251,974	19,502	277,543
27	897	19,607	119,002	139,505	-	230,228	230,228	19,015	281,043
28	10,461	19,476	125,541	155,478	44	234,359	234,403	19,318	284,629
29	19,897	22,914	144,951	187,762	-	231,457	231,457	20,228	294,125
30	20,853	26,476	159,353	205,555	137	251,843	251,974	23,476	298,182

Southwestern Public Service Company

Plant in Service

Parts (a, c & d) Four Years Prior to Test Year Period

Total Company

Line No.	Functional Classification	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018
1	Intangible Plant	\$ 106,679,097	\$ 139,573,181	\$ 167,596,907	\$ 213,477,777	\$ 215,877,632
2	Steam Production Plant	1,726,549,725	1,778,542,883	1,815,785,408	1,853,752,229	1,884,564,127
3	Other Production Plant	289,827,647	285,916,607	286,076,811	288,426,379	289,558,245
4	Transmission Plant	1,903,949,119	2,228,536,692	2,493,769,017	2,678,015,144	2,986,635,950
5	Distribution Plant	1,041,651,160	1,138,649,650	1,211,728,536	1,297,259,442	1,379,555,963
6	General Plant	303,519,905	343,681,523	377,811,783	425,849,102	463,851,962
7	Electric Plant Purchased	-	10	-	-	-
8	Removal of Asset Retirement Costs					
9	Asset Retirement Cost - Steam	\$ 1,731,739	\$ 1,912,473	\$ 775,690	\$ 775,690	\$ 254,077
10	Asset Retirement Cost - Other	(136,263)	(136,263)	(136,263)	(136,263)	(136,263)
11	Asset Retirement Cost - Transmission	(25,029)	(25,029)	(25,029)	(5,621,098)	(7,467,368)
12	Asset Retirement Cost - Distribution	(5,621,098)	(5,621,098)	(5,621,098)	(64,394)	(64,394)
13	Asset Retirement Cost - General	(200,929)	(200,929)	(64,394)	(25,029)	(25,029)
14	Total Removal of Asset Retirement Costs	\$ (4,251,579)	\$ (4,070,845)	\$ (5,071,094)	\$ (5,071,094)	\$ (7,438,977)
15	Total Electric Plant In Service *	\$ 5,367,925,075	\$ 5,910,829,700	\$ 6,347,697,369	\$ 6,751,708,980	\$ 7,212,604,903
16	Plant Held For Future Use	\$ -	\$ 14,434,483	\$ 4,166,104	\$ 4,166,104	\$ 4,167,109
17	Construction Work In Progress	238,518,687	236,696,984	260,327,432	351,875,295	849,058,368
18	Electric Plant Acquisition Adjustment	-	-	-	-	-
19	Total Electric Utility Plant	\$ 5,606,443,762	\$ 6,161,961,168	\$ 6,612,190,905	\$ 7,107,750,378	\$ 8,065,830,380

Southwestern Public Service Company

Plant in Service

Parts (b, c & d) Four Years Prior to Test Year Period
New Mexico Jurisdiction

Line No.	Functional Classification	12/31/2014 ⁽¹⁾	12/31/2015 ⁽¹⁾	12/31/2016 ⁽²⁾	12/31/2017 ⁽²⁾	12/31/2018 ⁽³⁾
20	Intangible Plant	\$ 25,538,003	\$ 33,942,119	\$ 42,055,248	\$ 53,568,177	\$ 60,348,598
21	Steam Production Plant	344,512,227	344,717,537	401,301,212	409,692,144	526,351,740
22	Other Production Plant	57,831,620	55,416,414	63,224,966	63,744,237	80,872,539
23	Transmission Plant	362,931,837	421,558,227	483,794,258	519,538,233	625,549,535
24	Distribution Plant	364,174,194	397,327,636	428,091,420	458,308,623	492,950,361
25	General Plant	70,656,611	81,385,087	93,712,429	105,627,605	129,070,597
26	Electric Plant Purchased	-	2	-	-	-
27	Removal of Asset Retirement Costs					
28	Asset Retirement Cost - Steam	\$ 345,548	\$ 370,676	\$ 171,433	\$ 171,433	\$ 70,963
29	Asset Retirement Cost - Other	(27,190)	(26,411)	(30,115)	(30,115)	(38,058)
30	Asset Retirement Cost - Transmission	(4,771)	(4,735)	(4,856)	(1,090,500)	(1,564,037)
31	Asset Retirement Cost - Distribution	(1,965,206)	(1,961,462)	(1,985,877)	(2,750)	(23,010)
32	Asset Retirement Cost - General	(46,774)	(47,581)	(15,972)	(6,208)	(6,964)
33	Total Removal of Asset Retirement Costs	(1,698,393)	(1,669,511)	(1,865,387)	(978,140)	(1,561,106)
34	Total Electric Plant In Service	\$ 1,223,946,098	\$ 1,332,677,509	\$ 1,510,314,146	\$ 1,609,500,879	\$ 1,913,582,263
35	Plant Held For Future Use	-	1,942,405	920,738	920,738	1,163,858
36	Construction Work In Progress	51,504,069	49,994,631	59,033,299	75,064,748	224,046,667
37	Electric Plant Acquisition Adjustment	-	-	-	-	-
38	Total Electric Utility Plant	\$ 1,275,450,167	\$ 1,384,614,545	\$ 1,570,268,184	\$ 1,685,486,366	\$ 2,138,792,788

⁽¹⁾ Plant in Service and Construction Work in Progress allocated to New Mexico jurisdiction based on factors from Case No. 15-00296-UT.⁽²⁾ Plant in Service and Construction Work in Progress allocated to New Mexico jurisdiction based on factors from Case No. 17-00255-UT.⁽³⁾ Plant in Service and Construction Work in Progress allocated to New Mexico jurisdiction based on factors from this current filing's Test Year Period ending March 31, 2019.

Southwestern Public Service Company

Plant in Service

Parts (a, c, & e) Twelve Months of the Test Year Period
Total Company

Line No.	Functional Classification	April 2018	May 2018	June 2018	July 2018	August 2018	September 2018
1	Intangible Plant	\$ 214,096,641	\$ 214,732,287	\$ 215,363,800	\$ 219,721,006	\$ 219,749,136	\$ 221,013,088
2	Steam Production Plant	1,852,894,339	1,852,395,703	1,859,825,331	1,861,339,838	1,858,387,541	1,861,770,333
3	Other Production Plant	288,469,120	288,620,301	288,783,665	288,868,950	289,042,237	289,048,848
4	Transmission Plant	2,825,466,516	2,898,037,678	2,920,001,787	2,928,655,742	2,933,917,605	2,943,177,131
5	Distribution Plant	1,311,379,761	1,321,332,487	1,326,188,121	1,334,689,359	1,339,844,033	1,344,689,041
6	General Plant	438,383,711	440,244,586	440,826,482	443,135,001	443,637,734	447,255,409
7	Electric Plant Purchased	-	-	-	-	-	-
8	Removal of Asset Retirement Costs						
9	Asset Retirement Cost - Steam	\$ 775,690	\$ 775,690	\$ 775,690	\$ 775,690	\$ 775,690	\$ 775,690
10	Asset Retirement Cost - Other	(136,263)	(136,263)	(136,263)	(136,263)	(136,263)	(136,263)
11	Asset Retirement Cost - Transmission	(25,029)	(25,029)	(25,029)	(25,029)	(25,029)	(25,029)
12	Asset Retirement Cost - Distribution	(5,621,098)	(5,621,098)	(5,621,098)	(5,621,098)	(5,621,098)	(5,621,098)
13	Asset Retirement Cost - General	(64,394)	(64,394)	(64,394)	(64,394)	(64,394)	(64,394)
14	Total Removal of Asset Retirement Costs	\$ (5,071,094)	\$ (5,071,094)	\$ (5,071,094)	\$ (5,071,094)	\$ (5,071,094)	\$ (5,071,094)
15	Total Electric Plant In Service *	\$ 6,925,618,993	\$ 7,010,291,949	\$ 7,045,918,093	\$ 7,071,338,802	\$ 7,079,507,193	\$ 7,101,882,756
16	Plant Held For Future Use	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109
17	Construction Work In Progress	299,547,915	243,096,681	448,119,583	470,447,850	504,409,608	534,310,976
18	Electric Plant Acquisition Adjustment	-	-	-	-	-	-
19	Total Electric Utility Plant	\$ 7,229,334,017	\$ 7,257,555,738	\$ 7,498,204,784	\$ 7,545,953,761	\$ 7,588,083,909	\$ 7,640,360,840

Southwestern Public Service Company

Plant in Service

Parts (a, c, & e) Twelve Months of the Test Year Period
Total Company

Line No.	Functional Classification	October 2018	November 2018	December 2018	January 2019	February 2019	March 2019
1	Intangible Plant	\$ 221,419,914	\$ 223,870,279	\$ 215,877,632	\$ 216,173,944	\$ 217,345,697	\$ 218,661,624
2	Steam Production Plant	1,862,574,938	1,875,870,315	1,884,564,127	1,886,286,334	1,886,447,543	1,886,935,738
3	Other Production Plant	289,048,068	289,229,123	289,558,245	289,569,926	289,533,176	289,521,139
4	Transmission Plant	2,943,490,684	2,958,518,094	2,986,635,950	2,987,989,247	2,990,055,388	3,013,576,314
5	Distribution Plant	1,350,255,556	1,357,432,370	1,379,555,963	1,385,664,308	1,391,147,510	1,396,966,723
6	General Plant	447,832,702	453,976,321	463,851,962	472,565,351	473,641,577	474,688,884
7	Electric Plant Purchased	-	-	-	-	-	-
8	Removal of Asset Retirement Costs						
9	Asset Retirement Cost - Steam	\$ 775,690	\$ 775,690	\$ 254,077	\$ 254,077	\$ 254,077	\$ 254,077
10	Asset Retirement Cost - Other	(136,263)	(136,263)	(136,263)	(136,263)	(136,263)	(136,263)
11	Asset Retirement Cost - Transmission	(25,029)	(25,029)	(25,029)	(25,029)	(25,029)	(25,029)
12	Asset Retirement Cost - Distribution	(5,621,098)	(5,621,098)	(7,467,368)	(7,467,368)	(7,467,368)	(7,467,368)
13	Asset Retirement Cost - General	(64,394)	(64,394)	(64,394)	(64,394)	(64,394)	(64,394)
14	Total Removal of Asset Retirement Costs	\$ (5,071,094)	\$ (5,071,094)	\$ (7,438,977)	\$ (7,438,977)	\$ (7,438,977)	\$ (7,438,977)
15	Total Electric Plant In Service *	\$ 7,109,550,767	\$ 7,153,825,407	\$ 7,212,604,903	\$ 7,230,810,132	\$ 7,240,731,912	\$ 7,272,911,446
16	Plant Held For Future Use	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109
17	Construction Work In Progress	669,551,888	739,379,009	849,058,368	891,609,996	942,025,016	975,377,786
18	Electric Plant Acquisition Adjustment	-	-	-	-	-	-
19	Total Electric Utility Plant	\$ 7,783,269,764	\$ 7,897,371,525	\$ 8,065,830,380	\$ 8,126,587,236	\$ 8,186,924,037	\$ 8,252,456,340

Southwestern Public Service Company

Plant in Service

Parts (b, c, & e) Twelve Months of the Test Year Period
New Mexico Jurisdiction

Line No.	Functional Classification	April 2018 ⁽⁴⁾	May 2018 ⁽⁴⁾	June 2018 ⁽⁴⁾	July 2018 ⁽⁴⁾	August 2018 ⁽⁴⁾	September 2018 ⁽⁴⁾
20	Intangible Plant	\$ 59,850,722	\$ 60,028,417	\$ 60,204,957	\$ 61,423,014	\$ 61,430,878	\$ 61,784,215
21	Steam Production Plant	517,506,486	517,367,219	519,442,286	519,865,282	519,040,717	519,985,518
22	Other Production Plant	80,568,350	80,610,575	80,656,202	80,680,021	80,728,420	80,730,266
23	Transmission Plant	591,792,670	606,992,667	611,593,040	613,405,607	614,507,702	616,447,105
24	Distribution Plant	468,589,273	472,145,635	473,880,676	476,918,384	478,760,280	480,491,524
25	General Plant	121,983,848	122,501,652	122,663,569	123,305,933	123,445,823	124,452,470
26	Electric Plant Purchased	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27	Removal of Asset Retirement Costs						
28	Asset Retirement Cost - Steam	\$ 216,647	\$ 216,647	\$ 216,647	\$ 216,647	\$ 216,647	\$ 216,647
29	Asset Retirement Cost - Other	(38,058)	(38,058)	(38,058)	(38,058)	(38,058)	(38,058)
30	Asset Retirement Cost - Transmission	(5,242)	(5,242)	(5,242)	(5,242)	(5,242)	(5,242)
31	Asset Retirement Cost - Distribution	(2,008,561)	(2,008,561)	(2,008,561)	(2,008,561)	(2,008,561)	(2,008,561)
32	Asset Retirement Cost - General	(17,918)	(17,918)	(17,918)	(17,918)	(17,918)	(17,918)
33	Total Removal of Asset Retirement Costs	\$ (1,853,132)	\$ (1,853,132)	\$ (1,853,132)	\$ (1,853,132)	\$ (1,853,132)	\$ (1,853,132)
34	Total Electric Plant In Service	\$ 1,838,438,218	\$ 1,857,793,032	\$ 1,866,587,597	\$ 1,873,745,109	\$ 1,876,060,686	\$ 1,882,037,967
35	Plant Held For Future Use	1,163,858	1,163,858	1,163,858	1,163,858	1,163,858	1,163,858
36	Construction Work In Progress	71,720,652	59,996,346	117,224,713	122,478,260	130,631,484	138,370,142
37	Electric Plant Acquisition Adjustment	-	-	-	-	-	-
38	Total Electric Utility Plant	\$ 1,911,322,727	\$ 1,918,953,236	\$ 1,984,976,168	\$ 1,997,387,227	\$ 2,007,856,028	\$ 2,021,571,967

⁽⁴⁾ Plant in Service and Construction Work in Progress allocated to New Mexico jurisdiction based on factors from this current filing's Test Year Period ending March 31, 2019.

Southwestern Public Service Company

Plant in Service

Parts (b, c, & e) Twelve Months of the Test Year Period
New Mexico Jurisdiction

Line No.	Functional Classification	October 2018 ⁽⁴⁾	November 2018 ⁽⁴⁾	December 2018 ⁽⁴⁾	January 2019 ⁽⁴⁾	February 2019 ⁽⁴⁾	March 2019 ⁽⁴⁾
20	Intangible Plant	\$ 61,897,943	\$ 62,582,943	\$ 60,348,598	\$ 60,431,432	\$ 60,758,996	\$ 61,126,863
21	Steam Production Plant	520,210,241	523,923,590	526,351,740	526,832,745	526,877,770	527,014,122
22	Other Production Plant	80,730,049	80,780,616	80,872,539	80,875,802	80,865,537	80,862,175
23	Transmission Plant	616,512,779	619,660,263	625,549,535	625,832,982	626,265,734	631,192,182
24	Distribution Plant	482,480,581	485,045,039	492,950,361	495,133,027	497,092,314	499,171,667
25	General Plant	124,613,107	126,322,619	129,070,597	131,495,168	131,794,637	132,086,059
26	Electric Plant Purchased	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27	Removal of Asset Retirement Costs						
28	Asset Retirement Cost - Steam	\$ 216,647	\$ 216,647	\$ 70,963	\$ 70,963	\$ 70,963	\$ 70,963
29	Asset Retirement Cost - Other	(38,058)	(38,058)	(38,058)	(38,058)	(38,058)	(38,058)
30	Asset Retirement Cost - Transmission	(5,242)	(5,242)	(5,242)	(5,242)	(5,242)	(5,242)
31	Asset Retirement Cost - Distribution	(2,008,561)	(2,008,561)	(2,668,280)	(2,668,280)	(2,668,280)	(2,668,280)
32	Asset Retirement Cost - General	(17,918)	(17,918)	(17,918)	(17,918)	(17,918)	(17,918)
33	Total Removal of Asset Retirement Costs	\$ (1,853,132)	\$ (1,853,132)	\$ (2,658,536)	\$ (2,658,536)	\$ (2,658,536)	\$ (2,658,536)
34	Total Electric Plant In Service	\$ 1,884,591,567	\$ 1,896,461,938	\$ 1,912,484,834	\$ 1,917,942,621	\$ 1,920,996,454	\$ 1,928,794,532
35	Plant Held For Future Use	1,163,858	1,163,858	1,163,858	1,163,858	1,163,858	1,163,858
36	Construction Work In Progress	175,111,237	193,667,405	224,046,667	233,946,608	246,067,144	255,413,829
37	Electric Plant Acquisition Adjustment	-	-	-	-	-	-
38	Total Electric Utility Plant	\$ 2,060,866,663	\$ 2,091,293,201	\$ 2,137,695,359	\$ 2,153,053,087	\$ 2,168,227,455	\$ 2,185,372,219

(4) Plant in Service and Construction Work in Progress allocated to New Mexico jurisdiction based on factors from this current filing's Test Year Period ending March 31, 2019.

Southwestern Public Service Company

Plant in Service

Parts (a, c, and f) Five Years Beyond Test Year Period
Total Company

Line No.	Functional Classification	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
1	Intangible Plant	\$ 238,765,042	\$ 250,652,662	\$ 275,113,637	\$ 294,636,355	\$ 321,078,525
2	Steam Production Plant	1,901,907,424	1,954,304,890	1,989,777,490	2,037,428,195	2,080,874,259
3	Other Production Plant	984,039,186	1,757,946,768	1,760,635,906	1,772,129,533	1,775,574,749
4	Transmission Plant	3,281,283,494	3,680,671,408	3,864,012,457	4,012,424,666	4,280,736,333
5	Distribution Plant	1,487,583,336	1,580,839,750	1,676,804,543	1,786,809,575	1,965,358,624
6	General Plant	523,779,316	581,411,037	619,687,753	670,561,852	744,906,557
7	Electric Plant Purchased	-	-	-	-	-
8	Removal of Asset Retirement Costs					
9	Asset Retirement Cost - Steam	\$ 254,077	\$ 254,077	\$ 254,077	\$ 254,077	\$ 254,077
10	Asset Retirement Cost - Other	(136,263)	(136,263)	(136,263)	(136,263)	(136,263)
11	Asset Retirement Cost - Transmission	(25,029)	(25,029)	(25,029)	(25,029)	(25,029)
12	Asset Retirement Cost - Distribution	(7,467,368)	(7,467,368)	(7,467,368)	(7,467,368)	(7,467,368)
13	Asset Retirement Cost - General	(64,394)	(64,394)	(64,394)	(64,394)	(64,394)
14	Total Removal of Asset Retirement Costs	\$ (7,438,977)	\$ (7,438,977)	\$ (7,438,977)	\$ (7,438,977)	\$ (7,438,977)
15	Total Electric Plant In Service *	\$ 8,409,918,821	\$ 9,798,387,539	\$ 10,178,592,809	\$ 10,566,551,198	\$ 11,161,090,069
16	Plant Held For Future Use	4,167,109	4,167,109	4,167,109	4,167,109	4,167,109
17	Construction Work In Progress	449,574,522	126,069,959	134,947,170	236,848,267	153,329,039
18	Electric Plant Acquisition Adjustment	-	-	-	-	-
19	Total Electric Utility Plant	\$ 8,863,660,451	\$ 9,928,624,607	\$ 10,317,707,088	\$ 10,807,566,574	\$ 11,318,586,217

Notes: The forecast does not include Asset Retirement Costs associated with Asset Retirement Obligations, and these costs are not included in Rate Base. Base Period balances have been carried forward to forecast periods for this schedule. Forecasted data beyond 2023 is not available.

Southwestern Public Service Company

Plant in Service

Parts (b, c, and f) Five Years Beyond Test Year Period
New Mexico Jurisdiction

Line No.	Functional Classification	12/31/2019 ⁽⁵⁾	12/31/2020 ⁽⁵⁾	12/31/2021 ⁽⁵⁾	12/31/2022 ⁽⁵⁾	12/31/2023 ⁽⁵⁾
20	Intangible Plant	\$	\$	\$	\$	\$
21	Steam Production Plant	66,746,774	70,069,959	76,908,025	82,365,602	89,757,511
22	Other Production Plant	531,195,658	545,830,075	555,737,440	569,046,104	581,180,428
23	Transmission Plant	274,838,479	490,987,983	491,739,049	494,949,176	495,911,412
24	Distribution Plant	687,263,328	770,914,944	809,315,643	840,400,513	896,598,269
25	General Plant	531,551,283	564,874,167	599,164,823	638,472,413	702,272,520
		145,745,872	161,782,369	172,433,178	186,589,312	207,276,333
26	Electric Plant Purchased	-	-	-	-	-
27	Removal of Asset Retirement Costs					
28	Asset Retirement Cost - Steam	\$ 70,963	\$ 70,963	\$ 70,963	\$ 70,963	\$ 70,963
29	Asset Retirement Cost - Other	(38,058)	(38,058)	(38,058)	(38,058)	(38,058)
30	Asset Retirement Cost - Transmission	(5,242)	(5,242)	(5,242)	(5,242)	(5,242)
31	Asset Retirement Cost - Distribution	(2,668,280)	(2,668,280)	(2,668,280)	(2,668,280)	(2,668,280)
32	Asset Retirement Cost - General	(17,918)	(17,918)	(17,918)	(17,918)	(17,918)
33	Total Removal of Asset Retirement Costs	\$ (2,658,536)	\$ (2,658,536)	\$ (2,658,536)	\$ (2,658,536)	\$ (2,658,536)
34	Total Electric Plant In Service	\$ 2,234,682,859	\$ 2,601,800,962	\$ 2,702,639,623	\$ 2,809,164,583	\$ 2,970,337,937
35	Plant Held For Future Use	1,163,858	1,163,858	1,163,858	1,163,858	1,163,858
36	Construction Work In Progress	112,682,378	31,180,537	34,268,666	60,671,042	36,966,385
37	Electric Plant Acquisition Adjustment	-	-	-	-	-
38	Total Electric Utility Plant	\$ 2,348,529,094	\$ 2,634,145,357	\$ 2,738,072,147	\$ 2,870,999,483	\$ 3,008,468,180

Note: Forecasted data beyond 2023 is not available.⁽⁵⁾ Plant in Service and Construction Work in Progress allocated to New Mexico jurisdiction based on factors from this current filing's Test Year Period ending March 31, 2019.

Southwestern Public Service Company

Property Retirements and Property Investment Information

Parts (a, c, & d) Four Years Prior to Test Year Period
Total Company

Line No.	Functional Classification	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018
Property Additions						
1	Production	\$ 57,145,568	\$ 64,393,073	\$ 47,426,854	\$ 64,419,400	\$ 42,094,094
2	Transmission	497,237,227	333,420,180	258,705,601	196,015,193	334,361,671
3	Distribution	74,525,510	107,627,828	81,287,146	94,859,713	102,494,674
4	General & Intangible	63,614,244	87,408,426	68,544,221	122,602,907	54,890,136
5						
6	Total Additions	\$ 692,522,549	\$ 592,849,507	\$ 455,963,822	\$ 477,897,213	\$ 533,840,575
Property Retirements						
7	Production	\$ (21,870,546)	\$ (12,844,394)	\$ (11,160,908)	\$ (24,103,012)	\$ (10,670,938)
8	Transmission	(4,433,796)	(8,034,998)	(3,741,665)	(12,106,425)	(25,403,506)
9	Distribution	(8,508,649)	(10,629,338)	(8,208,260)	(10,531,067)	(20,842,163)
10	General & Intangible	(1,057,434)	(13,472,448)	(5,306,384)	(27,145,100)	(16,027,040)
11						
12	Total Retirements	\$ (35,870,427)	\$ (44,981,179)	\$ (28,417,217)	\$ (73,885,603)	\$ (72,943,646)

Parts (b, c, & d) Four Years Prior to Test Year Period
New Mexico Jurisdiction

Line No.	Functional Classification	12/31/2014 ⁽¹⁾	12/31/2015 ⁽¹⁾	12/31/2016 ⁽²⁾	12/31/2017 ⁽²⁾	12/31/2018 ⁽³⁾
Property Additions						
13	Production	\$ 11,402,711	\$ 12,480,678	\$ 10,481,665	\$ 14,237,136	\$ 11,756,724
14	Transmission	94,783,636	63,070,992	50,189,205	38,027,189	70,031,899
15	Distribution	26,055,045	37,556,338	28,717,926	33,512,976	36,623,948
16	General & Intangible	15,002,187	20,952,552	17,066,854	30,526,949	15,295,593
17						
18	Total Additions	\$ 147,243,578	\$ 134,060,560	\$ 106,455,649	\$ 116,304,249	\$ 133,708,164
Property Retirements						
19	Production	\$ (4,364,004)	\$ (2,489,503)	\$ (2,466,638)	\$ (5,326,933)	\$ (2,980,353)
20	Transmission	(845,173)	(1,519,930)	(725,888)	(2,348,661)	(5,320,753)
21	Distribution	(2,974,730)	(3,709,069)	(3,720,895)	(3,720,519)	(7,447,434)
22	General & Intangible	(247,126)	(3,234,325)	(1,321,239)	(6,758,870)	(4,466,068)
23						
24	Total Retirements	\$ (8,431,033)	\$ (10,952,827)	\$ (7,413,660)	\$ (18,154,983)	\$ (20,214,608)

Note: Schedule does not include activity related to Asset Retirement Cost accounts.

⁽¹⁾ Plant in Service and Construction Work in Progress allocated to New Mexico jurisdiction based on factors from Case No. 15-00296-UT.

⁽²⁾ Plant in Service and Construction Work in Progress allocated to New Mexico jurisdiction based on factors from Case No. 17-00255-UT.

⁽³⁾ Plant in Service and Construction Work in Progress allocated to New Mexico jurisdiction based on factors from this current filing's Test Year Period ending March 31, 2019.

Southwestern Public Service Company
Property Retirements and Property Investment Information

Parts (a, c, & e) Twelve Months of the Test Year Period
Total Company

Line No.	Functional Classification	April 2018	May 2018	June 2018	July 2018	August 2018	September 2018
1	Property Additions						
2	Production	\$ 2,919,990	\$ 999,571	\$ 7,934,985	\$ 1,809,592	\$ (1,377,303)	\$ 3,605,373
3	Transmission	43,229,676	82,533,752	27,198,355	5,299,194	7,996,731	9,590,620
4	Distribution	3,307,687	10,530,358	5,316,280	9,563,639	6,724,070	5,133,427
5	General & Intangible	3,221,497	2,496,521	1,404,687	6,822,954	612,952	4,881,626
6	Total Additions	\$ 52,678,849	\$ 96,560,203	\$ 41,854,308	\$ 23,495,378	\$ 13,956,450	\$ 23,211,047
7	Property Retirements						
8	Production	\$ (7,154,440)	\$ (1,347,026)	\$ (341,993)	\$ (209,801)	\$ (1,401,707)	\$ (215,971)
9	Transmission	(3,871,260)	(9,962,590)	(5,234,246)	3,354,761	(2,734,868)	(331,094)
10	Distribution	(10,220,900)	(577,632)	(460,646)	(1,062,400)	(1,569,396)	(288,419)
11	General & Intangible	(910,515)	-	(191,278)	(157,229)	(82,088)	-
12	Total Retirements	\$ (22,157,116)	\$ (11,887,248)	\$ (6,228,163)	\$ 1,925,331	\$ (5,788,059)	\$ (835,484)

Parts (b, c, & e) Twelve Months of the Test Year Period
New Mexico Jurisdiction

Line No.	Functional Classification	April 2018 ⁽⁴⁾	May 2018 ⁽⁴⁾	June 2018 ⁽⁴⁾	July 2018 ⁽⁴⁾	August 2018 ⁽⁴⁾	September 2018 ⁽⁴⁾
13	Property Additions						
14	Production	\$ 815,542	\$ 279,177	\$ 2,216,212	\$ 505,412	\$ (384,675)	\$ 1,006,967
15	Transmission	9,054,436	17,286,657	5,696,683	1,109,914	1,674,912	2,008,751
16	Distribution	1,181,921	3,762,764	1,899,642	3,417,331	2,402,681	1,834,304
17	General & Intangible	897,697	695,676	391,428	1,901,273	170,804	1,360,306
18	Total Additions	\$ 11,949,596	\$ 22,024,274	\$ 10,203,964	\$ 6,933,930	\$ 3,863,721	\$ 6,210,328
19	Property Retirements						
20	Production	\$ (1,998,209)	\$ (376,219)	\$ (95,517)	\$ (58,597)	\$ (391,492)	\$ (60,320)
21	Transmission	(810,834)	(2,086,660)	(1,096,310)	702,653	(572,817)	(69,348)
22	Distribution	(3,652,187)	(206,403)	(164,601)	(379,623)	(560,785)	(103,059)
23	General & Intangible	(253,722)	-	(53,301)	(43,813)	(22,874)	-
24	Total Retirements	\$ (6,714,952)	\$ (2,669,282)	\$ (1,409,730)	\$ 220,621	\$ (1,547,968)	\$ (232,727)

Note: Schedule does not include activity related to Asset Retirement Cost accounts.

⁽⁴⁾ Plant Additions and Retirements allocated to New Mexico jurisdiction based on factors from this current filing's Test Year Period ending March 31, 2019.

Southwestern Public Service Company
Property Retirements and Property Investment Information

Parts (a, c, e) Twelve Months of the Test Year Period
Total Company

Line No.	Functional Classification	October 2018	November 2018	December 2018	January 2019	February 2019	March 2019
1	Property Additions						
2	Production	\$ 803,825	\$ 13,476,431	\$ 8,501,322	\$ 1,733,887	\$ 124,459	\$ 522,292
3	Transmission	4,067,400	15,332,189	29,366,161	5,773,811	2,373,486	24,011,479
4	Distribution	6,147,634	7,640,461	24,734,635	7,178,462	7,587,809	6,444,767
5	General & Intangible	1,751,180	8,593,984	15,801,865	9,009,701	2,247,979	3,539,618
6	Total Additions	\$ 12,770,040	\$ 45,043,064	\$ 78,403,982	\$ 23,695,860	\$ 12,333,733	\$ 34,518,156
7	Property Retirements						
8	Production	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (46,133)
9	Transmission	(3,753,847)	(304,778)	(1,248,305)	(4,420,515)	(307,345)	(502,227)
10	Distribution	(581,120)	(463,646)	(4,457,311)	(1,070,117)	(2,104,607)	(613,879)
11	General & Intangible	(767,061)	-	(13,918,870)	-	-	(1,176,384)
12	Total Retirements	\$ (5,102,028)	\$ (768,425)	\$ (19,624,486)	\$ (5,490,632)	\$ (2,411,952)	\$ (2,338,623)

Parts (b, c, e) Twelve Months of the Test Year Period
New Mexico Jurisdiction

Line No.	Functional Classification	October 2018 ⁽⁴⁾	November 2018 ⁽⁴⁾	December 2018 ⁽⁴⁾	January 2019 ⁽⁴⁾	February 2019 ⁽⁴⁾	March 2019 ⁽⁴⁾
13	Property Additions						
14	Production	\$ 224,505	\$ 3,763,917	\$ 2,374,388	\$ 484,268	\$ 34,761	\$ 145,874
15	Transmission	851,915	3,211,320	6,150,729	1,209,322	497,126	5,029,193
16	Distribution	2,196,706	2,730,130	8,838,313	2,565,047	2,711,317	2,302,879
17	General & Intangible	487,981	2,394,785	4,403,321	2,510,628	626,418	986,344
18	Total Additions	\$ 3,761,107	\$ 12,100,152	\$ 21,766,750	\$ 6,769,265	\$ 3,869,621	\$ 8,464,290
19	Property Retirements						
20	Production	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (12,885)
21	Transmission	(786,242)	(63,836)	(261,457)	(925,875)	(64,373)	(105,191)
22	Distribution	(207,649)	(165,673)	(1,592,710)	(382,380)	(752,030)	(219,355)
23	General & Intangible	(213,748)	-	(3,878,609)	-	-	(327,809)
24	Total Retirements	\$ (1,207,638)	\$ (229,508)	\$ (5,732,776)	\$ (1,308,255)	\$ (816,403)	\$ (665,240)

Note: Schedule does not include activity related to Asset Retirement Cost accounts.

⁽⁴⁾ Plant Additions and Retirements allocated to New Mexico jurisdiction based on factors from this current filing's Test Year Period ending March 31, 2019.

Southwestern Public Service Company

Property Retirements and Property Investment Information

Parts (a, c, & f) Five Years Beyond Test Year Period
Total Company

Line No.	Functional Classification	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
1	Property Additions					
2	Production	\$ 742,913,400	\$ 826,305,049	\$ 38,161,737	\$ 59,144,332	\$ 46,891,280
3	Transmission	303,453,452	408,108,420	193,071,011	158,621,603	278,930,963
4	Distribution	113,127,142	103,824,631	107,094,960	121,705,559	190,834,162
5	General & Intangible	83,926,754	69,519,341	62,737,690	70,396,817	100,786,875
6	Total Additions	\$ 1,243,420,748	\$ 1,407,757,441	\$ 401,065,399	\$ 409,868,311	\$ 617,443,280
7	Property Retirements					
8	Production	\$ (30,971,350)	\$ -	\$ -	\$ -	\$ -
9	Transmission	(9,117,390)	(8,720,506)	(9,729,962)	(10,209,395)	(10,619,296)
10	Distribution	(10,101,589)	(10,568,217)	(11,130,167)	(11,700,527)	(12,285,113)
11	General & Intangible	(1,176,384)	-	-	-	-
12	Total Retirements	\$ (51,366,714)	\$ (19,288,723)	\$ (20,860,129)	\$ (21,909,922)	\$ (22,904,409)

Parts (b, c, & f) Five Years Beyond Test Year Period
New Mexico Jurisdiction

Line No.	Functional Classification	12/31/2019 ⁽⁵⁾	12/31/2020 ⁽⁵⁾	12/31/2021 ⁽⁵⁾	12/31/2022 ⁽⁵⁾	12/31/2023 ⁽⁵⁾
13	Property Additions					
14	Production	\$ 207,492,945	\$ 230,783,922	\$ 10,658,431	\$ 16,518,792	\$ 13,096,560
15	Transmission	63,558,187	85,478,122	40,438,635	33,223,222	58,421,963
16	Distribution	40,423,199	37,099,176	38,267,748	43,488,485	68,189,890
17	General & Intangible	23,386,888	19,372,143	17,482,380	19,616,659	28,085,102
18	Total Additions	\$ 334,861,219	\$ 372,733,363	\$ 106,847,193	\$ 112,847,158	\$ 167,793,514
19	Property Retirements					
20	Production	\$ (8,650,183)	\$ -	\$ -	\$ -	\$ -
21	Transmission	(1,909,633)	(1,826,506)	(2,037,936)	(2,138,353)	(2,224,207)
22	Distribution	(3,609,554)	(3,776,292)	(3,977,091)	(4,180,895)	(4,389,783)
23	General & Intangible	(327,809)	-	-	-	-
24	Total Retirements	\$ (14,497,179)	\$ (5,602,798)	\$ (6,015,027)	\$ (6,319,248)	\$ (6,613,989)

Notes: Schedule does not include activity related to Asset Retirement Cost accounts.

Forecasted data beyond 2023 is not available

⁽⁵⁾ Plant Additions and Retirements allocated to New Mexico jurisdiction based on factors from this current filing's Test Year Period ending March 31, 2019.

Southwestern Public Service Company

Operation and Maintenance Expense Information

(a, c, d) Total System Excluding Fuel and Purchased Power
Four Years Prior to Test Year Period

Line No.	Classification	2014	2015	2016	2017	2018
1	Production	\$ 142,863,164	\$ 155,596,242	\$ 137,127,355	\$ 136,901,885	\$ 138,411,968
2	Transmission ⁽¹⁾	126,490,017	145,593,711	173,307,469	191,521,738	195,643,991
3	Regional Markets	7,442,791	7,878,205	6,652,732	8,338,286	8,873,484
4	Distribution	36,160,374	38,255,587	31,290,851	36,119,850	38,733,282
5	Customer Operations	31,034,391	32,252,565	39,200,180	36,994,207	37,008,384
6	Administrative & General	100,213,743	107,891,773	102,508,777	105,745,815	109,599,017
7	Total	\$ 444,204,481	\$ 487,468,082	\$ 490,087,363	\$ 515,621,781	\$ 528,270,127

⁽¹⁾ SPS does not record Transmission O&M expense by voltage level.

Southwestern Public Service Company

Operation and Maintenance Expense Information

(b, c, d) New Mexico Jurisdiction Excluding Fuel and Purchased Power
Four Years Prior to Test Year Period

Line No.	Classification	2014 ⁽²⁾	2015 ⁽²⁾	2016 ⁽³⁾	2017 ⁽⁴⁾	2018 ⁽⁵⁾
1	Production	\$ 28,614,317	\$ 31,560,631	\$ 30,770,353	\$ 30,867,563	\$ 34,392,104
2	Transmission ⁽¹⁾	22,130,197	26,084,967	28,349,586	31,379,321	39,264,755
3	Regional Markets	2,050,313	2,153,898	1,867,891	2,344,820	2,114,813
4	Distribution	11,644,461	12,742,723	10,077,165	11,632,336	12,538,060
5	Customer Operations	8,411,376	8,884,920	10,935,544	10,320,151	10,830,405
6	Administrative & General	26,144,440	25,926,870	27,904,192	28,866,270	31,514,339
7	Total	\$ 98,995,105	\$ 107,354,010	\$ 109,904,732	\$ 115,410,461	\$ 130,654,476

⁽¹⁾ SPS does not record Transmission O&M expense by voltage level.

⁽²⁾ 2013 O&M expenses allocated to New Mexico jurisdiction based on factors from Case No. 12-00350-UT.

⁽³⁾ 2014 & 2015 O&M expenses allocated to New Mexico jurisdiction based on factors from Case No. 15-00296-UT.

⁽⁴⁾ 2017 O&M expenses allocated to New Mexico jurisdiction based on factors from Case No. 17-00255-UT.

⁽⁵⁾ 2018 O&M expenses allocated to New Mexico jurisdiction based on factors from this current filing's Base Period.

Southwestern Public Service Company

Operation and Maintenance Expense Information

(a, c, e) Total System Excluding Fuel and Purchased Power

Line No.	Classification	April 2018	May 2018	June 2018	July 2018	August 2018	September 2018	October 2018	November 2018	December 2018	January 2019	February 2019	March 2019
1	Production	\$ 10,533,913	\$ 9,466,476	\$ 12,701,922	\$ 11,150,642	\$ 10,030,710	\$ 10,626,552	\$ 13,308,666	\$ 12,550,822	\$ 15,443,690	\$ 11,428,578	\$ 9,238,122	\$ 12,090,677
2	Transmission ⁽¹⁾	17,356,544	18,076,289	17,118,068	17,305,248	16,831,055	14,597,196	10,122,321	15,941,218	17,674,286	16,479,461	16,044,086	16,364,457
3	Regional Markets	730,897	749,452	745,776	743,661	753,428	730,069	739,674	763,273	740,468	721,568	637,768	721,048
4	Distribution	3,627,061	3,574,582	2,972,023	3,102,583	3,181,542	3,146,730	3,918,529	3,093,981	3,222,840	2,682,008	3,346,511	3,101,497
5	Customer Operations	2,809,524	3,124,608	3,632,712	3,564,702	3,550,583	2,812,577	3,316,527	2,787,920	2,398,234	3,125,461	2,832,947	4,133,887
6	Administrative & General	8,602,916	9,675,106	8,391,920	9,745,970	9,133,009	11,686,825	9,131,947	8,952,181	6,947,243	10,119,350	8,821,299	10,098,059
7	Total	\$ 43,660,856	\$ 44,666,513	\$ 45,562,421	\$ 45,612,805	\$ 43,480,327	\$ 43,599,949	\$ 40,537,664	\$ 44,089,394	\$ 46,426,761	\$ 44,556,425	\$ 40,920,732	\$ 46,509,625

⁽¹⁾ SPS does not record Transmission O&M expense by voltage level.

Southwestern Public Service Company

Operation and Maintenance Expense Information

(b, c, e) New Mexico Jurisdiction Excluding Fuel and Purchased

Line No.	Classification	April 2018 ⁽²⁾	May 2018 ⁽²⁾	June 2018 ⁽²⁾	July 2018 ⁽²⁾	August 2018 ⁽²⁾	September 2018 ⁽²⁾	October 2018 ⁽²⁾	November 2018 ⁽²⁾	December 2018 ⁽²⁾	January 2019 ⁽²⁾	February 2019 ⁽²⁾	March 2019 ⁽²⁾
1	Production	\$ 2,617,428	\$ 2,352,196	\$ 3,156,127	\$ 2,770,671	\$ 2,492,395	\$ 2,640,447	\$ 3,306,889	\$ 3,118,583	\$ 3,837,392	\$ 2,839,731	\$ 2,295,455	\$ 3,004,248
2	Transmission ⁽¹⁾	3,483,370	3,627,819	3,435,509	3,473,075	3,377,907	2,929,583	2,031,498	3,199,321	3,547,139	3,307,344	3,219,967	3,284,263
3	Regional Markets	174,194	178,616	177,740	177,236	179,564	173,997	176,286	181,910	176,475	171,971	151,999	171,847
4	Distribution	1,174,089	1,157,101	962,051	1,004,314	1,029,873	1,018,604	1,268,438	1,001,529	1,043,241	868,173	1,083,274	1,003,962
5	Customer Operations	822,200	914,408	1,063,103	1,043,201	1,039,069	823,093	970,573	815,877	701,837	914,658	829,054	1,209,771
6	Administrative & General	2,473,701	2,782,001	2,413,031	2,802,377	2,626,125	3,360,455	2,625,820	2,574,129	1,997,625	2,909,740	2,536,495	2,903,618
7	Total	\$ 10,744,983	\$ 11,012,142	\$ 11,207,563	\$ 11,270,874	\$ 10,744,933	\$ 10,946,180	\$ 10,379,504	\$ 10,891,351	\$ 11,303,710	\$ 11,011,617	\$ 10,116,244	\$ 11,577,709

⁽¹⁾ SPS does not record Transmission O&M expense by voltage level.

⁽²⁾ Test Year O&M expenses allocated to New Mexico jurisdiction based on factors from this current filing's Base Period.

Southwestern Public Service Company

Operation and Maintenance Expense Information

(a, c, f) Total System Excluding Fuel and Purchased Power
Five Years Beyond the Test Year Period

Line No.	Classification	2019	2020 ⁽²⁾	2021 ⁽²⁾	2022 ⁽²⁾	2023 ⁽²⁾	2024 ⁽²⁾
1	Production	\$ 139,776,951	\$ 145,079,879	\$ 149,909,629	\$ 146,871,692	\$ 144,631,977	\$ 146,078,297
2	Transmission ⁽¹⁾	226,784,841	241,106,141	239,456,963	234,471,342	235,367,234	237,720,907
3	Regional Markets	9,661,079	10,359,839	10,748,832	10,645,798	10,460,887	10,565,496
4	Distribution	36,467,421	33,386,670	33,999,475	36,696,339	37,228,009	37,600,289
5	Customer Operations	35,965,111	34,662,638	35,040,826	34,915,407	35,047,175	35,397,647
6	Administrative & General	104,845,721	87,824,076	86,937,028	86,353,561	83,983,500	84,823,335
7	Total	\$ 553,501,125	\$ 552,419,244	\$ 556,092,753	\$ 549,954,138	\$ 546,718,783	\$ 552,185,971

⁽¹⁾SPS does not record Transmission O&M expense by voltage level.

⁽²⁾2019-2024 represents the Budgeted amounts from SPS's 2018 budget cycle.

Southwestern Public Service Company

Operation and Maintenance Expense Information

(b, c, f) New Mexico Jurisdiction Excluding Fuel and Purchased Power
Five Years Beyond the Test Year Period

Line No.	Classification	2019 ⁽³⁾	2020 ⁽³⁾	2021 ⁽³⁾	2022 ⁽³⁾	2023 ⁽³⁾	2024 ⁽³⁾
1	Production	\$ 39,479,176	\$ 40,976,956	\$ 42,341,091	\$ 41,483,043	\$ 40,850,449	\$ 41,258,954
2	Transmission ⁽¹⁾	46,896,947	49,858,456	49,517,421	48,486,442	48,671,704	49,158,421
3	Regional Markets	2,390,474	2,563,370	2,659,620	2,634,126	2,588,373	2,614,257
4	Distribution	11,797,407	10,800,767	10,999,013	11,871,463	12,043,461	12,163,896
5	Customer Operations	10,513,892	10,133,133	10,243,690	10,207,026	10,245,546	10,348,002
6	Administrative & General	33,205,501	27,814,606	27,533,671	27,348,882	26,598,264	26,864,247
7	Total	\$ 144,283,396	\$ 142,147,288	\$ 143,294,506	\$ 142,030,982	\$ 140,997,798	\$ 142,407,776

⁽¹⁾SPS does not record Transmission O&M expense by voltage level.

⁽³⁾O&M expense allocated to New Mexico jurisdiction based on factors from this current filing's Test Year.

Southwestern Public Service Company

Customer Information

(a) For New Mexico Jurisdiction and Service Area
 (b) Annual kWh Sales and the Revenue Produced and the Increase or Decrease in kWh sales due to Changes in Number of Customers and Other Adjustments by Customer Class for the Twelve Months of the Test Year Period

Line No.	New Mexico Customer Class	Rate No.	Base Period kWh Sales	Test Year kWh Sales	kWh Adjustment	Adjusted Revenues
1	Residential Service	1	659,914,662	650,677,734	(9,236,928)	\$ 50,519,075
2	Residential Space Heating Service	39	498,914,782	490,675,042	(8,239,740)	31,158,450
3	Small General Service	6	158,848,714	158,284,930	(563,783)	10,125,568
4	Secondary General Service	40	731,127,164	781,806,347	50,679,183	41,455,715
5	Irrigation Service	3	74,950,103	71,500,487	(3,449,617)	4,148,883
6	Primary General Service	13	1,751,951,998	1,840,440,755	88,488,757	71,269,778
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	155,464,643	155,464,643	0	3,780,705
8	LGS-T 115 kV + ⁽¹⁾	34	2,225,472,518	2,407,890,961	182,418,443	49,480,899
9	Small Municipal & School Service	42	11,766,426	11,520,352	(246,074)	672,578
10	Large Municipal & School Service	16	120,930,881	119,766,191	(1,164,690)	6,076,894
11	Street Lighting Service	14	13,359,432	13,359,432	0	1,932,426
12	Area Lighting Service	28	15,369,008	15,369,008	0	2,076,870
13	Retail		6,418,070,331	6,716,755,882	298,685,551	\$ 272,697,842

⁽¹⁾ LGS-T is Large General Service Transmission

Southwestern Public Service Company

Customer Information

(a) For New Mexico Jurisdiction and Service Area
(c)(i) Four Years Prior to the Test Year Period

Line No.	Customer Class	Rate No.	Custs at Dec 2014	Avg 2014 Custs	Custs at Dec 2015	Avg 2015 Custs	Custs at Dec 2016	Avg 2016 Custs	Custs at Dec 2017	Avg 2017 Custs	Custs at Dec 2018	Avg 2018 Custs
1	Residential Service	1	57,661	57,385	58,578	58,124	58,640	58,721	59,367	59,011	60,255	59,872
2	Residential Space Heating Service	39	29,809	29,793	29,814	29,830	29,649	29,749	29,671	29,671	29,744	29,715
3	Small General Service	6	11,204	10,022	11,281	11,224	11,481	11,424	11,575	11,537	11,765	11,666
4	Secondary General Service	40	3,119	4,130	3,368	3,280	3,449	3,416	3,523	3,490	3,752	3,640
5	Irrigation Service	3	1,014	1,012	1,020	1,021	1,020	1,019	1,012	1,015	1,010	1,012
6	Primary General Service	13	4,534	4,475	4,696	4,638	4,776	4,765	4,756	4,793	4,853	4,821
7	LGS-T 69kV to 115 kV ⁽¹⁾	34	6	6	6	6	5	6	5	5	5	5
8	LGS-T 115 kV + ⁽¹⁾	34	20	20	23	22	26	25	26	28	27	27
9	Small Municipal & School Service	42	1,202	1,135	1,181	1,187	1,188	1,192	1,168	1,175	1,178	1,175
10	Large Municipal & School Service	16	512	574	532	525	550	542	561	555	562	563
11	Street Lighting Service	14	19	19	19	19	19	19	19	19	19	19
12	Area Lighting Service	28	9,441	9,481	9,345	9,387	9,216	9,292	9,126	9,172	9,065	9,088
13	Retail		118,541	118,051	119,863	119,263	120,019	120,171	120,809	120,471	122,235	121,603

⁽¹⁾ LGS-T is Large General Service Transmission

Southwestern Public Service Company

Customer Information

(a) For New Mexico Jurisdiction and Service Area
(c)(ii) Test Year Period and (iii) Five Years
Beyond the Test Year Period

Line No.	Customer Class	Rate No.	TY Custs		Avg TY Custs		Custs		Avg Custs		Custs		Avg Custs	
			12-Months Ended Mar 2019	Mar 2019	12-Months Ended Mar 2019	Mar 2019	12-Months Ended Dec 2019	Dec 2019	12-Months Ended Dec 2019	Dec 2019	12-Months Ended Dec 2020	Dec 2020	12-Months Ended Dec 2020	Dec 2020
1	Residential Service	1	60,579	60,110	60,989	60,639	61,752	61,402						
2	Residential Space Heating Service	39	29,760	29,731	29,816	29,783	29,888	29,855						
3	Small General Service	6	11,827	11,713	11,936	11,857	12,137	12,039						
4	Secondary General Service	40	3,803	3,696	3,807	3,781	3,871	3,839						
5	Irrigation Service	3	1,006	1,011	1,025	1,018	1,042	1,034						
6	Primary General Service	13	4,848	4,835	4,927	4,892	5,013	4,970						
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	5	5	5	5	6	6						
8	LGS-T 115 kV + ⁽¹⁾	34	28	27	29	28	30	29						
9	Small Municipal & School Service	42	1,170	1,175	1,183	1,181	1,187	1,186						
10	Large Municipal & School Service	16	567	564	565	563	567	566						
11	Street Lighting Service	14	19	19	19	19	19	19						
12	Area Lighting Service	28	9,068	9,073	8,953	8,990	8,855	8,892						
13	Retail		122,680	121,959	123,254	122,756	124,367	123,835						

⁽¹⁾ LGS-T is Large General Service Transmission

Southwestern Public Service Company

Customer Information

(a) For New Mexico Jurisdiction and Service Area
(c)(ii) Test Year Period and (iii) Five Years
Beyond the Test Year Period

Line No.	Customer Class	Rate No.	Custs		Avg Custs		Custs		Avg Custs		Custs		Avg Custs		
			12-Months Ended Dec 2021	12-Months Ended Dec 2021	12-Months Ended Dec 2021	12-Months Ended Dec 2021	12-Months Ended Dec 2022	12-Months Ended Dec 2022	12-Months Ended Dec 2022	12-Months Ended Dec 2022	12-Months Ended Dec 2023	12-Months Ended Dec 2023	12-Months Ended Dec 2023	12-Months Ended Dec 2023	12-Months Ended Dec 2024
1	Residential Service	1	62,521	62,165	63,361	62,974	64,192	63,810	65,058	64,661	64,661	64,661	64,661	64,661	64,661
2	Residential Space Heating Service	39	29,960	29,927	30,032	29,999	30,104	30,071	30,176	30,143	30,143	30,143	30,143	30,143	30,143
3	Small General Service	6	12,341	12,251	12,533	12,444	12,733	12,641	12,937	12,842	12,842	12,842	12,842	12,842	12,842
4	Secondary General Service	40	3,935	3,907	3,997	3,968	4,060	4,031	4,125	4,095	4,095	4,095	4,095	4,095	4,095
5	Irrigation Service	3	1,059	1,052	1,076	1,068	1,093	1,085	1,110	1,102	1,102	1,102	1,102	1,102	1,102
6	Primary General Service	13	5,098	5,060	5,182	5,142	5,266	5,226	5,353	5,312	5,312	5,312	5,312	5,312	5,312
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	6	6	6	6	7	7	7	7	7	7	7	7	7
8	LGS-T 115 kV + ⁽¹⁾	34	32	31	33	32	35	34	37	36	36	36	36	36	36
9	Small Municipal & School Service	42	1,192	1,190	1,196	1,194	1,199	1,198	1,202	1,201	1,201	1,201	1,201	1,201	1,201
10	Large Municipal & School Service	16	568	568	570	570	572	571	574	573	573	573	573	573	573
11	Street Lighting Service	14	19	19	19	19	19	19	19	19	19	19	19	19	19
12	Area Lighting Service	28	8,758	8,794	8,661	8,696	8,563	8,599	8,466	8,501	8,501	8,501	8,501	8,501	8,501
13	Retail		125,489	124,968	126,666	126,112	127,843	127,291	129,064	128,492	128,492	128,492	128,492	128,492	128,492

⁽¹⁾ LGS-T is Large General Service Transmission

Southwestern Public Service Company

Customer Information

- (d) Annual kWh Sales for
 - (i) Four Years Prior to the Test Year Period, and
 - (ii) Five Years Beyond the Test Year Period

Line No.	Customer Class	Rate No.	Actual					
			kWh Sales 12-Months Ended Dec 2014	kWh Sales 12-Months Ended Dec 2015	kWh Sales 12-Months Ended Dec 2016	kWh Sales 12-Months Ended Dec 2017	kWh Sales 12-Months Ended Mar 2018	TY kWh Sales 12-Months Ended Mar 2019 ⁽²⁾
1	Residential Service	1	591,694,078	607,954,277	600,017,979	588,509,507	604,148,851	650,677,734
2	Residential Space Heating Service	39	513,319,397	509,147,221	481,915,127	454,310,299	465,858,651	490,675,042
3	Small General Service	6	118,857,256	156,138,359	149,062,566	147,145,401	149,307,997	158,284,930
4	Secondary General Service	40	712,988,351	695,610,038	689,374,292	698,294,085	703,645,356	781,806,347
5	Irrigation Service	3	76,052,133	65,933,440	73,325,481	74,342,615	75,772,908	71,500,487
6	Primary General Service	13	1,287,039,688	1,343,479,600	1,363,994,467	1,437,663,406	1,481,172,197	1,840,440,755
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	183,744,356	157,953,234	135,920,364	145,703,450	153,040,202	155,464,643
8	LGS-T 115 kV + ⁽¹⁾	34	1,341,861,353	1,379,715,679	1,601,268,002	1,739,535,955	1,792,679,695	2,407,890,961
9	Small Municipal & School Service	42	10,450,706	12,320,482	12,073,351	11,638,960	11,606,705	11,520,352
10	Large Municipal & School Service	16	121,662,005	117,209,246	116,591,061	115,061,701	116,235,608	119,766,191
11	Street Lighting Service	14	13,268,720	13,292,455	13,311,723	13,322,214	13,326,255	13,359,432
12	Area Lighting Service	28	16,321,763	16,127,373	15,941,662	15,830,745	15,745,078	15,369,008
13	Retail		4,987,259,786	5,074,881,404	5,252,796,075	5,441,358,338	5,582,539,503	6,716,755,882

⁽¹⁾ LGS-T is Large General Service Transmission

⁽²⁾ Refer to Attachment RML-5 WP Allocation Model "kWh Weather Adjustment", "kWh Customer Count Adjustment", "WTMPA-LPL Adjustment", and "Other Customer Adjustment" for detail on adjustments on actual TME (Twelve Months Ending) March 31, 2019

Southwestern Public Service Company

Customer Information

- (d) Annual kWh Sales for
- (i) Four Years Prior to the Test Year Period, and
- (ii) Five Years Beyond the Test Year Period

Line No.	Customer Class	Rate No.	Forecast											
			kWh Sales 12-Months Ended Dec 2019		kWh Sales 12-Months Ended Dec 2020		kWh Sales 12-Months Ended Dec 2021		kWh Sales 12-Months Ended Dec 2022		kWh Sales 12-Months Ended Dec 2023		kWh Sales 12-Months Ended Dec 2024	
1	Residential Service	1	641,335,737	649,060,790	652,733,530	661,273,499	672,807,851	681,121,509						
2	Residential Space Heating Service	39	465,970,186	458,110,078	451,208,474	446,404,092	440,502,858	438,275,640						
3	Small General Service	6	165,566,567	169,145,666	171,066,736	173,378,003	175,678,644	178,056,585						
4	Secondary General Service	40	778,465,058	796,330,702	805,640,543	816,818,952	827,815,475	839,625,517						
5	Irrigation Service	3	82,536,698	84,177,641	84,985,924	85,984,397	86,973,105	87,995,492						
6	Primary General Service	13	2,035,829,581	2,319,354,850	2,361,814,059	2,402,000,708	2,433,429,777	2,468,763,721						
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	158,271,562	157,502,741	159,694,019	162,338,418	164,522,393	168,249,951						
8	LGS-T 115 kV + ⁽¹⁾	34	2,486,523,404	2,898,567,989	3,137,567,820	3,305,803,689	3,422,845,859	3,550,754,066						
9	Small Municipal & School Service	42	12,281,010	12,274,132	12,279,028	12,262,261	12,199,745	12,229,592						
10	Large Municipal & School Service	16	116,972,546	117,059,314	117,232,259	117,251,365	116,832,307	117,297,725						
11	Street Lighting Service	14	13,376,769	13,346,372	13,332,987	13,315,823	13,301,197	13,282,006						
12	Area Lighting Service	28	15,683,152	15,565,384	15,428,043	15,291,504	15,155,758	15,020,800						
13	Retail		6,972,812,269	7,690,495,658	7,982,983,423	8,212,122,710	8,382,064,969	8,570,672,606						

⁽¹⁾ LGS-T is Large General Service Transmission

⁽²⁾ Refer to Attachment RML-5 WP Allocation Model "kWh Weather Adjustment", "kWh Customer Count Adjustment", "WTMPA-LPL Adjustment", and "Other Customer Adjustment" for detail on adjustments on actual TME (Twelve Months Ending) March 31, 2019

Southwestern Public Service Company

Weather Data

Roswell, NM

Line No.	Month	Year	Heating Degree Days		Cooling Degree Days		Precipitation	
			Actual	Normal	Actual	Normal	Actual	Normal
1	April	2018	111	135	57	50	0.03	0.58
2	May	2018	0	26	368	214	0.52	1.25
3	June	2018	0	0	554	453	1.40	1.23
4	July	2018	0	0	584	520	0.51	1.94
5	August	2018	0	0	533	470	0.96	1.73
6	September	2018	2	10	223	260	0.84	1.60
7	October	2018	177	129	78	53	3.25	1.05
8	November	2018	522	443	0	2	0.01	0.42
9	December	2018	720	738	0	0	1.05	0.55
10	January	2019	684	726	0	0	0.03	0.37
11	February	2019	474	513	0	1	0.00	0.38
12	March	2019	400	341	13	5	0.42	0.48
13	Total		3,090	3,061	2,410	2,029	9.02	11.59

- Notes:**
- ⁽¹⁾ Degree Days are calculated using the daily average temperatures and a 65 degree base.
 - ⁽²⁾ Normal weather is calculated using the 30 year period.

Please refer to workpapers provided in Attachment WAG-1(CD) to the Direct Testimony of William A. Grant

Southwestern Public Service Company

Weather Data

Panhandle Area (Amarillo and Lubbock)

Line No.	Month	Year	<u>Heating Degree Days</u>		<u>Cooling Degree Days</u>		<u>Precipitation</u>	
			Actual	Normal	Actual	Normal	Actual	Normal
1	April	2018	288	235	32	30	0.45	1.47
2	May	2018	7	75	324	141	0.46	2.48
3	June	2018	0	3	464	342	2.01	2.84
4	July	2018	0	0	497	445	1.65	2.63
5	August	2018	0	1	461	400	2.39	2.64
6	September	2018	13	30	219	200	1.40	2.01
7	October	2018	270	199	44	42	4.09	1.41
8	November	2018	600	512	0	1	0.32	0.74
9	December	2018	792	815	0	0	0.80	0.66
10	January	2019	755	817	0	0	0.04	0.72
11	February	2019	637	645	0	0	0.22	0.61
12	March	2019	558	468	4	5	1.86	1.20
13	Total		3,920	3,801	2,045	1,606	15.69	19.42

- Notes:**
- ⁽¹⁾ Degree Days are calculated using the daily average temperatures and a 65 degree base.
 - ⁽²⁾ Normal weather is calculated using the 30 year period.
 - ⁽³⁾ Panhandle weather is weighted daily using approximately 0.745 for Amarillo, and weighted approximately 0.255 for Lubbock.

Please refer to workpapers provided in Attachment WAG-1(CD) to the Direct Testimony of William A. Grant

Southwestern Public Service Company

Weather Data

Lubbock

Line No.	Month	Year	<u>Heating Degree Days</u>		<u>Cooling Degree Days</u>		<u>Precipitation</u>	
			Actual	Normal	Actual	Normal	Actual	Normal
1	April	2018	208	161	53	57	0.03	1.36
2	May	2018	0	42	412	211	1.26	2.59
3	June	2018	0	1	543	415	1.36	2.61
4	July	2018	0	0	558	500	0.88	1.93
5	August	2018	0	0	517	455	1.25	1.80
6	September	2018	11	18	251	238	3.26	2.44
7	October	2018	232	145	58	64	4.65	1.37
8	November	2018	536	439	0	3	0.07	0.80
9	December	2018	753	730	0	0	1.44	0.72
10	January	2019	690	736	0	0	0.00	0.65
11	February	2019	550	558	0	0	0.04	0.73
12	March	2019	494	380	12	11	1.13	1.02
13	Total		3,474	3,209	2,404	1,954	15.37	18.00

Notes: (1) Degree Days are calculated using the daily average temperatures and a 65 degree base.
(2) Normal weather is calculated using the 30 year period.

Please refer to workpapers provided in Attachment WAG-1(CD) to the Direct Testimony of William A. Grant

Southwestern Public Service Company

Weather Data

Amarillo

Line No.	Month	Year	<u>Heating Degree Days</u>		<u>Cooling Degree Days</u>		<u>Precipitation</u>	
			Actual	Normal	Actual	Normal	Actual	Normal
1	April	2018	319	262	26	21	0.60	1.51
2	May	2018	10	87	288	118	0.18	2.44
3	June	2018	0	4	432	317	2.23	2.92
4	July	2018	0	0	481	426	1.92	2.87
5	August	2018	0	1	442	380	2.78	2.93
6	September	2018	16	35	210	187	0.76	1.87
7	October	2018	284	219	41	35	3.90	1.43
8	November	2018	624	538	0	1	0.40	0.72
9	December	2018	803	845	0	0	0.58	0.64
10	January	2019	782	845	0	0	0.06	0.75
11	February	2019	672	676	0	0	0.28	0.56
12	March	2019	587	499	2	4	2.11	1.27
13	Total		4,097	4,010	1,922	1,488	15.80	19.90

- Notes:**
- ⁽¹⁾ Degree Days are calculated using the daily average temperatures and a 65 degree base.
 - ⁽²⁾ Normal weather is calculated using the 30 year period.

Please refer to workpapers provided in Attachment WAG-1(CD) to the Direct Testimony of William A. Grant

Southwestern Public Service Company

Weather Data

Line No.	Month	Year	SPS Peak Day Average Temperature		SPS Peak Day Heating Degree Days		SPS Sum of Precipitation One Week before Peak Day	
			Actual	Normal	Actual	Normal	Actual	Normal
1	April	2018	72.5	69.4	0	1	0.00	0.08
2	May	2018	80.2	77.4	0	0	0.01	0.35
3	June	2018	87.6	83.1	0	0	0.07	0.30
4	July	2018	90.0	84.1	0	0	0.60	0.24
5	August	2018	84.5	83.3	0	0	0.39	0.53
6	September	2018	76.1	78.8	0	0	0.19	0.21
7	October	2018	80.0	70.6	0	0	0.19	0.10
8	November	2018	26.1	35.7	39	30	0.15	0.14
9	December	2018	26.5	26.8	38	38	0.35	0.11
10	January	2019	20.1	26.6	45	38	0.46	0.13
11	February	2019	24.8	27.6	40	38	0.00	0.15
12	March	2019	19.6	44.0	45	21	0.00	0.16
13	Total		688.2	707.3	207.8	165.5	2.42	2.49

- Notes:**
- (1) SPS peak day average temperature is calculated using peak day daily maximum and minimum temperatures.
 - (2) SPS peak day normal weather is calculated using a 30 year period.
 - (3) SPS peak day Degree Days are calculated using the peak day daily average temperatures and a 65 degree base.
 - (4) SPS peak day precipitation is calculated by summing the precipitation (in inches) one week prior to the peak day.
 - (5) SPS weather is weighted as follows: the weight for Amarillo is approximately 0.563, the weight for Lubbock is approximately 0.194, and the weight for Roswell is approximately 0.243.

Please refer to workpapers provided in Attachment WAG-1(CD) to the Direct Testimony of William A. Grant

Southwestern Public Service Company

Weather Data

Line No.	Month	Year	Panhandle Peak Day Average Temperature		Panhandle Sum of Precipitation One Week Before Peak Day	
			Actual	Normal	Actual	Normal
1	April	2018	72.0	69.1	0.00	0.09
2	May	2018	79.0	77.1	0.01	0.42
3	June	2018	88.0	82.4	0.10	0.35
4	July	2018	89.6	83.8	0.75	0.28
5	August	2018	84.5	83.0	0.35	0.61
6	September	2018	79.3	78.5	0.08	0.24
7	October	2018	79.9	70.6	0.25	0.11
8	November	2018	24.5	34.2	0.19	0.14
9	December	2018	24.9	25.0	0.45	0.11
10	January	2019	17.9	24.9	0.49	0.14
11	February	2019	23.0	25.6	0.00	0.15
12	March	2019	17.4	42.7	0.00	0.19
13	Total		680.1	696.8	2.68	2.84

- Notes:**
- (1) Panhandle peak day average temperature is calculated using peak day daily maximum and minimum temperatures.
 - (2) Panhandle peak day normal weather is calculated using a 30 year period.
 - (3) Panhandle peak day precipitation is calculated by summing the precipitation (in inches) one week prior to the peak day.
 - (4) Panhandle weather is weighted as follows: the weight for Amarillo is approximately 0.745 and the weight for Lubbock is approximately 0.255.

Please refer to workpapers provided in Attachment WAG-1(CD) to the Direct Testimony of William A. Grant

Southwestern Public Service Company

Power Plant Maintenance Information

(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
2014					
1	Cunningham 4	01/01/14	04/24/14	113.37	Major Overhaul.
2	Jones 1	01/01/14	01/04/14	1.09	Planned derate to clean up boiler water chemistry after superheat tube replacement and boiler acid cleaning during 2013 outage.
3	Maddox 1	01/01/14	05/01/14	42.92	Cooling Tower Rebuild Work.
4	Maddox 2	01/01/14	02/04/14	34.55	Combustion Inspection Major.
5	Quay County 1	01/01/14	01/23/14	4.53	Derate due to permit limitations.
6	Harrington 2	01/02/14	01/03/14	0.04	Unit was derated due to high baghouse delta pressure caused from having 2 compartments out of service to replace failed bags.
7	Harrington 2	01/03/14	01/03/14	0.32	Unit was derated to empty coal bunkers and steam cool the turbine rotor to prepare for a major outage.
8	Harrington 2	01/03/14	03/31/14	86.36	Unit was shutdown to perform a major outage.
9	Harrington 3	01/06/14	01/14/14	7.62	Unit tripped off line due to the winding insulation between the AC Exciter and Rectifier Wheel failed and caused winding damage.
10	Cunningham 3	01/07/14	01/07/14	0.08	Trip on Startup - Gas Flow Control Valve/Pressure Regulator.
11	Jones 1	01/07/14	01/24/14	7.49	Derate due to taking one of two main circulating pumps off. Suspect clogging of the west distribution header on Jones 1 cooling tower - stand pipe overflows with both circulating pumps on. New liner was installed in 2013 outage; suspect liner coming loose (overspray).
12	Jones 4	01/07/14	01/07/14	0.14	Replace leaking gasket on inlet heating flange.
13	Cunningham 3	01/08/14	01/09/14	1.01	Trip on Startup - Gas Flow Control Valve/Pressure Regulator.
14	Harrington 1	01/08/14	01/15/14	0.86	Unit is derated to prevent opacity exceedences due to having several transformer/rectifier sets out of service due to faults.
15	Jones 3	01/09/14	01/09/14	0.17	Cleaned inlet fuel strainers (witchhat).
16	Nichols 3	01/10/14	01/12/14	2.55	A crack developed in the Deaerator heater drive steam line. Replaced 12x14 reducer at Deaerator heater connection.
17	Harrington 3	01/14/14	01/14/14	0.12	Unit was put on line and held at this load to warm up the turbine components to make a balance shot.
18	Harrington 3	01/14/14	01/14/14	0.27	Unit was taken off line to make a balance move.
19	Harrington 1	01/15/14	01/16/14	1.00	Unit was taken off line to make repairs to 3 transformer/rectifier sets in the electrostatic precipitator. The loss of transformer/rectifier sets was causing a derate to prevent opacity exceedences.
20	Plant X 4	01/17/14	01/20/14	2.93	Boiler feed pump leaking.
21	Jones 1	01/24/14	02/07/14	14.45	Outage due to circulating line liner coming off and fouling the header pipe on the cooling tower. This will continue the fall 2013 outage due to the fact the liner was installed during the outage.
22	Jones 3	01/24/14	01/24/14	0.00	Startup was aborted due to substation crew needing to add SF6 gas to the transformer and lack of communication between Amarillo dispatch and marketing.
23	Tolk 2	01/24/14	01/24/14	0.30	Contractor landed a wire on the wrong contact, tripping the 2-86 SUB relay in the sub station causing immediate trip of unit.
24	Cunningham 3	01/27/14	01/27/14	0.33	Unit Offline; Repair Inst. Air Compressor Valves.
25	Jones 2	01/27/14	01/27/14	0.06	Second boiler feed pump would not start due to problems with the controls.
26	Tolk 1	01/29/14	01/31/14	1.60	Reheat tube leak coming off line at normal rate, when something happened and the automatic trip took the unit off line.
27	Jones 3	01/31/14	01/31/14	0.27	Unit offline to clean three fuel strainers (#1, #2, #3 witch hat strainers).

Southwestern Public Service Company

Power Plant Maintenance Information

(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
28	Tolk 1	01/31/14	01/31/14	0.15	Found large crack in primary air Ductwork, coming down on load to remove coal from boiler to repair ductwork. Will stay on line with warm-up gas.
29	Harrington 3	02/01/14	02/01/14	0.07	Unit was derated to remove a mill at a time to check damper drive welds on exhauster linkage. C Mill has a failure on its linkage and we wanted to check the other mills.
30	Tolk 2	02/01/14	02/01/14	0.40	Loss of F bus causing turbine trip on high drum level-result of generator tripped on reverse power while work was being done on #2 B Mill oil pump that had a leak.
31	Tolk 2	02/01/14	02/02/14	0.48	Turbine Driven Boiler Feed pump inboard pump bearing vibration increased to trip limit as pump was loaded up and pump tripped.
32	Jones 4	02/03/14	02/03/14	0.66	Inlet air system (direct air injection system) tripped causing timer before unit can start.
33	Cunningham 1	02/05/14	02/05/14	0.31	Unit Startup - low pressure Rupture Disk Failure.
34	Jones 1	02/07/14	02/08/14	0.43	Planned derate to clean up water chemistry (silica) after prolonged outage.
35	Tolk 2	02/08/14	02/08/14	0.00	East induce draft Fan A channel tripped, had to drop load to take B channel off to reset fan processor.
36	Maddox 1	02/09/14	02/10/14	0.81	Lightning arrestor short to ground on main power transformer, due to heavy dense fog.
37	Jones 1	02/10/14	02/10/14	0.00	Removed one of two condensate pumps from service to change oil due to water in oil.
38	Maddox 1	02/10/14	02/11/14	0.74	Tripped, field breaker closed too early during startup.
39	Maddox 2	02/10/14	02/10/14	0.05	(Unit was off line.) DC lube oil pump contactor trouble. Cleaned and exercised contactor.
40	Tolk 1	02/11/14	02/11/14	0.03	Feedwater Heater #1 has a tube leak and unable to isolate heater due to feedwater inlet valve packing leaking.
41	Plant X 3	02/13/14	02/14/14	1.51	Brought off line for commissioning of GCB X947kV breaker.
42	Carlsbad 5	02/14/14	02/14/14	0.08	Programmable logic controller, bad communication, reboot Programmable logic controller.
43	Jones 1	02/14/14	02/14/14	0.03	Developed a small pinhole leak in the east circulating pipe from the circulating pump to the waterbox. Able to isolate and weld patch on pinhole.
44	Maddox 2	02/18/14	02/18/14	0.25	Replace thermocouples.
45	Nichols 1	02/18/14	02/20/14	1.79	The circulating water return line had a small leak that was repaired while the unit was off line. The patch required curing time.
46	Maddox 2	02/24/14	02/24/14	0.25	Repair perimeter lighting, unit unavailable for worker safety under high voltage power lines.
47	Maddox 3	02/24/14	02/28/14	4.39	Replace thermocouples.
48	Tolk 1	02/24/14	02/25/14	0.47	Loss of seal on the inboard pump - west boiler feedwater booster pump. (Center pump is already out of service).
49	Cunningham 3	02/26/14	02/28/14	2.03	Tripped by Fire System - Bearing #5.
50	Jones 1	02/27/14	03/01/14	1.05	Inboard bearing on west circulating pump became hot. Shut down circulating pump to repair derated due to loss of one circulating pump.
51	Tolk 1	03/01/14	03/03/14	1.03	Turbine drive boiler feed pump has a leak at the horizontal joint of the steam chest.
52	Tolk 2	03/01/14	03/02/14	0.08	Reduce load due to boiler tube leak need load Unit 1 is derated.
53	Cunningham 3	03/02/14	03/06/14	3.77	Tripped by Fire System - Bearing #5.
54	Jones 3	03/02/14	03/10/14	7.99	Startup failure due to blade path temperature spread.
55	Tolk 2	03/02/14	03/02/14	0.48	Reduce load due to Boiler tube leak - need load Unit 1 derated.
56	Tolk 2	03/02/14	03/03/14	0.23	Reduce load due to Boiler tube leak - Unit now off line to repair tube leak.
57	Tolk 2	03/03/14	03/04/14	1.68	Off line to repair tube leak - waterwall tube 13th floor.
58	Maddox 2	03/04/14	03/08/14	4.44	Starting package outboard nearing temp high.

Southwestern Public Service Company

Power Plant Maintenance Information

(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
59	Nichols 2	03/04/14	03/07/14	0.24	Low pressure heater drains pump failure. Unit derated by 9 MW.
60	Harrington 1	03/05/14	03/07/14	0.92	East side electrostatic precipitator rappers failed and we could not remove ash from the plates and wires sets. With only one half of the electrostatic precipitator in service, we could only pull partial load.
61	Quay County 1	03/05/14	03/05/14	0.27	Substation Dept. changing Current Transformer in substation.
62	Harrington 3	03/07/14	03/07/14	0.03	Had to remove D Coal Mill due to a coal leak. C Mill is out of service for repairs and this left us with a 3 mill operation causing the load derate.
63	Plant X 3	03/07/14	03/07/14	0.14	Unit tripped due to gas firing valve.
64	Tolk 2	03/07/14	03/07/14	0.01	East induce draft Fan tripped-induce draft did not receive any alarms on screen telling why.
65	Jones 3	03/10/14	03/11/14	0.93	Unit trip due to high blade path temperature spread.
66	Tolk 2	03/10/14	03/10/14	0.01	Monitoring tube leak.
67	Tolk 2	03/10/14	03/11/14	0.05	Monitoring tube leak.
68	Jones 3	03/11/14	03/12/14	0.80	Unit trip on high blade path differential.
69	Plant X 3	03/11/14	03/11/14	0.09	Generator winding temp.
70	Tolk 2	03/11/14	03/12/14	1.48	Tube leak - found tube leak on waterwall tube 10 floor/repared and 3/12 at 5:56 rolled turbine and tripped due to North main steam drain leak @ 6:10 on 3/12 was back on turning gear due to North Main steam drain valve blew out never hit line.
71	Plant X 3	03/12/14	03/19/14	7.14	Possible blown tube on waterwall.
72	Harrington 3	03/13/14	03/13/14	0.04	Unit had to be derated due to having only 3 mills available. We had to get quarterly feed calibrations done and C Mill is out of service for repairs from a past failure.
73	Jones 2	03/14/14	03/16/14	2.06	High eccentricity during shutdown - loose eccentricity wheel.
74	Jones 1	03/18/14	03/20/14	2.81	Install new AC units on variable frequency drive house.
75	Tolk 2	03/20/14	05/14/14	55.96	Scope-Boiler chemical clean, intercept valve & throttle valve inspection, turbine drive boiler feed pump element replacement, reheat section replace, Bull nose replace, separated overfire air/Low NOx burner retrofit, condenser/water box inspection & clean, low pressure 1&2 inspection, main & little turbine overspeed trip retrofit, Exciter inspection, generator crawl thru, Clean/inspection Cooling tower.
76	Harrington 3	03/22/14	03/22/14	0.03	Unit had to be derated due to having only 3 mills available. We had to get quarterly feeder calibrations done and C Mill is out for repairs from a past failure.
77	Nichols 3	03/23/14	03/26/14	1.74	Air preheater electric motor failed and air operated motor failed.
78	Cunningham 1	03/25/14	03/27/14	2.07	Repair Air Preheater Drain Lines.
79	Cunningham 3	03/25/14	03/27/14	2.18	Trip at Full Load; Blade Path Temp Differential.
80	Jones 4	03/25/14	03/26/14	0.86	Repair leaking flange on rotor air cooling system.
81	Nichols 3	03/27/14	04/02/14	0.45	The unit is derated to 235 MW Gross / 225 MW Net due to a tube leak in the #4 feedwater heater. The feedwater heater is out of service.
82	Cunningham 3	03/28/14	03/28/14	0.39	Change out Gas Valve.
83	Harrington 3	03/29/14	03/29/14	0.10	D Mill had to be removed from service due to a journal bearing failure. C Mill is still out of service for repairs, so this left us with a 3 mill operation.
84	Harrington 2	03/31/14	03/31/14	0.14	Unit is returning to service from a 3 month outage and will be derating due to water chemistry and baghouse bag seasoning.
85	Harrington 2	03/31/14	04/01/14	0.76	Unit was removed from line to do a balance move on the turbine.
86	Harrington 2	04/01/14	04/01/14	0.07	Unit was derated to make balance move checks and collect data for another balance move.
87	Harrington 2	04/01/14	04/01/14	0.27	Unit was removed from line to make balance moves and stroke valves on the turbine.

Southwestern Public Service Company

Power Plant Maintenance Information

(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
88	Harrington 2	04/01/14	04/01/14	0.07	Unit is derated to make checks on balance moves and collect data for more balance moves.
89	Harrington 2	04/01/14	04/02/14	0.63	Unit was taken off line to make a balance move on the turbine.
90	Jones 1	04/01/14	04/01/14	0.08	Due to problem with level transmitter on Deaerator, level went high causing boiler upset which eventually lead to drum level swing and unit tripped on high drum level.
91	Harrington 2	04/02/14	04/02/14	0.12	Unit is derated to check balance moves and collect data for another possible move.
92	Harrington 2	04/02/14	04/02/14	0.24	Unit off line to make balance moves on the turbine.
93	Harrington 2	04/02/14	04/03/14	0.44	Unit is derated to check balance moves and collect data for another balance move.
94	Plant X 2	04/02/14	04/03/14	0.62	Had to shut down to work on gas firing valve problem.
95	Harrington 2	04/03/14	04/05/14	1.74	Unit was removed from line to make a balance move on the low pressure coupling.
96	Harrington 3	04/04/14	04/04/14	0.11	Normal and redundant CP (control processor) 3003 failed. This failure caused the loss of the water induction protection system and the Main Boiler Feed Pump.
97	Harrington 3	04/04/14	04/04/14	0.08	Unit was derated due to water chemistry being out of operating range. The chemistry upset was caused by the earlier upset.
98	Harrington 2	04/05/14	04/05/14	0.10	Unit has to be derated to check balance moves and gather data for another balance move.
99	Harrington 2	04/05/14	04/05/14	0.22	Unit was taken off line to make a balance move to the turbine.
100	Harrington 2	04/05/14	04/06/14	0.31	Unit was derated to check balance moves and collect data for another move.
101	Harrington 1	04/06/14	04/07/14	0.03	Unit was derated due to high opacity readings. The electrostatic precipitator was not performing within operating ranges and the load drop prevented opacity exceedences.
102	Harrington 2	04/06/14	04/26/14	20.76	Unit was taken off line to make balance moves and determine the source of the low pressure turbine vibration.
103	Jones 1	04/08/14	04/08/14	0.05	One of two boiler feed pumps out of service to calibrate a flow transmitter.
104	Maddox 2	04/10/14	04/10/14	0.09	Blade path temperature, bad thermocouple.
105	Cunningham 2	04/11/14	04/17/14	6.12	Boiler Inspection.
106	Maddox 2	04/11/14	04/14/14	2.97	Water injection gallons per minute out of permit range.
107	Cunningham 3	04/14/14	04/14/14	0.12	Trip at Full Load; Low Fuel Press. Cleaned Strainer.
108	Cunningham 3	04/14/14	04/15/14	0.45	Unit Offline; Unable to reset Overspeed Trip.
109	Harrington 3	04/14/14	05/12/14	17.28	The unit was derated due to the West induce draft fan motor going to ground. This event caused the unit to lose the west induce draft and force draft fan set. The motor is having to be rewound.
110	Quay County 1	04/16/14	04/16/14	0.05	The unit tripped on low hot oil tank level. Oil cooling valve adjustments were required to resolve the problem.
111	Quay County 1	04/16/14	04/16/14	0.02	The unit tripped on Lube oil bearing temperature high. This problem required additional lube oil cooling valve adjustments.
112	Jones 3	04/17/14	04/17/14	0.61	Replace #2 burner fuel housing.
113	Jones 3	04/21/14	04/22/14	0.84	Continuous emission monitoring system off due to a failed sample pump. No continuous emission monitoring system available to monitor emissions.
114	Cunningham 1	04/24/14	05/02/14	7.63	#4 High Pressure Heater Head Leak.
115	Cunningham 4	04/24/14	04/24/14	0.00	Major Overhaul Test Run.
116	Cunningham 4	04/24/14	04/24/14	0.27	Major Overhaul.
117	Cunningham 4	04/24/14	04/24/14	0.00	Major Overhaul Test Run.
118	Cunningham 4	04/24/14	04/26/14	1.92	Major Overhaul.
119	Cunningham 4	04/26/14	04/26/14	0.01	Major Overhaul Test Run.
120	Cunningham 4	04/26/14	04/27/14	0.94	Major Overhaul.
121	Harrington 2	04/26/14	04/27/14	0.27	Unit was run at a derated load to capture vibration data on the main turbine.
122	Cunningham 4	04/27/14	04/27/14	0.00	Major Overhaul Test Run.

Southwestern Public Service Company

Power Plant Maintenance Information

(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
123	Cunningham 4	04/27/14	05/02/14	4.77	Major Overhaul.
124	Harrington 2	04/27/14	04/27/14	0.39	Unit was removed from line to make a balance move on the main turbine.
125	Harrington 2	04/27/14	04/28/14	0.21	Unit was derated to collect vibration data for the main turbine.
126	Jones 3	04/27/14	04/28/14	1.08	Loss of communication on the T-3000 (server locked up).
127	Jones 4	04/27/14	04/28/14	1.39	Loss of communication on the T-3000 (server locked up).
128	Harrington 2	04/28/14	04/28/14	0.40	Unit was removed from line to make turbine balance moves.
129	Harrington 2	04/28/14	04/29/14	0.30	Unit was is in a derate to collect turbine vibration data.
130	Jones 3	04/28/14	05/02/14	4.05	Maintenance outage to perform a borescope on unit.
131	Harrington 2	04/29/14	04/29/14	0.46	Unit was taken off line to make balance moves to the main turbine.
132	Harrington 2	04/29/14	04/30/14	0.26	Unit is derated to collect vibration data on the turbine.
133	Harrington 2	04/30/14	04/30/14	0.47	Unit was taken off line to make a balance move.
134	Harrington 2	04/30/14	04/30/14	0.11	Unit is derated to collect vibration data on the main turbine.
135	Harrington 2	04/30/14	04/30/14	0.29	Unit was taken off line to make balance moves.
136	Harrington 2	04/30/14	05/01/14	0.53	Unit is in a derate to collect vibration data on the main turbine.
137	Jones 1	04/30/14	04/30/14	0.15	Control card on the gas firing valve controller (Blac Drive) vibrated loose causing valve to close and boiler to trip on loss of fuel.
138	Jones 1	04/30/14	04/30/14	0.29	Delay of startup after boiler trip due to high differential expansion.
139	Harrington 2	05/01/14	05/04/14	2.59	Exciter Lead went to ground - Tripped Unit.
140	Jones 4	05/01/14	05/01/14	0.02	Performed a repair/upgrade to computer server so unit was unavailable.
141	Maddox 1	05/01/14	05/01/14	0.37	5 year black start test.
142	Maddox 1	05/01/14	05/11/14	9.71	Boiler inspection and Cooling Tower work.
143	Maddox 2	05/01/14	05/01/14	0.37	5 year black start test.
144	Maddox 3	05/01/14	05/01/14	0.37	5 year black start test.
145	Cunningham 4	05/02/14	05/02/14	0.00	Major Overhaul Test Run.
146	Cunningham 4	05/02/14	05/06/14	3.81	Major Overhaul.
147	Jones 1	05/02/14	05/02/14	0.06	East main circulating tripped on high amps.
148	Jones 1	05/03/14	05/03/14	0.07	East main circulating tripped on high amps.
149	Jones 2	05/03/14	05/06/14	0.23	High Pressure heaters out of service due to a leaking heater drains valve.
150	Harrington 2	05/04/14	05/13/14	3.93	Seasoning of new bags.
151	Jones 3	05/05/14	05/05/14	0.09	Startup failure due to high blade path temperature differential.
152	Cunningham 4	05/06/14	05/06/14	0.01	Major Overhaul Test Run.
153	Cunningham 4	05/06/14	05/06/14	0.18	Major Overhaul.
154	Jones 4	05/06/14	05/08/14	2.49	Maintenance outage to perform a borescope on unit.
155	Jones 3	05/08/14	05/08/14	0.06	Unit failed startup due to high blade path temperature differential.
156	Jones 3	05/08/14	05/09/14	1.01	Unit failed startup due to high blade path temperature differential.
157	Cunningham 3	05/10/14	05/10/14	0.04	Tripped on under voltage.
158	Plant X 4	05/10/14	05/15/14	1.97	East boiler feed pump gear box failure.
159	Cunningham 1	05/11/14	05/14/14	2.35	High Pressure feed water piping leaking near feedwater H.
160	Harrington 3	05/12/14	05/25/14	12.74	Unit was taken off line for a minor outage to make repairs to Mill Ductwork, induce draft Fan Motor Inspections and install, Condenser circulating liner inspection, heat exchanger cleaning, & 6900/480 breaker relays.
161	Harrington 2	05/13/14	05/16/14	0.05	Unit is derated to gather vibration data on the turbine at near full load capabilities.
162	Tolk 2	05/14/14	06/14/14	30.64	Original Scope - low pressure 1 & 2 inspection - low pressure Turbine Inner shell discovery work-alignment & Vibration issues.
163	Jones 1	05/15/14	05/15/14	0.21	Discovered hole in east riser bypass line had to clear out circulating pumps to make repairs.
164	Tolk 1	05/15/14	05/15/14	0.44	Woodward turbine control system locked up.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
165	Harrington 2	05/16/14	05/20/14	3.52	Unit tripped due to a fuse in the generator potential transformer vibrating loose from the generator stator vibration. This was original scope of work in 2014 major outage.
166	Jones 3	05/17/14	05/20/14	2.97	Took unit offline due to excessive NOx emissions - unit removed from service to prevent exceedance.
167	Jones 4	05/17/14	05/17/14	0.05	Unit trip due to high gas concentrations in the turbine enclosure - leaking gas pressure transmitter.
168	Jones 1	05/19/14	05/19/14	0.14	Right side governor valves would not open - servo valve needed tuning to actuate valve.
169	Cunningham 3	05/20/14	05/20/14	0.05	Unit was not online. Could not synchronize, blown potential transformer fuse.
170	Harrington 2	05/20/14	05/20/14	0.01	Unit is derated to gather vibration data on the main turbine to determine if balance moves are needed.
171	Harrington 2	05/20/14	05/22/14	1.73	Unit was taken off line to make balance moves on the generator rotor.
172	Cunningham 3	05/21/14	05/22/14	0.61	Overspeed trip would not reset after overspeed test.
173	Cunningham 1	05/22/14	05/23/14	0.43	Fix high pressure heater number 4 heater head leak.
174	Harrington 1	05/22/14	05/22/14	0.12	Unit was derated due to the loss of the Main Feed pump. The unit lost the feed pump when a strike of lightning hit in the plants substation.
175	Harrington 2	05/22/14	05/23/14	0.43	Unit was derated to collect vibration information.
176	Maddox 1	05/22/14	05/22/14	0.04	High drum level trip.
177	Harrington 2	05/23/14	05/23/14	0.32	Unit was taken off line to make balance moves.
178	Harrington 2	05/23/14	05/24/14	0.01	Unit is derated to monitor and gather data on turbine vibration.
179	Harrington 2	05/24/14	05/24/14	0.06	Unit was derated due to C Mill feeder motor tripping. This leaves us with a 3 mill operations due to repairs being made on D Mill.
180	Harrington 2	05/24/14	05/24/14	0.02	Unit was derated due to C Mill feeder motor tripping. This left us with a 3 mill operation due to D Mill is in an overhaul.
181	Harrington 2	05/25/14	05/25/14	0.05	Unit derated due to C Mill feeder motor tripping. This leaves us with a 3 mill operation being D Mill is out of service for repairs.
182	Harrington 2	05/27/14	05/27/14	0.07	Unit was derated due to the C Mill feeder tripping. This leaves us with a 3 mill operation due to D Mill being out of service for repairs.
183	Harrington 3	05/27/14	05/27/14	0.12	Unit had to be taken off line due to a manhole cover being left off of the primary air duct work by the C Mill. Contractors had removed this cover and plant personnel missed it on start up.
184	Jones 3	05/28/14	05/29/14	1.20	Unit tripped due to high blade path temperature spread.
185	Jones 3	05/29/14	05/30/14	1.01	Continuing problems with high blade path temperature spread.
186	Harrington 1	05/30/14	05/31/14	0.01	Opacity problems - Opacity running high and having problems getting opacity down.
187	Harrington 2	05/30/14	05/31/14	0.09	"C" coal feeder tripped. Down to 3 mill operation.
188	Jones 1	05/30/14	05/30/14	0.37	Leaking drum door gasket delayed starting unit.
189	Jones 2	05/30/14	05/30/14	0.20	Mechanical servo valves (Moog valves) would not operate (open) on the throttle valves so unit would not roll off of gear.
190	Jones 1	05/31/14	06/02/14	0.07	East condensate pump developed severe oil leak; had to remove from service.
191	Maddox 2	06/02/14	06/03/14	0.93	Tripped high temp on outboard bearing on starting motor.
192	Nichols 3	06/02/14	06/06/14	4.76	Planned outage to install air conditioners on the boiler force draft fan drive house.
193	Plant X 3	06/03/14	06/06/14	2.58	Large Boiler tube leak instantly took X3 offline.
194	Harrington 2	06/04/14	06/04/14	0.31	Unit was derated because we had to take B Mill out of service due to high vibration. With D Mill still out of service for a planned overhaul, this leaves us with a 3 mill operation.
195	Cunningham 4	06/05/14	06/06/14	0.75	Full Load Trip; Oil Cooler to Ground High Temp Trip.
196	Harrington 3	06/06/14	06/06/14	0.02	Baghouse damper malfunction - Dropped load to prevent opacity exceedance.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
197	Plant X 4	06/06/14	06/11/14	5.05	Multiple tube leaks.
198	Tolk 1	06/06/14	06/07/14	0.02	East induce draft Fan tripped due to thunderstorm - lightning strike.
199	Jones 3	06/07/14	06/20/14	13.02	Continuing problems with blade path temperature spread. Unit will be down to perform maintenance to correct problem.
200	Jones 4	06/07/14	06/07/14	0.01	Startup failure due to gas supply problems.
201	Jones 4	06/07/14	06/07/14	0.03	Startup failure due to gas supply problems.
202	Cunningham 4	06/09/14	06/16/14	7.15	Maintenance Outage Ignitors, Vibration Probes; exhaust Temp Probes.
203	Nichols 3	06/11/14	06/11/14	0.06	Derated the unit to 50 MW gross because two of four air conditioners failed on the boiler-forced-draft-fan-variable-speed-drive enclosure.
204	Harrington 2	06/12/14	06/13/14	0.49	Unit was derated to replace the pillow block bearing on B Mill due to high vibrations. This left us with a 3 mill operations because D Mill is in an extended planned overhaul.
205	Tolk 2	06/14/14	06/15/14	0.59	On line checking vibration issues.
206	Tolk 2	06/15/14	06/16/14	0.49	Balance shot on the turbine.
207	Maddox 1	06/16/14	06/16/14	0.36	Hotwell Makeup Pump couples bad. Need to replace.
208	Tolk 2	06/16/14	06/17/14	0.78	Having ignitor issues result of the burner retro.
209	Tolk 2	06/17/14	06/24/14	7.43	Reference to original scope of work - Generator Hydrogen Leak detected - replacing gaskets on doors.
210	Plant X 3	06/19/14	06/24/14	5.33	Plant X3 boiler refractory has broken down in multiple areas causing hot spots.
211	Maddox 2	06/22/14	06/23/14	0.90	Bad pressure switch on low pressure compressor bleed valve. Fired spin start, but did not attempt to come online.
212	Jones 3	06/23/14	06/23/14	0.38	Combustor repairs.
213	Harrington 1	06/24/14	06/24/14	0.01	A rain storm blew through the plant site and caused the opacity readings to increase to the point where we had to start dropping load to prevent getting an exceedance.
214	Plant X 4	06/24/14	06/26/14	1.81	While attempting restart (hot) from reserve shutdown, we were unable to maintain Running jet pressure as required due to damaged block valve.
215	Tolk 2	06/24/14	06/24/14	0.09	Completed overhaul work and testing - Unit is in Boiler/Silica cleanup.
216	Jones 3	06/25/14	06/26/14	1.03	Had to shutdown unit due to gas leak in the fuel separator.
217	Jones 4	06/25/14	06/25/14	0.01	Problem with static frequency converter package; would not sync to system.
218	Jones 4	06/25/14	06/26/14	0.87	Problem with the static frequency converter package; would not sync to the system.
219	Plant X 2	06/25/14	07/01/14	5.87	Maintenance Outage for repairs to gas valve regulator.
220	Plant X 1	06/27/14	06/30/14	3.35	Needing parts from unit for repairs on Plant X2.
221	Jones 4	06/29/14	06/29/14	0.09	Unit trip during start up due to blade path temperature spread.
222	Jones 4	06/29/14	06/30/14	0.80	Unit offline due to blade path temperature spread.
223	Maddox 1	06/29/14	06/29/14	0.17	Generator sync issues, tripped manually to reset for a fresh start.
224	Tolk 2	06/29/14	06/29/14	0.12	Bearing wiped on North auxiliary cooling water pump.
225	Nichols 1	07/01/14	07/02/14	1.25	The outage was conducted to investigate a potential problem with the #1 control valve stem on the turbine. Upon disassembly, no problems were identified. The valve was reassembled.
226	Jones 1	07/06/14	07/06/14	0.03	Unit tripped off line due to loss of vacuum.
227	Jones 2	07/06/14	07/07/14	0.46	Unit derated because west main circulating pump would not start.
228	Jones 3	07/07/14	07/07/14	0.06	Operator thought the CBIT (Controls Built in Test) had not been checked, so he manually stopped the start up.
229	Harrington 3	07/08/14	07/08/14	0.07	Unit was derated to remove the Main Fee pump from service to change out the pump recirculating line relief valve.
230	Plant X 4	07/08/14	07/10/14	1.71	Shut down to repair a waterwall tube leak.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
231	Nichols 1	07/09/14	07/10/14	1.32	The outage was conducted to repair a problem with the #2 control valve stem on the turbine.
232	Harrington 1	07/10/14	07/10/14	0.02	The unit was derated to prevent opacity exceedances.
233	Cunningham 4	07/12/14	07/13/14	0.53	Unit Offline - Alarm continuous emission monitoring system NOx Invalid Data.
234	Harrington 2	07/14/14	07/14/14	0.08	The unit had to be derated due to E Mill feeder tripping. The trip was due to the feeder speed feedback not reading.
235	Carlsbad 5	07/15/14	07/16/14	1.01	Unit Unavailable until reverse power relay is reset.
236	Maddox 2	07/15/14	07/15/14	0.67	Breakers U905, 915, and 919 tripped and opened.
237	Maddox 3	07/15/14	07/15/14	0.67	Breakers U905, 915, and 919 tripped and opened.
238	Harrington 2	07/16/14	07/16/14	0.08	Unit was derated due to having A Feeder out of service to replace head pulley bearings. With D Mill in a planned outage this left us with a 3 mill operation.
239	Harrington 3	07/17/14	07/17/14	0.00	Unit was derated due to high bag house delta pressure. The delta pressure increased due to 2 compartments out of service for blown bags and the cleaning cycle stopped because a bypass damper limit failed.
240	Jones 1	07/18/14	07/18/14	0.60	Boiler tube leak waterwall at B corner.
241	Jones 1	07/20/14	07/20/14	0.02	Flow transmitter on east feed pump not functioning properly unit limited to one feed pump.
242	Jones 4	07/22/14	07/23/14	0.61	Shutdown unit due to anticipated 3 hour CO (Carbon monoxide) exceedance.
243	Tolk 1	07/22/14	07/27/14	5.08	Heater drain valve- 1 C Drain line-had external leak into the plant- 2 C drain line was also leaking - also have Tube Leaks in Superheat & reheat sections to repair.
244	Jones 3	07/24/14	07/24/14	0.08	Repair leaking inlet heating piping gasket found on the day before run.
245	Jones 3	07/24/14	07/24/14	0.08	Due to problems with the gas supply - lost sufficient gas supply pressure.
246	Cunningham 1	07/26/14	08/15/14	1.97	North boiler feed pump Unable to support max load. South Pump Unavailable.
247	Maddox 3	07/28/14	07/29/14	1.22	Outage to repair stack structure - hot air leaking into turbine housing.
248	Nichols 3	07/28/14	08/01/14	4.03	Nichols unit 3 was taken off line due to a rupture of the North circulating water expansion joint on the main condenser inlet pipe.
249	Cunningham 2	07/29/14	07/29/14	0.02	Unit Online; Tripped on High Drum Level.
250	Jones 4	07/30/14	07/30/14	0.20	Unit offline to calibrate gas flow orifice.
251	Cunningham 3	08/01/14	08/01/14	0.44	Unit Offline; Relief Valve Replacement on Oil System.
252	Nichols 3	08/01/14	08/02/14	0.89	A maintenance outage was initiated for safety purposes for replacement of the expansion joint on the north condenser inlet pipe. The unit was available for 130 MW gross if the System needed to have the unit on line.
253	Tolk 1	08/01/14	08/02/14	0.98	Boiler circulating Pump suction header hand hole on West end is leaking.
254	Harrington 3	08/02/14	08/02/14	0.01	Unit was derated because the start stop contactors on the motor breaker welded closed. We had to kill D buss to open the breaker for repairs to be made to the contactors.
255	Tolk 1	08/02/14	08/02/14	0.40	Unit Generator trip on Voltage Regulator trip.
256	Cunningham 3	08/04/14	08/04/14	0.20	Unit Offline; Instrument Air Line Blew Out.
257	Jones 3	08/04/14	08/04/14	0.08	Hard drive on server failed and had to be replaced.
258	Jones 4	08/04/14	08/04/14	0.06	Unit down to replace failed hard drive on server.
259	Plant X 3	08/04/14	08/04/14	0.01	Aux air problems, excess O2 deviation over force draft fan limit.
260	Cunningham 3	08/05/14	08/05/14	0.06	Unit Offline; Instrument Air Line Blew Out.
261	Cunningham 4	08/05/14	08/05/14	0.04	Unit Offline; Instrument Air Line Blew Out.
262	Harrington 1	08/05/14	08/05/14	0.01	Unit had to be derated to prevent opacity violations.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
263	Jones 2	08/05/14	08/05/14	0.13	Leak on the west boiler feed pump fluid drive - out of service to repair.
264	Jones 3	08/05/14	08/05/14	0.07	Reboot the Historian computer.
265	Jones 3	08/05/14	08/06/14	0.91	Had to shutdown unit due to gas leak in the fuel separator.
266	Jones 4	08/05/14	08/05/14	0.07	Reboot of the Historian computer.
267	Jones 4	08/05/14	08/06/14	0.81	Leak in the rotor air cooling system.
268	Cunningham 1	08/06/14	08/12/14	6.40	Fix high pressure heater number 4 heater head leak.
269	Harrington 1	08/06/14	08/07/14	0.06	Unit had to be derated to prevent opacity violations.
270	Cunningham 2	08/08/14	08/08/14	0.05	Unit Online; Clean N boiler feed pump Gear Reduction Oil Cooler.
271	Tolk 1	08/12/14	08/14/14	1.30	SSC (Submerged Scraper Conveyor) tripped-Ash obstruction is binding up the chain and is underwater. Boiler must be removed from service and ash removed to clear problem.
272	Tolk 2	08/14/14	08/16/14	0.74	East primary air fan inboard motor bearing wiped.
273	Cunningham 4	08/15/14	08/15/14	0.09	Main Gas firing valve blown diaphragm.
274	Maddox 3	08/15/14	08/15/14	0.53	Rachet tripped on forward stroke, loss of "ready to start."
275	Plant X 1	08/15/14	08/17/14	1.14	Turbine tripped from low Condenser vacuum. Load shift.
276	Plant X 2	08/15/14	08/18/14	2.53	Unable to sustain makeup water level.
277	Tolk 2	08/18/14	08/24/14	5.92	Large Superheat finishing section tube leak-boiler make-up is above 180 gpm with boiler pressure @1400 psi.
278	Maddox 3	08/20/14	08/20/14	0.27	Rachet solenoid on turning gear not working.
279	Jones 1	08/21/14	08/22/14	0.05	Operator error - originally thought High Pressure feedwater heater leak but was actually a control issue and no derate should have been taken.
280	Quay County 1	08/21/14	08/21/14	0.05	Quay County tripped on lube oil bearing supply temperature high. The flow was being adjusted to fine-tune the flow being supplied to the lube oil cooler, but the valve was closed too far. The control valve was reset to the last known workable setting.
281	Plant X 3	08/24/14	08/30/14	6.67	Superheat tube leak.
282	Tolk 2	08/24/14	08/25/14	0.40	East Primary Air Fan inboard motor bearing temperature increased to high temperature after starting up. Had to remove from service to repair.
283	Harrington 1	08/27/14	08/27/14	0.01	Unit was derated to prevent getting an opacity exceedance.
284	Plant X 4	08/27/14	08/27/14	0.04	10:05 Electricians began looking for a DC ground on Plant X4 & accidentally tripped Plant X4 boiler. High drum level tripped turbine/generator.
285	Quay County 1	08/27/14	08/28/14	1.43	A maintenance outage was taken to investigate a lube oil level control problem. All lube oil piping and tanks were examined to determine if there are any obstructions present.
286	Jones 1	08/31/14	09/02/14	0.10	Loss of second cooling tower fan caused unit to be derated.
287	Harrington 2	09/01/14	09/02/14	0.02	Unit was derated when E Mill feeder motor tripped due to loss of tach feedback. D Mill is out of service for repairs so this left us with a 3 mill operation.
288	Harrington 3	09/01/14	09/02/14	0.02	Unit was derated due to having 2 baghouse compartments out of service on the same side to replace blown bags.
289	Plant X 3	09/01/14	09/05/14	4.00	Boiler tube leak, unable to maintain SUPERHEAT TUBE Condensate levels.
290	Maddox 2	09/02/14	09/05/14	3.09	#5 Bearing vibration probe cable damaged, causing wild signal fluctuations which led to trip.
291	Nichols 2	09/02/14	09/02/14	0.46	The generator field breaker became disengaged in the breaker cubicle and failed to make a good electrical contact.
292	Cunningham 1	09/03/14	10/30/14	20.11	Unit Online: Loss of Vacuum; High Back Pressure Unknown Leak.
293	Jones 1	09/03/14	09/03/14	0.02	Issues with high back pressure - something causing lack of flow to cooling tower.
294	Jones 1	09/04/14	09/04/14	0.02	Issues with high back pressure - something causing lack of flow to cooling tower.
295	Jones 3	09/04/14	09/04/14	0.17	Regulatory required quarterly calibration of gas transmitters.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
296	Cunningham 2	09/05/14	09/06/14	0.61	Repair Leak: 12th Stage Extraction line leak at Deaerator.
297	Plant X 3	09/05/14	09/12/14	4.25	Force draft fan bearings - high vibration.
298	Jones 1	09/06/14	09/19/14	13.41	Maintenance outage - Liner failure in suction line of main circulating.
299	Cunningham 2	09/07/14	09/13/14	6.06	Unit Offline: Cooling Tower 480Bus Arc.
300	Maddox 3	09/08/14	09/08/14	0.35	Installed new insulation/fill material in stack.
301	Cunningham 4	09/09/14	09/17/14	7.55	Unit Unavailable; Startup NOx Test Failed.
302	Plant X 4	09/10/14	09/10/14	0.03	Derate to change Boiler feed pump recirculating relief valve (lifting) with unit online.
303	Harrington 2	09/12/14	09/12/14	0.05	Unit was derated to replace C coal mill feeder motor. E Mill is also out of service for planned repairs. This leaves us with a 3 mill operation.
304	Tolk 2	09/14/14	09/14/14	0.21	Electro Hydraulic leak on the turbine drive boiler feed pump reducing load to get pump off and Electro Hydraulic system isolated.
305	Cunningham 1	09/15/14	10/03/14	18.34	Cooling Tower Detailed Inspection.
306	Maddox 2	09/15/14	09/15/14	0.15	Clean fuel nozzles.
307	Tolk 2	09/15/14	09/15/14	0.20	Lost the excitation to the East force draft fan causing it to trip. Dropping additional load to swap to motor driven feed pump to troubleshoot Electro Hydraulic pressure unloading issue.
308	Cunningham 4	09/17/14	09/17/14	0.02	Unit Unavailable; Startup NOx Tuning.
309	Cunningham 4	09/17/14	09/18/14	0.59	Unit Unavailable; Startup NOx Tuning.
310	Maddox 3	09/17/14	09/25/14	8.38	Electrical short in the potential transformer cabinet on the north side of the unit.
311	Cunningham 4	09/18/14	09/18/14	0.00	Unit Unavailable; Startup NOx Tuning.
312	Cunningham 4	09/18/14	10/21/14	32.89	Unit Unavailable; Waiting scheduled NOx Testing.
313	Harrington 2	09/20/14	09/21/14	1.18	Unit was removed from service to make repairs to a wall tube leak.
314	Jones 4	09/20/14	09/20/14	0.27	Tripped due to problems with rotor air cooling system.
315	Tolk 2	09/20/14	09/20/14	0.15	Electro Hydraulic leak on the Turbine driven boiler feed pump.
316	Nichols 3	09/23/14	09/24/14	1.02	Boiler tube leak repaired on the south wall far west tube (outside surface) at a previous repair. The leak was located inside the pressure casing near the superheat outlet header seal box. A pinhole leak was also repaired on the low temperature superheat outlet drain line.
317	Harrington 3	09/26/14	09/26/14	0.03	Unit was derated to remove the Main feed pump from service to make repairs to the pressure switch on the DC oil pump. The pump would not shut off after the weekly test due to a dirty orifice.
318	Plant X 3	09/27/14	09/28/14	1.12	Feedwater tubes leaking bad enough to overpressure tubes and lift safeties.
319	Harrington 2	09/28/14	09/28/14	0.03	Unit was derated to change out a mill feeder motor that was going to fail soon.
320	Harrington 3	09/28/14	10/01/14	2.67	Unit tripped on high drum level at a result of an economizer tube leak.
321	Plant X 3	09/30/14	10/24/14	23.31	Turbine bearing over temp and over vibration limit.
322	Tolk 1	10/01/14	10/05/14	4.09	Fall Mini Outage #2 extraction valve repair.
323	Tolk 2	10/06/14	10/06/14	0.17	Reduce load due to Electro Hydraulic leak on the turbine drive boiler feed pump.
324	Harrington 2	10/08/14	10/11/14	2.08	Unit was removed from line to make repairs on 2 reheater tube leaks.
325	Maddox 1	10/09/14	10/09/14	0.05	Boiler drum high level trip.
326	Harrington 1	10/11/14	10/11/14	0.03	Unit had to be derated to prevent an opacity exceedance. We did not get the opportunity to 100% dead rap like scheduled.
327	Harrington 1	10/17/14	10/26/14	8.78	Unit will be removed from line for a mini outage. Scope: air preheater wash, electrostatic precipitator clean up, and other miscellaneous items.
328	Cunningham 4	10/21/14	10/21/14	0.00	Unit Unavailable; Startup NOx Tuning.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
329	Cunningham 4	10/21/14	10/21/14	0.17	Unit Unavailable; Startup NOx Tuning.
330	Cunningham 4	10/21/14	10/21/14	0.00	Unit Unavailable; Startup NOx Tuning.
331	Cunningham 4	10/21/14	10/21/14	0.06	Unit Unavailable; Startup NOx Tuning.
332	Cunningham 4	10/21/14	10/21/14	0.00	Unit Unavailable; Startup NOx Tuning.
333	Cunningham 4	10/21/14	10/21/14	0.06	Unit Unavailable; Startup NOx Tuning.
334	Cunningham 4	10/21/14	10/22/14	0.00	Unit Unavailable; Startup NOx Tuning.
335	Cunningham 4	10/22/14	10/23/14	1.29	Unit Unavailable; Startup NOx Tuning.
336	Jones 2	10/24/14	11/06/14	13.64	Planned Outage to replace stub shaft.
337	Plant X 3	10/24/14	10/28/14	0.24	Derate 5% due to the High Pressure feed water heaters being out of service.
338	Nichols 1	10/30/14	10/31/14	0.74	The common blowdown line for cooling tower blowdown and boiler blowdown was leaking. Blowdown was suspended, making the unit unavailable for startup.
339	Nichols 2	10/30/14	10/31/14	0.74	The common blowdown line for cooling tower blowdown and boiler blowdown was leaking. Blowdown was suspended, making the unit unavailable for startup.
340	Nichols 3	10/30/14	10/31/14	0.74	The common blowdown line for cooling tower blowdown and boiler blowdown was leaking. Blowdown was suspended, making the unit unavailable for startup.
341	Harrington 1	11/02/14	11/02/14	0.85	Unit had a failed start up due to a breakdown in the electrostatic precipitator. The boiler was removed from service and cooled to investigate internals of electrostatic precipitator.
342	Tolk 2	11/03/14	11/03/14	0.03	East force draft fan issues, reset fan controller and restarted.
343	Maddox 1	11/05/14	11/05/14	0.03	1A condensate pump tripped on startup, unit limited to 100 MW.
344	Cunningham 2	11/08/14	11/12/14	4.06	Unit Tripped; Bad Governor Bushing.
345	Plant X 3	11/08/14	11/09/14	0.03	Loss of control power to boiler feed pump (oil priming pump permissive fault).
346	Tolk 1	11/09/14	11/09/14	0.73	Off line to repair leak in transmitter line on suction side of Turbine Driven Boiler Feed Pump.
347	Maddox 2	11/11/14	11/11/14	0.12	#2 bearing vibration trip, loose wire. Code 4551, "doesn't exist."
348	Jones 1	11/12/14	11/12/14	0.34	Frozen legs on the Deaerator storage tank could not get level indication for starting unit.
349	Maddox 2	11/13/14	11/13/14	0.32	Startup trip - outboard motor high temp at ~ 1100 rpm.
350	Nichols 3	11/13/14	11/13/14	0.63	Extreme low outside ambient temperature caused the deaerating heater level transmitters to quit indicating an accurate level. It is believed that the top sensing legs contained moisture that had frozen.
351	Cunningham 3	11/16/14	11/20/14	3.57	Scheduled: Borescope Inspection.
352	Jones 4	11/16/14	11/16/14	0.15	Starting package would not allow unit to roll up.
353	Jones 4	11/16/14	11/17/14	1.08	Starting package would not allow unit to roll up.
354	Tolk 2	11/17/14	11/17/14	0.02	East primary air Fan motor winding temperature high, motor filters were coated with ice.
355	Harrington 3	11/21/14	11/21/14	0.05	Unit had to be derated to remove the Main Feed Pump from service to make repairs on the pumps DC lube oil pump pressure switch.
356	Jones 1	11/24/14	11/24/14	0.19	Failure of transmitter on the superheat sprays.
357	Cunningham 3	11/25/14	11/25/14	0.33	Flashback temperature channel bad on combustor.
358	Jones 3	11/25/14	11/25/14	0.27	Regulatory required quarterly calibration of gas transmitters.
359	Maddox 2	12/01/14	12/01/14	0.11	#4&5 bearing spike trip.
360	Cunningham 1	12/02/14	12/31/14	29.99	Identify & Repair Leak on Turbine; Expansion Joint.
361	Jones 4	12/02/14	12/08/14	6.10	Planned outage to replace transition pieces - warranty work.
362	Nichols 3	12/02/14	12/02/14	0.51	Boiler tube leak repaired on the C corner (east wall, last straight tube at south end of the wall). The tube was a waterwall tube adjacent to the burner box that had a crack at a structural weld attachment to a beam/angle iron.
363	Plant X 3	12/05/14	12/06/14	0.48	Boiler wall hot spot due to insulation/refractory degradation.
364	Plant X 1	12/06/14	12/15/14	9.69	Unit was off for flume and cooling tower repairs.

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(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
365	Plant X 2	12/06/14	12/15/14	9.66	Replace auxiliary steam valve.
366	Plant X 3	12/06/14	12/20/14	14.56	Low Temperature superheat.
367	Cunningham 3	12/10/14	12/10/14	0.16	Maintenance outage: Repair Fuel Leak 2&3 Basket.
368	Cunningham 4	12/12/14	12/12/14	0.29	Unit Offline: Lube Oil Pressure Low.
369	Tolk 2	12/13/14	12/14/14	0.10	Check B Coal bunker for obstruction not allowing coal to reach feeder belt.
370	Quay County 1	12/14/14	12/14/14	0.09	Quay has a not ready to start condition due to lube oil system alarm "lube oil tank level high." Level was lowered and lube oil system control was reset.
371	Cunningham 4	12/15/14	12/15/14	0.10	Low Lube Oil Pressure; Corrected.
372	Jones 4	12/16/14	12/16/14	0.19	Starting package would not allow unit to roll up.
373	Jones 4	12/16/14	12/16/14	0.31	Starting package would not allow unit to roll up.
374	Maddox 1	12/16/14	12/16/14	0.27	Right Reheat stop valve not opening, and auxiliary oil pump/motor extreme vibrations.
375	Maddox 1	12/16/14	12/22/14	6.07	Effecting repairs of the above mentioned items.
376	Jones 4	12/18/14	12/18/14	0.57	Failure of the inlet guide vane & variable guide vane.
377	Jones 4	12/20/14	12/20/14	0.07	Trouble with inlet heating valve and logic.
378	Jones 3	12/23/14	12/23/14	0.06	Maintenance outage to replace two bad blade path thermocouples.
379	Maddox 1	12/24/14	12/24/14	0.11	Gas firing valve frozen.
380	Tolk 1	12/24/14	12/24/14	0.20	Tube leak in superheat section of boiler. Bring load down to 180 MW Net drip boiler pressure. Try to hold to see what make-up will do. May need to go ahead and come off line.
381	Tolk 1	12/24/14	12/27/14	2.65	Superheat tube leak - was able to hold load at 180 for 8 hrs.
382	Tolk 2	12/25/14	12/25/14	0.02	Induce draft Fan tripped-restart failed.
383	Jones 4	12/27/14	12/27/14	0.04	Starting package would not allow unit to roll up.
384	Jones 4	12/27/14	12/27/14	0.12	Starting package would not allow unit to roll up.
385	Plant X 4	12/29/14	12/29/14	0.27	The plant was unaware that someone from the substation department was investigating a DC ground alarm. The substation worker was opening and closing breaker doors and when he closed the door to XK04 (X4 generator breaker) the breaker tripped which tripped the unit.
386	Maddox 2	12/30/14	12/30/14	0.05	Lube oil bearing/drain high temp.
387	Plant X 4	12/30/14	12/31/14	0.80	Windbox/Furnace delta pressure transmitter line froze.
388	Harrington 1	12/31/14	12/31/14	0.07	Unit was derated to prevent an opacity violation. The electrostatic precipitator was dirty and needed to be dead rapped beyond the 2 weekly preventive maintenance work we have in place.
2015					
389	Cunningham 1	01/01/15	01/02/15	1.60	Repairs to Cooling Tower Structure.
390	Cunningham 3	01/02/15	01/05/15	3.18	Elevated NOx; Transition to Basket.
391	Cunningham 2	01/03/15	02/21/15	48.93	Scheduled low pressure Turbine Overhaul.
392	Nichols 3	01/03/15	02/27/15	55.71	Planned Outage - High Pressure-intermediate pressure and low pressure turbines, Turbine valves, Cooling Tower, and boiler are all included in the scope of the outage.
393	Nichols 1	01/04/15	01/04/15	0.06	The unit tripped on high drum level. Operator raised load too soon after unit synchronization. Also, there was a startup delay for Substation Dept. to diagnose an air compressor problem on the generator breaker that had initiated a low air pressure alarm.
394	Cunningham 3	01/05/15	01/05/15	0.02	Test Run.
395	Maddox 2	01/07/15	01/08/15	0.82	Trip on #5 Bearing drain high temp.
396	Cunningham 1	01/09/15	01/31/15	22.67	Repairs to Cooling Tower Structure.
397	Tolk 2	01/11/15	01/12/15	0.18	East induce draft Fan tripped, Electrical & Techs on way to diagnose and make repairs.
398	Plant X 2	01/12/15	01/15/15	2.99	Condenser tube leak.
399	Tolk 2	01/12/15	01/12/15	0.01	Reduced load due to C Mill being hold carded and A Mill tripped. Discharge damper failed.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
400	Tolk 2	01/13/15	01/13/15	0.05	East induce draft fan controller issues, equipment rep onsite to troubleshoot fan issues.
401	Maddox 2	01/15/15	01/15/15	0.08	Fuel supply alarm, loss of "ready to start."
402	Plant X 4	01/16/15	01/16/15	0.14	Problem with drum level transmitter.
403	Harrington 1	01/17/15	01/17/15	0.41	The unit was in an reserve shutdown so we took the opportunity to address some duct bracing issues for the new ACI (Activated Carbon Injection) lances.
404	Maddox 1	01/19/15	01/19/15	0.06	Unit online for 39 seconds, tripped on loss of vacuum and power relay.
405	Harrington 3	01/23/15	01/31/15	7.69	Unit was removed from line for a minor outage. Main scope of work is air preheater wash, rebag 8 baghouse compartments, and several valve replacements.
406	Tolk 1	01/23/15	01/23/15	0.05	High vibration on the East primary air Fan, suspect ice build up on the fan motor or inlet valves.
407	Tolk 1	01/23/15	01/23/15	0.01	High vibration on the East primary air Fan, suspect ice build up on the fan motor or inlet valves.
408	Tolk 1	01/23/15	01/23/15	0.00	High vibration on the East primary air Fan, suspect ice build up on the fan motor or inlet valves.
409	Harrington 3	02/02/15	02/12/15	3.37	Derate is needed to season the new bags that were installed in 8 compartments during the mini outage.
410	Maddox 2	02/03/15	02/04/15	1.41	Line switching.
411	Maddox 3	02/03/15	02/04/15	1.41	Planned Outage For line switching.
412	Jones 4	02/04/15	02/05/15	0.17	Not ready to start due to hi temp alarm in excitation transformer.
413	Cunningham 1	02/09/15	02/23/15	14.88	Unit Offline: Repairs to Cooling Tower Structure.
414	Jones 1	02/09/15	02/10/15	0.67	Boiler and cooling tower blowdown line out of service to make tie to new line.
415	Jones 2	02/09/15	02/10/15	0.67	Boiler and cooling tower blowdown line out of service while tie in is made to the new line.
416	Jones 4	02/10/15	02/10/15	0.21	Not ready to start due to hi temp alarm in excitation transformer.
417	Nichols 1	02/11/15	02/11/15	0.06	Nichols 1 is unavailable because a gas valve is being removed from the gas supply system on Nichols 3, and the plant gas supply system header is isolated.
418	Nichols 2	02/11/15	02/11/15	0.06	Nichols 2 is unavailable because a gas valve is being removed from the gas supply system on Nichols 3, and the plant gas supply system header is isolated.
419	Tolk 2	02/13/15	02/13/15	0.11	Unit was forced offline due to high vibration on the #9 bearing encountered during a Reactive Capability Verification Test ***CAUSE CODE SHOULD BE 4842.
420	Jones 3	02/16/15	02/16/15	0.38	Regulatory required quarterly calibration of gas transmitters.
421	Jones 4	02/16/15	02/16/15	0.68	Regulatory required quarterly calibration of gas transmitters.
422	Maddox 1	02/16/15	05/04/15	30.27	Cooling tower cell replacement, can only use 2-3 cooling tower cells at a time due to construction.
423	Plant X 4	02/17/15	02/21/15	1.96	Gearbox bearing temperatures started going up and exceeded 200 degrees. Vibration also became an issue.
424	Tolk 2	02/17/15	02/26/15	9.67	Mini overhaul outage- Air preheater wash.
425	Cunningham 4	02/18/15	02/18/15	0.41	Offline: 115-kV Gen Breaker Low Gas.
426	Maddox 1	02/19/15	02/27/15	8.27	Planned outage for Steam jet air ejector and main gas line valve/regulator work.
427	Cunningham 2	02/21/15	03/01/15	4.25	Chemical Cleaning; Curing Phase 1-2 wks run time.
428	Cunningham 4	02/22/15	02/22/15	0.02	Excitation failed to activate. Operated initiated trip due to high NOx levels. Reset Gen Breaker Low Gas.
429	Harrington 2	02/22/15	02/25/15	0.07	The fan fluid drive scope tube drive needs to be stroked and calibrated due to drive issues or FBM (Field Bus Module) issues. When fan drives operates it swings the controlled parameters of the fan.
430	Plant X 4	02/22/15	02/23/15	0.27	Cold weather event.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
431	Cunningham 3	02/23/15	02/23/15	0.15	Start up Trip: low pressure & High Pressure valves frozen (stuck).
432	Maddox 2	02/23/15	02/24/15	1.14	Tripped during startup on #5 bearing vibration.
433	Jones 3	02/24/15	02/24/15	0.07	Maintenance outage to replace thermocouples in #3 basket.
434	Maddox 2	02/24/15	02/25/15	1.35	Replaced plant main gas line valves.
435	Maddox 3	02/24/15	02/25/15	1.35	Main gas line valve replacement.
436	Harrington 2	02/25/15	02/25/15	0.13	Unit had to be derated to remove the east set of fans from service to make repairs to the Rex Drive on the East force draft fan fluid drive.
437	Jones 3	02/25/15	02/25/15	0.08	Maintenance outage to in-service the new Red River remote isolation valves.
438	Jones 4	02/25/15	02/25/15	0.08	Maintenance outage to in-service the new Red River remote isolation valves.
439	Cunningham 3	02/27/15	02/27/15	0.15	Start up Trip: low pressure Bleed Valve Alarms then Trip.
440	Jones 1	02/27/15	02/27/15	0.06	Gas firing valve - card on the Blac drive failed.
441	Nichols 3	02/27/15	03/31/15	31.61	The original outage end date will be delayed because of turbine bucket/rotor repairs. The south-main-circulating-water pump repairs also postponed the unit startup.
442	Tolk 1	02/27/15	02/27/15	0.12	Lost turbine due to high drum level due to excess fuel entering the boiler from spike in Primary Air Flow. Primary air fan inlet vanes had locked in position and released.
443	Maddox 1	02/28/15	03/01/15	0.85	Water was left in the High Pressure heater and froze.
444	Plant X 3	02/28/15	03/13/15	13.31	Boiler waterwall tube leak.
445	Cunningham 2	03/01/15	03/05/15	4.18	Planned Extension: Boiler Repairs Within Outage Scope.
446	Jones 2	03/02/15	03/13/15	4.07	Loss of lube oil pump caused the outboard bearing on west boiler feed pump motor to wipe. Derated due to only one boiler feed pump.
447	Jones 3	03/02/15	03/03/15	1.39	Red River gas line pressure relief valve lifted and would not close back - took unit off to block gas line to repair pressure relief valve.
448	Jones 4	03/02/15	03/03/15	1.39	Red River gas line pressure relief valve lifted and would not close back - unit out of service to block gas line to repair pressure relief valve.
449	Cunningham 1	03/03/15	03/04/15	0.62	South circulating Pump: Reset Thrust & Set Screws.
450	Tolk 1	03/03/15	05/10/15	68.90	Major Overhaul Including work: High Pressure-intermediate pressure Inspection, Boiler tube work Reheat section.
451	Cunningham 2	03/05/15	03/07/15	0.11	Planned Turbine Trip Checks Scheduled 3/7 @ 11AM.
452	Cunningham 2	03/07/15	03/07/15	0.07	Planned Turbine Trip Checks Scheduled 3/7 @ 11AM.
453	Harrington 2	03/07/15	03/07/15	0.11	Unit was derated to remove the east set of boiler fan from service to make repairs to the east force draft fan rexa drive. The drive had replacement parts installed due to the drive not operating as designed.
454	Cunningham 1	03/09/15	03/12/15	3.07	Elevated Cooling Sytems Temperatures; Strainer was plugged/damaged; Cooler Cleaned & New Strainer.
455	Cunningham 2	03/09/15	03/10/15	1.45	Planned Extension: Cooling Tower Riser Repairs; Within Outage Scope.
456	Harrington 2	03/10/15	03/10/15	0.10	Unit derated because F Buss had to be taken out of service to troubleshoot cooling tower fan electrical issues. This left us with half the towers and that half had 4 fans out of service for ICT (International Cooling Tower Inc) and our repairs.
457	Plant X 4	03/11/15	03/17/15	0.86	Derate to mitigate boiler hot spots on 5th & 6th floors.
458	Harrington 3	03/13/15	03/14/15	0.72	Unit is being taken out of service to make repairs to a performance test line steam leak that cannot be isolated.
459	Nichols 1	03/13/15	03/13/15	0.19	Nichols 1 was unavailable because a gas valve is being replaced on the gas supply system on Nichols 3, and the plant gas supply system header is isolated.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
460	Nichols 2	03/13/15	03/13/15	0.19	Nichols 2 was unavailable because a gas valve is being replaced on the gas supply system on Nichols 3, and the plant gas supply system header is isolated.
461	Plant X 2	03/13/15	03/13/15	0.35	Condenser tube leak, unable to maintain boiler chemistry. Sodium ion level over max.
462	Maddox 3	03/16/15	03/24/15	8.30	Planned outage for Borescope inspection and oil pump/motor work.
463	Plant X 4	03/17/15	03/17/15	0.86	Work on hot spots - boiler skin.
464	Maddox 1	03/18/15	03/18/15	0.32	A loose wire on the B-phase connector caused a ripple effect in the electrical system and affected the operation of much of the plant operational equipment. The unit ultimately tripped on the Reverse Power Relay caused by this issue.
465	Tolk 2	03/18/15	03/21/15	2.30	Leak in Boiler feed booster discharge piping.
466	Jones 2	03/19/15	03/23/15	1.76	Problem in the fluid coupling causing the inboard fan bearing to get hot.
467	Plant X 3	03/20/15	03/22/15	2.73	Boiler reheat tube leak.
468	Plant X 2	03/21/15	03/27/15	6.38	Suspect waterwall tube leak, unable to maintain drum level.
469	Harrington 1	03/27/15	03/29/15	1.83	Unit had to be removed from line due to Radiant Re-heat tube leak. The outage was immediate due to the leak being a safety concern and causing more damage.
470	Maddox 1	03/27/15	03/27/15	0.11	Short outage for Randy Smiley of Technical Resource and Compliance to inspect Maddox 1 potential transformer Fuses to diagnose the previous 3644 event.
471	Jones 2	03/28/15	03/28/15	0.56	Waterwall tube leak C corner.
472	Plant X 4	03/28/15	04/23/15	6.03	Derating to reduce hotspots.
473	Tolk 2	03/28/15	03/28/15	0.02	West force draft fan tripped, wiring in controller.
474	Tolk 2	03/28/15	03/28/15	0.05	West force draft fan tripped, wiring in controller.
475	Harrington 1	03/29/15	03/29/15	0.18	During start up the operator closed the main gas valve which allowed Turbine follow to operate and drove the turbine valves closed and tripped the generator on reverse power.
476	Harrington 2	03/30/15	04/03/15	4.40	Unit had to be removed from service to make repairs on an external water wall tube leak around an igniter assembly.
477	Jones 4	03/30/15	04/02/15	2.91	Borescope inspection.
478	Nichols 3	03/31/15	04/15/15	3.37	The south-main-circulating-water pump rebuild/assembly caused the unit to be derated to approximately 200 MW gross.
479	Plant X 2	03/31/15	03/31/15	0.39	Turbine stop valve after seat drain failure, Hole in valve body.
480	Jones 3	04/06/15	04/10/15	3.80	Borescope inspection.
481	Harrington 1	04/08/15	04/13/15	5.17	Unit had to be removed from service due to a fire on cooling tower cells 1 and 2. The fire caused us to be unsure about the stability of the circulating header.
482	Maddox 2	04/08/15	04/08/15	0.36	#5 Bearing Oil Leak/Repaired.
483	Cunningham 1	04/09/15	04/09/15	0.13	Repair Main Steam Air Ejector leak Supply side, Near waterboxes.
484	Cunningham 2	04/10/15	04/10/15	0.01	Tighten packing on north boiler feed pump discharge valve.
485	Jones 1	04/10/15	04/10/15	0.04	Due to operator busy with another unit (Jones 3) the unit drum level started swinging and unit tripped on high drum level.
486	Cunningham 3	04/12/15	04/18/15	6.31	Borescope Inspection.
487	Harrington 1	04/13/15	04/19/15	1.10	Unit will be derated due to number of cooling tower fans available for service as a result of the cooling tower fire outage. We only have the north tower available at this time.
488	Jones 3	04/13/15	04/13/15	0.28	Relay problems on static frequency converter and static frequency converter breakers in power distribution center.
489	Jones 4	04/13/15	04/13/15	0.15	Maintenance outage to replace exhaust thermocouples.
490	Nichols 1	04/13/15	04/16/15	3.65	The Substation Construction crew is completing modifications to the substation, and the Nichols 1 generator breaker is a part of the clearance (Transmission Work Request).

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
491	Nichols 3	04/14/15	04/15/15	1.33	Repairs to the south-main-circulating-water pump are complete, and the piping is being re-attached to the pump. The cooling tower is drained. Blinds are being removed from the piping, and the suction expansion joint is being installed.
492	Nichols 1	04/16/15	04/19/15	2.35	Planned Outage Extension to install cement patch over the circulating-water-line-weld repair (that was completed during the planned outage taken by Substation Construction crew) and allow patch to cure. The line was water tight after the weld repair.
493	Tolk 2	04/16/15	04/16/15	0.01	Lost East force draft Fan due to Fan Controller tripping. Electrician notified on way to diagnose and repair.
494	Jones 2	04/19/15	04/21/15	1.43	Waterwall tube leak "B" corner.
495	Maddox 3	04/20/15	09/30/15	163.32	Auxiliary gearbox repairs (lube oil line leak inside).
496	Tolk 2	04/22/15	04/22/15	0.01	East induce draft Fan tripped, electricians looking into cause - reset controller and checked out.
497	Cunningham 1	04/23/15	04/23/15	0.08	Repair Leak in #17 Heater Drains Line.
498	Plant X 4	04/23/15	05/10/15	17.17	X4 boiler mini outage.
499	Harrington 1	04/25/15	04/25/15	0.00	Unit had to be derated to prevent an opacity violation.
500	Harrington 2	04/25/15	04/25/15	0.23	Unit was derated to clear F Buss to replace fan breakers 1, 2, & 4.
501	Jones 3	04/25/15	04/26/15	0.07	Problem with evaporative cooler pump - locked down and would not supply evaporate water.
502	Jones 1	04/26/15	05/03/15	2.78	Problems with west boiler feed pump element.
503	Cunningham 4	04/28/15	04/28/15	0.12	Inspect Orifice Plates.
504	Cunningham 1	04/29/15	04/29/15	0.05	Boiler Feed Pump Issues.
505	Harrington 1	04/29/15	04/29/15	0.02	Unit was derated to prevent opacity violations due to a fouled electrostatic precipitator.
506	Cunningham 2	05/02/15	05/31/15	10.30	2N Boiler Feed Pump L013 Close Contact Monitor Alarm. Boiler Feed Pump won't start. Motor Grounded.
507	Plant X 3	05/02/15	05/03/15	0.72	Shutdown to repair a suspected economizer header leak.
508	Harrington 1	05/03/15	05/04/15	0.11	Unit had to be derated to prevent opacity violations. Transformer/rectifier set EB4 tripped out and would not reset.
509	Harrington 1	05/04/15	05/05/15	0.89	Unit had to be taken out of service to make repairs to electrostatic precipitator transformer/rectifier set EB4.
510	Harrington 1	05/05/15	05/05/15	0.01	The unit was derated to prevent an opacity violation.
511	Harrington 2	05/05/15	05/14/15	8.71	Unit was removed from service for a planned outage to prepare the unit for the summer months.
512	Carlsbad 5	05/06/15	05/22/15	15.95	Replace PID (Proportional Integral Derivative) controller on megawatt controller.
513	Harrington 1	05/07/15	05/07/15	0.01	Unit was derated to prevent opacity violations.
514	Harrington 1	05/08/15	05/10/15	1.14	Electro Hydraulic fluid leak at a line that feed a solenoid which resulted in a fire at turbine valve requiring immediate unit shutdown.
515	Tolk 1	05/10/15	05/11/15	0.13	High Pressure/intermediate pressure inspection-work on Boiler & replace reheat section.
516	Tolk 1	05/11/15	05/11/15	0.19	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
517	Tolk 1	05/11/15	05/11/15	0.44	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
518	Tolk 1	05/11/15	05/13/15	1.05	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
519	Harrington 1	05/13/15	05/13/15	0.03	Boiler pressure limiting load due to drum safety relief setting being check.
520	Tolk 1	05/13/15	05/13/15	0.16	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
521	Tolk 1	05/13/15	05/14/15	0.44	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
522	Harrington 1	05/14/15	05/14/15	0.01	Load reduction due to high opacity.

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(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
523	Tolk 1	05/14/15	05/14/15	0.25	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
524	Tolk 1	05/14/15	05/15/15	0.62	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
525	Tolk 1	05/15/15	05/15/15	0.33	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
526	Tolk 1	05/15/15	05/18/15	1.17	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
527	Tolk 2	05/16/15	05/16/15	0.19	Lightening storm came through and took out 11 Cooling tower fans. They will not restart. Electricians coming out once storm passes.
528	Harrington 1	05/17/15	05/17/15	0.02	Due to high opacity load will be limited until we drop for scheduled load drop to dead rap.
529	Harrington 3	05/19/15	05/19/15	0.15	Found hole in the Electro Hydraulic system piping to the turbine boiler feed pump High Pressure Stop Valve. Tubing will need to be replaced. The derated load is all we can pull with the main feed pump out of service and running with the Start Up feed pump.
530	Harrington 1	05/23/15	05/24/15	1.12	Lost P bus South Condensate Booster pump and North Condensate Booster pump on Q bus tripped the lockout relay failing to start. Result in loss of Deaerator level.
531	Harrington 2	05/23/15	05/24/15	0.72	Have lost two coal feeders due to wet coal plugging downcomers to mills. Maintenance notified to come out to unplug the feeders. A Mill still out of service due to motor change out.
532	Harrington 3	05/25/15	05/26/15	0.21	To replace the relief valve on the Electro Hydraulic system.
533	Jones 3	06/03/15	06/03/15	0.03	Maintenance outage to replace a faulty vibration probe - unit had to be off turning gear to set the probe gaps.
534	Tolk 2	06/04/15	06/04/15	0.08	Center induce draft Fan speed control not controlling properly.
535	Jones 3	06/05/15	06/06/15	0.67	Loss of communication with CP (control processor) due to a server issue causing gas valves to close.
536	Jones 4	06/05/15	06/06/15	0.67	Unit tripped due to loss of communications with CP (control processor) problem with server.
537	Harrington 1	06/06/15	06/06/15	0.16	Unit was derated to clear P Buss. A Breaker that failed and was reworked had to be placed back in service.
538	Tolk 1	06/08/15	06/08/15	0.01	Induce draft air flow blocking - causing imbalance in air flow which caused induce draft fans to have to work harder. Resulting in high furnace pressure
539	Jones 4	06/09/15	06/13/15	3.20	Issues with high speed turning gear - leaking oil.
540	Harrington 1	06/11/15	06/11/15	0.02	Unit was derated to prevent opacity violations.
541	Harrington 3	06/13/15	06/13/15	0.05	Unit was derated due to the West induce draft fan tripping. Cause of the fan motor trip is not known at this time.
542	Tolk 1	06/13/15	06/15/15	2.22	Inspect and clean condenser to improve back pressure issues.
543	Harrington 1	06/14/15	06/14/15	0.00	Unit had to be derated to prevent any added opacity spikes due to a rain storm.
544	Harrington 3	06/16/15	06/16/15	0.00	Unit was derated due to high baghouse delta pressure. The high delta pressure was from having compartments out of service to replace blown bags.
545	Tolk 1	06/17/15	06/18/15	0.25	East primary air Fan outboard motor bearing in high temperature alarm. Bearing wiped was not an oil issue.
546	Jones 2	06/19/15	06/19/15	0.14	Shutdown due to a leak on a Electro Hydraulic system pipe elbow in the trip system cabinet.
547	Harrington 1	06/20/15	06/20/15	0.02	Unit had to be derated to take the Southeast cooling tower distribution header out of service to change the supports so the repairs on the fire damaged cells could move forward.
548	Harrington 1	06/21/15	06/21/15	0.04	Unit had to be derated to prevent opacity violations due to a fouled electrostatic precipitator.
549	Harrington 1	06/22/15	06/22/15	0.03	Unit was derated to prevent an opacity violation.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
550	Tolk 2	06/23/15	06/23/15	0.04	Lost communication with C Mill air dampers, no longer transporting coal to the boiler.
551	Harrington 1	06/24/15	06/24/15	0.01	Unit was derated to prevent opacity violations.
552	Harrington 1	06/25/15	06/25/15	0.01	Unit had to be derated to prevent opacity Violations due to dirty electrostatic precipitator.
553	Harrington 1	06/26/15	06/26/15	0.01	Unit had to be derated to prevent opacity violations. The chemical pumps were not available due to having the new skid unit being plumbed in.
554	Harrington 1	06/26/15	06/26/15	0.02	Unit had to be derated to prevent opacity violations because the west electrostatic precipitator rappers stopped working.
555	Jones 3	06/26/15	06/26/15	0.07	Maintenance outage to reboot server.
556	Jones 4	06/26/15	06/26/15	0.07	Maintenance outage to reboot server.
557	Harrington 1	06/27/15	06/27/15	0.04	Unit had to be derated to prevent opacity violations because the electrostatic precipitator rappers stopped working.
558	Jones 2	06/27/15	06/29/15	1.67	Unit trip on main transformer differential relay - loose conduit on generator current transformer causing a ground.
559	Tolk 1	06/27/15	06/27/15	0.04	Turbine drive boiler feed pump #2 bearing wiped - have unit at 180 MW @ 7 AM for maint to begin work, while unit at reduced load will clean Auxiliary circulating side strainer on heat exchanger.
560	Harrington 2	06/28/15	06/28/15	0.25	Unit had to be derated to swap boiler feed pumps. The main feed pump had to be removed from service to make repairs on the balance leak off line.
561	Harrington 1	06/29/15	06/29/15	0.18	Unit was derated to remove 480V J Buss from service to put a new breaker in for the new electrostatic precipitator chemical injection system.
562	Jones 4	06/30/15	06/30/15	0.08	Operator released the generator breaker LOTO(lockout/tagout) lockout on the screen which sent a trip signal to the breaker.
563	Cunningham 2	07/01/15	07/10/15	3.55	South Boiler Feed Pump Inboard Packing Blown.
564	Tolk 1	07/01/15	07/01/15	0.41	Replace East primary air fan outboard motor bearing.
565	Tolk 2	07/01/15	07/01/15	0.01	#9 bearing started climbing on vibration. Trying to reduce load to get it to stop climbing.
566	Harrington 3	07/02/15	07/02/15	0.01	Unit was derated due to a high delta pressure across the flue gas air preheater being fouled. Mill alignment also played a part in this event.
567	Harrington 1	07/03/15	07/04/15	0.11	Unit was derated because transformer/rectifier set WB4 tripped and would not reset. Losing a 4th field transformer/rectifier set increases chance of opacity violations if unit is not derated.
568	Harrington 1	07/04/15	07/05/15	0.98	Unit was removed from service to repair a transformer/rectifier set in the electrostatic precipitator.
569	Tolk 2	07/04/15	07/04/15	0.00	Generator Bearing #9 vibration increasing. Reduce load to attempt to let vibration to settle.
570	Cunningham 2	07/05/15	07/06/15	0.64	South Boiler Feed Pump Inboard Packing Replacement.
571	Harrington 1	07/05/15	07/05/15	0.25	Unit failed to close the generator breaker and go on line due to a logic error in the turbine Woodward control system.
572	Harrington 1	07/05/15	07/06/15	0.04	Unit was derated due to a transformer/rectifier set being out of service. With out a 4th field set in service the unit can not carry full load because it would increase chances of opacity violations.
573	Tolk 1	07/06/15	07/08/15	0.62	Condenser tube leak that will stop at 1500 lbs. drum pressure and try to maintain this load and reevaluate.
574	Harrington 1	07/08/15	07/08/15	0.09	Unit was derated to prevent opacity violations.
575	Tolk 1	07/08/15	07/10/15	2.46	Outage to find and repair a condenser tube leak.
576	Harrington 1	07/09/15	07/09/15	0.03	Unit was derated to prevent opacity violations.
577	Tolk 1	07/10/15	07/10/15	0.04	#1 Bearing Vibration started increasing as we increased load. Vibration took us off line, relatched tripped again trying to go to 2550 @ 400pm, latched again and tried 2550 @ 200pm got on line.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
578	Harrington 2	07/11/15	07/11/15	0.48	Unit tripped on P Q Buss overcurrent because a toad got into the Q buss 4160 normal source breaker switchgear.
579	Tolk 1	07/12/15	07/16/15	4.75	Condenser Tube Leak - going to pressure lines try to find leak.
580	Nichols 2	07/13/15	12/31/15	171.97	Reverse power relay did not operate and unit was motoring which caused excessive heat and vibration in the low pressure turbine. Investigation is being conducted to determine possible damage to turbine bearings and blades.
581	Nichols 3	07/13/15	07/13/15	0.02	The number 3 AC unit on the variable frequency drive building lost both compressors and caused the building to overheat. The unit was derated while an electrician was called out to determine the problem. The spare AC was set to cool and the temperature regulated.
582	Nichols 3	07/13/15	07/13/15	0.00	The number 3 AC unit on the variable frequency drive building lost both compressors and caused the building to overheat. The unit was derated while an electrician was called. After talking with the electrician the alarms cleared and the unit was returned.
583	Plant X 2	07/13/15	07/13/15	0.09	Loss of drum level due to a feedwater tube leak.
584	Cunningham 2	07/14/15	07/15/15	0.10	North condensate pump inboard pump bearing running hot. Pull bearing and inspect.
585	Plant X 1	07/14/15	10/02/15	10.52	East circulating Pump shaft broken.
586	Tolk 2	07/16/15	07/16/15	0.02	Loss of West induce draft Fan.
587	Jones 3	07/17/15	07/17/15	0.38	Loss of communication with BOP (balance of plant) to server - mouse chewed through several fiber optics cables.
588	Jones 4	07/17/15	07/17/15	0.38	Loss of BOP (balance of plant) communications to server - mouse chewed through several fiber optic cables.
589	Jones 3	07/21/15	07/21/15	0.24	Maintenance outage to repair fiber optics cables damaged by mouse.
590	Jones 4	07/21/15	07/21/15	0.24	Maintenance outage to repair fiber optics cable damaged by mouse.
591	Maddox 2	07/22/15	07/22/15	0.13	Scheduled to clean contacts on 52G generator breaker.
592	Cunningham 2	07/23/15	07/27/15	4.04	Tripped: No Load Inst. Switch Assembly; Control Valves.
593	Plant X 2	07/24/15	12/31/15	12.48	Turbine governing issues.
594	Harrington 3	07/27/15	07/27/15	0.14	Unit had to be derated to remove the Main Feed Pump from service due to a leaking Electronic Hydraulic line leak on the turbine control valves.
595	Maddox 1	07/27/15	07/28/15	1.09	Electro Hydraulic control system motor failure caused Maddox 1 trip.
596	Plant X 3	07/27/15	08/05/15	9.36	1 ruptured tube & 3 additional leaks in 3 different tubes.
597	Tolk 2	07/27/15	07/28/15	0.01	#9 Vibration increasing rapidly. Taking unit to 500 MW Gross to let it settle back out.
598	Harrington 1	07/28/15	07/28/15	0.41	Unit had to be brought off line to make repairs to an o-ring in the right intercept valve control block. The risk of a fire was high.
599	Harrington 1	07/28/15	07/31/15	2.71	The unit went from a forced outage to an maintenance outage to make a steam leak repair to the right intercept valve.
600	Jones 4	07/28/15	07/29/15	0.95	Leaking o-ring in the gas separator.
601	Maddox 2	07/28/15	07/29/15	0.98	Tripped on high vibration reading from eccentricity probe @ #5 bearing.
602	Tolk 2	07/28/15	07/28/15	0.01	High Vibration on the Main turbine #9 bearing - dropping load to 500 gross and then will increase load as vibration allows.
603	Cunningham 2	07/30/15	08/05/15	0.31	Uncontrollable swing on the boiler when exceeding 185 MW.
604	Harrington 2	07/30/15	07/31/15	0.03	Unit had to be derated because the bag house delta pressure was running high due to compartments being out of service to replace blown bags.
605	Jones 3	07/30/15	07/30/15	0.04	Startup failure due to lack of ignition.
606	Harrington 1	07/31/15	08/06/15	5.70	Unit is off line to perform a planned mini after an unplanned outage for a steam leak on a Intercept valve.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
607	Harrington 3	07/31/15	07/31/15	0.01	The unit was derated because the heater drains control valve A was not controlling level and causing the condensate booster pumps to become unstable.
608	Jones 3	07/31/15	07/31/15	0.04	Startup failure due to lack of ignition.
609	Harrington 3	08/01/15	08/01/15	0.02	Unit had to be derated due to a dirty air preheater causing the boiler balance to become positive.
610	Jones 4	08/02/15	08/03/15	1.18	Shut unit down due to high NOx emissions due to controls issues and valve opening and closing.
611	Carlsbad 5	08/03/15	08/27/15	23.79	Unit Offline: Unit unavailable due to low dc voltage for controls.
612	Harrington 1	08/06/15	08/07/15	0.64	Unit was in a start up when we determined we had a downed wire in a transformer/rectifier set. We stopped the start up to take the boiler and electrostatic precipitator out of service. This was original scope of work.
613	Tolk 2	08/06/15	08/06/15	0.01	#9 bearing vibration started ramping and came into alarm, drop load to 500 GMW still climbing so headed to 480 GMW when vibration turned at 488 GMW. Holding until vibration levels out and then will pick up load on operator auto, returned to automatic generator control per Commercial Operations request.
614	Harrington 1	08/07/15	08/07/15	0.04	Boiler tripped on "loss of flame" and caused the unit to trip.
615	Harrington 1	08/07/15	08/10/15	0.57	Unit is derated due to lack of cooling tower fans available to keep cooling water temps down. This was original scope of work during the mini outage.
616	Harrington 2	08/07/15	08/08/15	0.52	Unit was derated to take the main feed pump out of service, cool it down, and make repairs to a balance leak off line.
617	Tolk 2	08/07/15	08/07/15	0.00	#9 bearing vibration went into alarm continuing to climb. Began dropping load to 500 GMW Vibration started to decrease at 494.
618	Tolk 2	08/07/15	08/07/15	0.00	#9 bearing vibration started ramping and came into alarm started load drop to 480, vibration turned at 492 holding here until vibration levels out and then will pick up load as needed.
619	Harrington 3	08/09/15	08/09/15	0.01	The unit was derated to prevent the boiler from going positive due to Air preheater being plugged and running out of induce draft fan.
620	Harrington 3	08/10/15	08/10/15	0.01	Unit had to be derated due to high baghouse and air preheater deltas. Boiler was going positive and induce draft fans were maxed out.
621	Cunningham 1	08/13/15	08/14/15	1.67	Offline: Steam Leak in Steam Air Ejector - Repair.
622	Tolk 2	08/13/15	08/13/15	0.01	#9 bearing vibration came up lowered load will set there until vibration back to normal.
623	Tolk 2	08/13/15	08/13/15	0.01	#9 bearing vibration came up lowered load will set there until vibration back to normal.
624	Tolk 2	08/13/15	08/14/15	0.01	#9 bearing vibration came up lowered load will set there until vibration back to normal.
625	Harrington 2	08/15/15	08/17/15	2.41	Unit was brought off line to investigate and make repairs to a generator rotor field ground.
626	Jones 3	08/15/15	08/15/15	0.21	Maintenance outage to repair disc cavity 2 & 3 actuators.
627	Plant X 2	08/15/15	08/15/15	0.00	Linkage came off Steam Seal Regulator valve.
628	Jones 2	08/16/15	08/18/15	2.12	Shutdown due to hydraulic leaks on turbine. Right hand side governor valve hydraulic cylinder.
629	Harrington 3	08/17/15	08/17/15	0.01	Unit had to be derated to prevent the boiler from going positive due to induce draft fans output limited and a dirty air preheater.
630	Harrington 3	08/18/15	08/18/15	0.01	The unit was derated due to the Air Preheater being fouled and causing the induce draft fans to run at limit.
631	Plant X 1	08/18/15	08/31/15	12.92	Sodium ion limits forced us to take the unit offline.
632	Jones 2	08/19/15	08/21/15	2.02	Shutdown due to excessive smoke from the previous hydraulic leak on turbine - change out insulation blankets.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
633	Harrington 3	08/21/15	08/21/15	0.05	Unit was derated to remove the Main boiler feed pump from service and return to service to gather some vibration data to be used for repairs in a major outage.
634	Cunningham 2	08/22/15	08/22/15	0.06	Air Pre Heater Oil Pump Tripped.
635	Jones 2	08/23/15	08/23/15	0.56	Generator breaker would not close due to faulty contacts.
636	Nichols 1	08/24/15	08/24/15	0.43	Nichols 1 Main steam drain valve at Condenser has a leak, can not maintain vacuum.
637	Cunningham 2	08/25/15	08/28/15	0.12	Unit swings at top end can be excessive. Possible gas valve issue.
638	Harrington 3	08/25/15	08/25/15	0.01	Unit had to be derated to prevent the boiler from going positive. the air preheater is fouled and the fans are topping out.
639	Nichols 3	08/25/15	10/16/15	13.67	North Boiler Feed pump has a hole in a coil and will need to have a motor rewind.
640	Harrington 3	08/26/15	08/26/15	0.02	Unit had to be derated to prevent the boiler from going positive due to a fouled air preheater and baghouse compartments being out of service for blown bags.
641	Harrington 1	08/27/15	08/27/15	0.02	The unit was derated to allow the boiler drum pressure to be reduced to set drum safties.
642	Maddox 1	09/02/15	09/05/15	3.08	D corner skin leaks by super and reheat headers.
643	Tolk 2	09/04/15	09/04/15	0.00	#9 bearing came into alarm at 4 mils. Took unit off control and dropping load till vibration turns. Will hold to settle then return to Automatic generator control.
644	Tolk 2	09/05/15	09/05/15	0.01	#9 bearing came into alarm at 4 mils. Took unit off control and dropping load till vibration turns. Will hold to settle then return to Automatic generator control.
645	Tolk 2	09/05/15	09/05/15	0.01	#9 bearing came into alarm at 4 mils. Took unit off control and dropping load till vibration turns. Will hold to settle then return to Automatic generator control.
646	Harrington 3	09/06/15	09/06/15	0.01	Unit had to be derated because our Air Preheater is fouled and we have 2 baghouse compartments out of service. This is causing the induce draft fans to top out and the boiler go positive.
647	Maddox 1	09/08/15	09/08/15	0.06	Derated to 60 MW due to boiler feed pump oil issue.
648	Harrington 3	09/09/15	09/09/15	0.09	Unit was derated because the steam drum pressure has to be reduced to 2090 psi to test drum safties.
649	Harrington 3	09/10/15	09/10/15	0.02	Unit was derated because the steam drum pressure has to be reduced to 2090 psi to test drum safties.
650	Harrington 3	09/14/15	11/23/15	70.04	Unit was taken out of service to perform a major outage.
651	Jones 3	09/14/15	09/14/15	0.21	Regulatory required quarterly calibration of gas transmitters.
652	Jones 4	09/14/15	09/14/15	0.21	Maintenance outage to rewire the power to the server.
653	Jones 2	09/15/15	10/27/15	42.93	Planned outage - throttle valve upgrade and various capital projects (air preheater basket, transmitter, electrical board).
654	Jones 3	09/19/15	09/19/15	0.04	Maintenance outage to reboot server.
655	Jones 4	09/19/15	09/19/15	0.04	Maintenance outage to reboot the server.
656	Harrington 2	09/22/15	09/22/15	0.07	Unit was derated to remove a coal mill from service to replace a journal. We also have another coal mill out of service for a major overhaul, so this gave us a 3 mill operation.
657	Plant X 4	09/29/15	10/02/15	2.70	Economizer tube leak.
658	Tolk 1	09/30/15	10/01/15	1.05	Boiler tube leak that is being evaluated as a failed weld on a water wall tube.
659	Tolk 1	10/01/15	10/01/15	0.01	Operator Lost Unit on High Drum Level.
660	Harrington 2	10/02/15	10/03/15	0.09	Unit was derated due to the loss of the South Condensate Pump motor and we can not achieve full load on one condensate pump. The motor went to ground.
661	Maddox 1	10/04/15	10/08/15	3.87	Maddox 1 trip on North Intercept Valve malfunction.
662	Cunningham 4	10/05/15	10/05/15	0.06	Rotor air cooler trip, swapped to North hydraulic filters to put unit in "ready" status.
663	Tolk 2	10/05/15	10/05/15	0.01	West force draft fan controller A & B channels are in alarm.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
664	Harrington 1	10/08/15	10/08/15	0.03	Unit was derated when we had to take the Center Main Circulating pump out of service. The shaft driven forced lube oil pump on the pump stopped working and bearing temps start getting hot.
665	Harrington 2	10/08/15	10/09/15	0.74	Unit tripped when DC power to the portin off the turbine controls system that controls the main feed pump was lost.
666	Maddox 2	10/08/15	10/08/15	0.19	Loss of "ready to start." High temp in the generator windings.
667	Harrington 1	10/09/15	10/09/15	0.02	Unit was derated to replace the shaft driven oil pump on the center main circulating pump.
668	Harrington 2	10/09/15	10/09/15	0.31	The start up failure was due to electrical problems with the Start Up Feed Pump.
669	Nichols 3	10/09/15	10/09/15	0.06	Forced outage to replace vacuum breaker block valve.
670	Harrington 1	10/14/15	10/16/15	1.73	The unit was taken off line due to the packing in the superheater desuperheat failing. Forced outage was for safety reasons and to prevent further damage to the valve. We also repaired thrust bearing trip block, electrostatic precipitator control card and a safety.
671	Plant X 1	10/17/15	10/20/15	3.24	Forced outage to repair a leaking circulator line.
672	Plant X 2	10/17/15	10/20/15	3.24	Forced outage to repair circulator line leak.
673	Cunningham 1	10/19/15	10/30/15	10.97	Maintenance outage: Steam Air Ejector Maintenance.
674	Plant X 3	10/19/15	10/24/15	5.87	Boiler water wall inspection & ignitor inspections.
675	Maddox 1	10/21/15	11/06/15	16.75	Maintenance outage: Repair Super Heat Header Leak.
676	Cunningham 3	10/23/15	10/23/15	0.02	Instrument Air Compressor Leak Repaired.
677	Harrington 2	10/23/15	10/25/15	1.04	Unit had to be taken off line to make repairs to a water wall tube leak.
678	Plant X 1	10/23/15	10/24/15	1.23	Shut down for new gas line tie-in.
679	Plant X 2	10/23/15	10/24/15	1.23	Shut down for new gas line tie-in.
680	Jones 2	10/27/15	11/24/15	27.18	Planned outage extension to repair main steam line welds.
681	Cunningham 3	11/02/15	11/06/15	4.48	Scheduled planned outage: Borescope Inspection.
682	Plant X 3	11/03/15	11/05/15	1.97	Shut down for new gas line tie-in.
683	Plant X 4	11/03/15	11/05/15	1.97	Shut down for new gas line tie-in.
684	Jones 3	11/04/15	11/05/15	0.95	Maintenance outage to clean gas lines due to contamination from the gas compressor.
685	Jones 4	11/04/15	11/23/15	19.38	Startup failure due to contaminated gas from the compressor.
686	Cunningham 2	11/05/15	11/17/15	11.53	Cunningham 2 Main steam governor D-rod broken, nearly caused turbine overspeed.
687	Maddox 2	11/05/15	11/05/15	0.08	Unit trip. Pinnacle gas regulator valve malfunctioning, tech on site to fix.
688	Harrington 2	11/07/15	11/07/15	0.85	Unit was taken off line to make repairs to a reheater tube leak.
689	Harrington 2	11/07/15	11/08/15	0.83	Unit was off line for a reheater tube leak and in the process of filling the boiler we discovered a water wall tube leak.
690	Tolk 2	11/10/15	11/11/15	0.48	Replace speed pick ups on Turbine Driven boiler feed pump, also perform a valve freedom test and electricians out for West force draft fan A channel maintenance.
691	Harrington 1	11/12/15	11/12/15	0.90	The unit was taken offline because the packing in the superheat spray valve blew out and had to be repacked.
692	Tolk 2	11/16/15	11/16/15	0.18	East primary air Fan inboard motor bearing high temperature possible babbit problems.
693	Maddox 2	11/17/15	11/17/15	0.31	Startup trip on #5 bearing vibration.
694	Cunningham 2	11/18/15	11/18/15	0.08	West Main Stop Valve did not open / Valving issues Corrected.
695	Harrington 3	11/23/15	11/26/15	2.09	Unit outage had to be extended due to Hydrogen side seal oil system problems.
696	Carlsbad 5	11/24/15	11/24/15	0.02	Attempted Start 3 times/No results/Sent Tech to Reset.
697	Jones 2	11/24/15	11/25/15	0.39	Alignment issues on east boiler feed pump - bearing heating up.
698	Harrington 3	11/26/15	12/05/15	5.38	Unit was derated due to the East ID fan not being available for service. This restricts us to half load. The fan motor was original scope of work for the major outage.

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(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
699	Maddox 3	11/26/15	11/27/15	1.11	Loss of "ready to start," communications dropping out between programmable logic controller and control room computer.
700	Cunningham 3	11/27/15	11/28/15	1.07	Faulty continuous emission monitoring system Analyzer/ No NOx Readings.
701	Jones 4	11/27/15	11/28/15	1.00	Start up failure due to blade path temperature spread.
702	Cunningham 1	11/28/15	12/31/15	33.65	Force draft Fan Motor Electrical Short.
703	Plant X 4	11/28/15	12/10/15	12.50	Repair boiler.
704	Harrington 2	11/29/15	11/29/15	0.01	The unit was derated to make a coal leak repair on E Mill. This left the unit with a 3 mill operation because C Mill is out of service for a major overhaul.
705	Maddox 3	11/30/15	11/30/15	0.02	Quick tweak on speed probe settings.
706	Harrington 2	12/01/15	12/01/15	0.26	Unit was removed from service to make a weld repair to a sensing line that comes off of a drain for the #1 and #2 main steam supply from the steam chest to the nozzle block.
707	Harrington 2	12/01/15	12/01/15	0.03	Unit was lost on high drum level when swapping boiler feed pumps.
708	Nichols 1	12/01/15	12/11/15	10.74	Maintenance Outage to replace leaking expansion joint on the air pre-heater. During the outage the #2 Turbine bearing was found to have lost bonding and was sent out to be repoured.
709	Maddox 2	12/04/15	12/04/15	0.06	Unit Offline: Overhaul Breaker 52-G.
710	Harrington 3	12/05/15	12/12/15	0.00	Unit is derated to season new bags in 4 compartments. This was original scope of work from major outage and was scheduled.
711	Carlsbad 5	12/07/15	12/07/15	0.28	Unit offline: unable to start DC Power Issues.
712	Maddox 3	12/08/15	12/11/15	3.11	Minor alignment issues after the gearbox install in September caused friction/interference with the clutch assembly.
713	Harrington 1	12/10/15	12/10/15	0.02	The unit was derated because the chemical injection system was not operating as designed. With out the chemical injection system the derate was needed to prevent opacity exceedences.
714	Harrington 2	12/14/15	12/14/15	0.93	Unit was taken off line to make repairs to an external water wall tube leak.
715	Harrington 3	12/16/15	12/17/15	0.69	Unit tripped when we were testing the transfer of a pair of 6900KV buss breakers. When testing the breakers, the normal source breaker closed as expected and tripped open leaving us with A Buss Dead and an alternate 480 breaker tripping to supply needed 480kv buss.
716	Nichols 1	12/17/15	12/18/15	1.10	During startup high vibration was seen on #1 and #2 turbine bearings. The startup was aborted and the turbine was rolled out for 24 hours and the startup was resumed.
717	Jones 3	12/18/15	12/18/15	0.20	Regulatory required quarterly calibration of gas transmitters.
718	Tolk 2	12/18/15	12/18/15	0.04	Reduce load limit on unit to 425 MW to repair fuse in Center induce draft Fan Control.
719	Carlsbad 5	12/22/15	12/31/15	9.61	Unit offline: Not Ready Low Oil Pressure Alarm.
720	Harrington 2	12/22/15	12/24/15	1.48	Unit was removed from line to make repairs to 2 water wall tube leaks on the side wall by the cuton slope.
721	Tolk 2	12/22/15	12/22/15	0.01	Reduce load limit on unit to 425 MW to install new cell in Center induce draft Fan Controller.
722	Jones 4	12/24/15	12/24/15	0.13	Controls issue with variable guide vane gave a "not ready for start."
723	Cunningham 3	12/27/15	12/27/15	0.13	Online Trip; Lower Explosive Limit Detection/Reset of Fire system.
724	Cunningham 3	12/27/15	12/30/15	2.79	Online Trip; Fire System Trip.
725	Nichols 1	12/27/15	12/27/15	0.17	The Primary Rexa Drive Controller for the gas firing valves failed. When the power was killed to inspect the board an error was received by the Secondary controller causing the gas firing valve to close and the unit tripped.
726	Tolk 1	12/28/15	12/29/15	0.91	Suspect icing in substation.
727	Tolk 2	12/28/15	12/30/15	1.48	Suspect icing in substation.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
728	Plant X 1	12/29/15	12/30/15	1.11	Unit was called for a start up but we were unable to get it online due to lack of enough condensate in our tanks.
729	Plant X 3	12/29/15	12/30/15	1.11	Unit was called for a start up but we were unable to get it online due to lack of enough condensate in our tanks.
730	Jones 3	12/30/15	12/30/15	0.11	Frozen instrument air line to the gas valve. Water in the instrument air line.
731	Tolk 1	12/30/15	12/30/15	0.44	# 1 Bearing caused Unit to trip, then high Vibration issues on #9 Bearing prevented it from startup with power stabilizer issues.
732	Harrington 2	12/31/15	12/31/15	0.67	Unit was taken off line to repair a Water wall tube leak.
	2016				
733	Carlsbad 5	01/01/16	02/21/16	51.00	Unit Offline: Plant Controls Issues.
734	Cunningham 1	01/01/16	01/14/16	13.56	Force draft Fan Motor Electrical Short.
735	Nichols 2	01/01/16	05/01/16	120.96	Planned Outage: High Pressure Intermediate Pressure, Valves, Generator, Boiler.
736	Plant X 2	01/01/16	02/19/16	3.89	Turbine governing issues.
737	Jones 2	01/03/16	01/03/16	0.02	Unit derate due to problem in west boiler feed pump 4160 breaker, limit switch would not pick up therefore unit limited to one boiler feed pump.
738	Harrington 1	01/04/16	01/07/16	2.43	Unit was removed from service to clean up the boiler to make repairs to a reheat tube leak.
739	Harrington 1	01/07/16	01/14/16	7.63	Unit was keep off from an maintenance outage for Transmission Operations to make modifications test equipment in the substation.
740	Cunningham 3	01/09/16	02/18/16	40.00	Unit Offline: Blown Generator Exciter Fuses; Correction: Gen windings broken connection.
741	Jones 3	01/11/16	01/16/16	5.04	Maintenance outage to perform a borescope and change out a thermocouple.
742	Harrington 1	01/14/16	01/14/16	0.02	Unit tripped off line due to a problem with a contact block at the generator breaker that was not indicating to the Woodward that the breaker was closed and the unit was on line. This left the turbine in speed control and caused the Reverse Power Trips.
743	Harrington 1	01/14/16	01/15/16	0.02	Unit tripped off line due to a problem with a contact block at the generator breaker that was not indicating to the Woodward that the breaker was closed and the unit was on line. This left the turbine in speed control and caused the Reverse Power Trips.
744	Harrington 1	01/15/16	01/15/16	0.16	Unit tripped off line due to a problem with a contact block at the generator breaker that was not indicating to the Woodward that the breaker was closed and the unit was on line. This left the turbine in speed control and caused the Reverse Power Trips.
745	Harrington 1	01/15/16	01/15/16	0.07	Unit tripped off line due to a problem with a contact block at the generator breaker that was not indicating to the Woodward that the breaker was closed and the unit was on line. This left the turbine in speed control and caused the Reverse Power Trips.
746	Harrington 1	01/15/16	01/15/16	0.23	Unit tripped off line due to a problem with a contact block at the generator breaker that was not indicating to the Woodward that the breaker was closed and the unit was on line. This left the turbine in speed control and caused the Reverse Power Trips.
747	Harrington 1	01/16/16	01/16/16	0.00	Unit was derated to prevent getting possible opacity exceedances.
748	Harrington 2	01/18/16	01/21/16	3.57	Unit was removed from line for Transmission Operation to make upgrades and test new equipment.
749	Harrington 1	01/19/16	01/20/16	0.21	Unit was lost when we were trying to perform a Valves Wide Open test. The test put the boiler into a swing while getting the valves wide open and caused a high drum level trip. Opacity and Boiler pressure were the contributing factors.
750	Jones 1	01/19/16	03/02/16	42.99	Planned outage for capital rebuild of cooling tower.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
751	Maddox 2	01/19/16	01/19/16	0.06	Unit tripped twice during startup on #5 bearing high vibration, but started fine on the third try.
752	Cunningham 1	01/20/16	02/26/16	36.92	Waiting for low pressure turbine boresonic decision (sent again per request).
753	Harrington 1	01/20/16	01/20/16	0.09	Unit was taken off line due to the unit load being erratic after coming back on line after tripping during a valves wide open test. We had an OPC (Open Platform Communication) active and assumed we had Generator Breaker contact block issues similar to what we had on 1/14-15/2016.
754	Harrington 1	01/20/16	01/20/16	0.72	Unit was taken off line after a 1 minute testing of the generator breaker. We still have a contact block issue in the generator breaker that we are repairing.
755	Harrington 2	01/21/16	01/29/16	8.33	Unit will remain out of service after the transmission outage to complete work to the boiler and turbine.
756	Cunningham 4	01/22/16	01/22/16	0.25	Tripped on bleed valve, would not start because of low inst. air.
757	Cunningham 2	01/26/16	02/04/16	9.66	Cunningham 2 Main steam governor D-rod broken, nearly caused turbine overspeed.
758	Harrington 2	01/29/16	02/02/16	3.09	The planned extension is for further inspections and repairs on the generator exciter.
759	Harrington 2	02/03/16	02/04/16	0.89	Unit was brought off line to clean out a plugged economizer hopper and place a balance shot in the turbine rotor.
760	Maddox 3	02/08/16	02/10/16	2.20	Wheelspace thermocouple #6 flaked out. With Technical Resource and Compliance guidance, the plant technician jumpered the #5 thermocouple to #6, causing #6 to read the same as #5, putting M3 in "ready to run" state.
761	Tolk 1	02/09/16	02/09/16	0.18	Operator lost unit on High drum level.
762	Tolk 1	02/09/16	02/09/16	0.04	Loss of "A" buss resulting in loss of boiler - which caused the loss of a primary air Fan resulting in High-Drum Level leading to the tripping of unit.
763	Harrington 2	02/12/16	02/19/16	6.31	Unit was removed from line to make repairs to an external water wall tube leak.
764	Plant X 2	02/16/16	02/20/16	3.71	Turning gear, gear box failure.
765	Harrington 2	02/19/16	02/21/16	2.62	Unit was removed from line to make a tube leak repair on a water wall tube.
766	Plant X 2	02/20/16	04/01/16	41.11	Outage to inspect and repair turbine control valves.
767	Carlsbad 5	02/21/16	12/31/16	0	No plans to repair until retirement (mothballed).
				(mothballed)	
768	Tolk 2	02/21/16	02/27/16	6.20	Condenser tube leak.
769	Nichols 3	02/22/16	03/24/16	31.61	Nichols 3 Maintenance outage to repair Electro Hydraulic control system fluid leak. During Outage evidence of cracking was found in the main steam stop and is being further investigated.
770	Quay Co 1	02/22/16	02/22/16	0.08	Emergency Diesel Generator will not start due to bad fuel pump.
771	Harrington 1	02/23/16	02/23/16	0.04	Operator lost the unit on low drum level when the lower drum blowdown would not close fast enough.
772	Jones 3	02/25/16	02/25/16	0.13	Operator error on spin hold - did allow spin hold enough time to complete the purge time on the static frequency converter.
773	Jones 3	02/25/16	02/26/16	0.50	Operator error on spin hold - did allow spin hold enough time to complete the purge time on the static frequency converter.
774	Jones 3	02/26/16	02/26/16	0.39	Contractor repaired crack in exhaust tunnel.
775	Jones 3	02/26/16	02/26/16	0.08	Operator forgot to open one of the gas block valves closed during the previous maintenance outage. This starved the gas turbine of fuel causing a trip due to blade path temp differential.
776	Jones 3	02/26/16	03/01/16	3.77	Unit would not start due to issues with D stage gas control valve.
777	Jones 1	03/02/16	03/26/16	23.74	Repair cracks in boiler main steam stop valve.
778	Plant X 4	03/06/16	03/06/16	0.06	Drum trip.
779	Maddox 3	03/08/16	03/10/16	2.11	Unit Startup: Unit Trip on Fuel Trip Valve Malfunction.

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(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
780	Plant X 1	03/09/16	03/18/16	8.96	Repair Cooling Tower Return Lines.
781	Plant X 3	03/09/16	03/24/16	14.74	Repair Cooling Tower Return Lines.
782	Cunningham 4	03/11/16	03/11/16	0.23	Turbine vibration probe inspection and repairs if needed.
783	Harrington 2	03/15/16	03/20/16	5.44	Unit will be shut down to make repairs to a water wall tube leak. Leak is in a tough place to get to and boiler will have to be blasted.
784	Tolk 2	03/19/16	03/19/16	0.66	Unit trip due to turbine drive boiler feed pump Control issue.
785	Tolk 2	03/20/16	03/20/16	0.13	Lost force draft/induce draft fans when F Bus was taken out of service.
786	Jones 3	03/21/16	03/21/16	0.25	Maintenance on High Pressure, low pressure and disc cavity valves - will not pass the CBIT (Controls Built in Test) test - investigating.
787	Jones 3	03/22/16	03/22/16	0.25	Unit runback and off line due to failure of the glycol cooling control valve motor.
788	Jones 4	03/22/16	03/22/16	0.23	Maintenance outage to perform quarterly gas transmitter calibrations.
789	Harrington 1	03/23/16	03/24/16	1.01	Unit came off line to make repairs to an external water wall tube leak.
790	Cunningham 3	03/25/16	03/29/16	4.29	Full load trip; High vibration on Generator Bearing on Exciter End due to recent generator winding repairs. Turbine rebalanced with help from Siemens crew.
791	Tolk 2	03/27/16	04/03/16	6.51	Mini Overhaul - bearing inspection/repair.
792	Nichols 1	03/28/16	04/02/16	5.34	Off line per Transmission Work Request TWR#893567.
793	Cunningham 3	03/29/16	04/01/16	2.59	Full load trip; High vibration on Generator Bearing on Exciter End due to recent generator winding repairs. Turbine rebalanced with help from Siemens crew.
794	Jones 3	03/29/16	03/30/16	0.72	Unit runback and off line due to failure of the glycol cooling control valve motor.
795	Jones 4	03/31/16	04/01/16	1.93	Investigating vibration due to possible rub in the compressor.
796	Cunningham 3	04/01/16	04/02/16	0.83	Full load trip; High vibration on Generator Bearing on Exciter End due to recent generator winding repairs. Turbine rebalanced with help from Siemens crew.
797	Tolk 1	04/01/16	04/01/16	0.03	East force draft Fan tripped.
798	Tolk 2	04/03/16	04/03/16	0.03	Tripped on high drum level while swapping feed pumps.
799	Tolk 2	04/03/16	04/05/16	1.34	Turbine Driven Boiler Feed pump discharge valve issues.
800	Jones 1	04/04/16	04/06/16	1.81	Outage due to air leak from the expansion joint on the superheat header vent line.
801	Tolk 2	04/05/16	04/06/16	0.00	Silica cleanup from the Outage & unplanned Derate on turbine drive boiler feed pump discharge valve.
802	Jones 3	04/07/16	04/07/16	0.22	Maintenance outage to calibrate the gas transmitter - regulatory requirement.
803	Jones 4	04/07/16	04/07/16	0.13	Server reboot.
804	Tolk 1	04/08/16	04/18/16	9.86	Spring Mini Overhaul, cooling water repairs.
805	Cunningham 3	04/10/16	04/18/16	8.09	Unit tripped on high vibration, description pending investigation.
806	Maddox 3	04/11/16	04/15/16	4.22	Borescope inspection on Compressor and Turbine.
807	Cunningham 1	04/12/16	04/20/16	1.22	Repacked South boiler feed pump valve due to heavy leakage.
808	Harrington 3	04/12/16	04/12/16	0.19	Unit was derated due to a hardwired working oil temperature switch failure. Switch was replaced.
809	Plant X 2	04/13/16	04/14/16	0.98	Water chemistry indicated a significant condenser tube leak so we decided to shutdown and make repairs.
810	Plant X 3	04/15/16	04/17/16	2.01	Start up failure due to turbine governor hand wheel problems.
811	Plant X 4	04/16/16	04/16/16	0.03	The 4160 volt breaker to the Plant X4 west condensate pump failed preventing us from starting the pump. We were only able to generate 138 MW net on one condensate pump.
812	Tolk 1	04/18/16	04/19/16	0.35	Mini Outage cooling water repairs- East auxiliary cooling water Heat Exchanger leaking.
813	Harrington 2	04/19/16	04/24/16	4.58	Unit was removed from service to make repairs to a water wall tube leak.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
814	Jones 4	04/20/16	04/22/16	2.63	Maintenance outage to perform a borescope to investigate vibration issues.
815	Cunningham 4	04/21/16	04/21/16	0.48	Repaired turbine exhaust bearing temp probe & wiring.
816	Jones 1	04/21/16	04/21/16	0.24	Low water level in lagoon due to disruption of circulating water supply from the city of Lubbock due to ruptured pipeline from the city to Jones Station.
817	Jones 2	04/21/16	04/21/16	0.24	Low water level in lagoon due to disruption of circulating water supply from the city of Lubbock due to ruptured pipeline from the city to Jones Station.
818	Cunningham 3	04/25/16	04/26/16	0.78	Emissions monitoring analyzer failure.
819	Jones 1	04/27/16	04/28/16	0.18	Unit tripped due to issues with "B" transmitter on the Deaerator level controls.
820	Maddox 2	04/27/16	04/27/16	0.10	Unit Offline: Hardware Repairs distributed control system.
821	Harrington 2	04/28/16	04/29/16	0.43	Unit tripped due to the 3rd Harmonics relay operating and causing the generator ground 86 device to open and lockout.
822	Nichols 1	04/29/16	05/02/16	3.31	Off line per Repairs on Turning Gear Equipment, Motor mount hardware was damaged.
823	Nichols 2	05/01/16	05/19/16	18.72	Planned Outage: High Pressure intermediate pressure, Valves, Generator, Boiler.
824	Plant X 2	05/02/16	05/02/16	0.21	We were starting 3 units at the same time and didn't have enough condensate to proceed.
825	Plant X 3	05/02/16	05/02/16	0.30	We were starting 3 units at the same time and didn't have enough condensate to proceed.
826	Plant X 3	05/02/16	05/06/16	3.61	Plant X3 west circulator discharge valve and expansion joint were damaged on start-up. The unit can't run until the valve is replaced or a blind is installed.
827	Tolk 2	05/02/16	05/02/16	0.00	Lost West induce draft Fan.
828	Cunningham 3	05/03/16	05/03/16	0.13	Replaced turning gear pressure switch. (Not ready to start)
829	Cunningham 3	05/04/16	05/04/16	0.41	Distributed control system fuse blown, not ready to start.
830	Plant X 3	05/06/16	05/11/16	0.58	Plant X3 west circulator discharge valve and expansion joint were damaged on start-up. A blind was installed so the U1 on the unit was released but the D1 was established because we can't reach full load with just 1 circulator available.
831	Jones 3	05/10/16	05/12/16	2.38	Maintenance outage to test relays.
832	Jones 1	05/12/16	05/15/16	0.69	Derate due to possible plugging in the hydrogen coolers because of city cooling water media contamination.
833	Harrington 3	05/13/16	05/22/16	8.08	Planned Outage.
834	Harrington 2	05/14/16	05/15/16	0.49	Unit tripped due to a generator protection relay operating. We had "C" phase on FB210 failure.
835	Jones 1	05/15/16	05/17/16	1.89	Maintenance outage to resolve issues with cooling water problems - microbial media contamination from the city.
836	Jones 2	05/16/16	05/16/16	0.21	Leaking drum door casket on startup.
837	Cunningham 1	05/17/16	05/18/16	1.11	Replace bearings on linkage to force draft fan inlet vanes (wrong bearings sent).
838	Nichols 2	05/19/16	05/20/16	0.57	Planned maintenance outage to address turbine vibration issues (Balance Shots).
839	Maddox 1	05/20/16	05/20/16	0.32	Unit Offline: Main Steam Boiler Piping Hanger Inspection.
840	Nichols 2	05/20/16	05/24/16	3.63	Planned maintenance outage to address turbine vibration issues (Balance Shots).
841	Harrington 3	05/22/16	05/24/16	2.87	The unit outage was extended due to the weather not allowing us to complete the repairs and testing on the Main Power Transformer. If humidity is >50% internal work on the transformer is not allowed.
842	Nichols 2	05/24/16	05/25/16	1.08	Planned maintenance outage to address turbine vibration issues (Balance Shots).
843	Nichols 2	05/24/16	05/24/16	0.43	Planned maintenance outage to address turbine vibration issues (Balance Shots).
844	Cunningham 4	05/25/16	05/26/16	0.65	Gas Detector Analyzer Failure.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
845	Harrington 3	05/25/16	05/25/16	0.00	We needed to do a mechanical and electrical overspeed test per Insurance requirements.
846	Harrington 3	05/25/16	05/25/16	0.28	Main power Transformer internal pressure relief valve failed and caused the outage.
847	Nichols 2	05/25/16	05/26/16	0.18	Planned maintenance outage to address turbine vibration issues (Balance Shots).
848	Plant X 4	05/25/16	05/27/16	1.95	The turbine vibration was excessive while at 3600 rpm so we were forced to trip the turbine and put it back on turning gear. The vibration damaged our Protech speed sensors preventing us from rolling the turbine.
849	Harrington 3	05/26/16	06/06/16	10.87	Unit generator step-up transformer has a fault that needs to be identified and repaired. We will also be doing a hot oil treatment on the unit.
850	Nichols 2	05/26/16	05/26/16	0.58	Planned maintenance outage to address turbine vibration issues (Balance Shots).
851	Nichols 2	05/26/16	05/27/16	0.27	Planned maintenance outage to address turbine vibration issues (Balance Shots).
852	Nichols 2	05/27/16	06/02/16	6.10	Planned maintenance outage to address turbine vibration issues (Balance Shots).
853	Tolk 2	05/27/16	05/27/16	0.00	Replace Linear Variable Differential Transformer position sensor on #3 governor valve on main turbine.
854	Cunningham 4	05/29/16	05/29/16	0.02	Rotor air cooler temp dump.
855	Cunningham 1	05/31/16	05/31/16	0.24	Replace bearings on linkage to force draft fan inlet vanes.
856	Cunningham 3	05/31/16	05/31/16	0.07	Repair instrument air compressor.
857	Harrington 2	06/01/16	06/01/16	0.00	Unit was derated to inspect and test protective relays after a fault trip on the normal source to the 6900-kV Buss breaker. Unit was full load available if called on.
858	Cunningham 2	06/02/16	06/03/16	0.63	Delayed outage to replace bushings on Governor valve control arms.
859	Cunningham 3	06/02/16	06/02/16	0.12	Instrument air compressor additional work.
860	Harrington 2	06/02/16	06/02/16	0.00	Unit was derated to clear a 6900-kV buss for repairs. Unit was full load available if called on.
861	Harrington 2	06/02/16	06/02/16	0.17	Unit was derated to inspect and determine material needed to repair damage.
862	Nichols 2	06/02/16	06/03/16	1.01	Planned maintenance outage to address turbine vibration issues (Balance Shots).
863	Tolk 2	06/02/16	06/02/16	0.05	Wet coal is causing pluggage in the feeders. "A" Mill is under going a major overhaul at this time leaving the unit with no spare mill. We will have to shut one mill down at a time to clean the feeder out. There is are 3 feeders that need to be clean.
864	Tolk 2	06/02/16	06/03/16	0.19	Wet coal is causing pluggage in the feeders. "A" Mill is under going a major overhaul at this time leaving the unit with no spare mill. We will have to shut one mill down at a time to clean the feeder out. There is are 3 feeders that need to be clean.
865	Jones 4	06/03/16	06/03/16	0.17	Maintenance outage to investigate and repair small oil leak on the upper east trunnion.
866	Nichols 2	06/03/16	06/15/16	12.07	Planned maintenance outage to address turbine vibration issues (Balance Shots).
867	Jones 1	06/06/16	06/07/16	0.60	Derate due to loss of cooling water from the city of Lubbock - leak in city pipeline.
868	Jones 2	06/06/16	06/06/16	0.03	Derate due to loss of cooling water from the city of Lubbock - leak in pipeline.
869	Jones 2	06/06/16	06/13/16	6.94	Outage due to loss of cooling water from the city of Lubbock - chlorides getting to high in cooling tower.
870	Maddox 2	06/06/16	06/06/16	0.26	Unit Offline: AC Oil Pump Motor Coupling Sheared/Replaced.
871	Tolk 2	06/06/16	06/06/16	0.02	Turbine Driven Boiler Feed pump ProTec speed probe went bad.
872	Maddox 2	06/08/16	06/09/16	0.86	Flame Detector Failure.

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(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
873	Harrington 1	06/10/16	06/11/16	0.79	The unit was removed from service to repair an idler bearing on the bottom ash drag chain.
874	Jones 1	06/10/16	06/10/16	0.62	Unit outage due to loss of cooling water from city of Lubbock - pipeline leak and repair.
875	Harrington 1	06/13/16	06/13/16	0.01	Unit was derated to prevent getting an opacity exceedance during a thunderstorm.
876	Maddox 1	06/14/16	06/14/16	0.02	Loss of Water Wells Field Feeder; Outside Contractor Mistake.
877	Harrington 3	06/16/16	06/16/16	0.25	Unit tripped due to the loss of Electro Hydraulic fluid pressure.
878	Nichols 2	06/16/16	06/23/16	7.63	Unplanned Maintenance Outage to address cooling tower water distribution header damage.
879	Harrington 3	06/19/16	06/22/16	2.08	Unit had to be removed from service to make a repair to a Division Panel tube leak. The boiler had to be cleaned up to make these repairs.
880	Plant X 4	06/20/16	06/20/16	0.04	Operator didn't notice megawatts dropping in time to catch the unit.
881	Plant X 4	06/20/16	06/21/16	1.25	The Deaerator recirculation valve was leaking by causing the condensate header to over heat and hammer.
882	Jones 2	06/22/16	06/22/16	0.11	Startup failure due to issues with automatic voltage regulator.
883	Nichols 2	06/23/16	06/24/16	0.84	Address issues with the automatic voltage control on the generator.
884	Plant X 4	06/24/16	06/24/16	0.03	DC Ground Interruption.
885	Nichols 2	06/25/16	06/25/16	0.34	Perform Overspeed Test.
886	Tolk 2	06/25/16	06/25/16	0.01	#9 Bearing vibration increased to +9 mils, trips at 10 mils Holding load until vibration returns to normal hopefully within the hour.
887	Cunningham 1	06/27/16	06/30/16	3.04	15 stage feedwater heater relief valve replacement.
888	Jones 2	06/28/16	06/28/16	0.16	Unit tripped due to low gas pressure - issues with the 50# gas regulators.
889	Tolk 2	06/30/16	06/30/16	0.02	East force draft Fan Tripped.
890	Tolk 2	07/01/16	07/01/16	0.01	#9 Turbine bearing vibration.
891	Jones 1	07/02/16	07/03/16	0.30	Low water level in lagoon due to disruption of circulating water supply from the city of Lubbock due to ruptured pipeline from the city to Jones Station.
892	Jones 2	07/02/16	07/03/16	0.30	Low water level in lagoon due to disruption of circulating water supply from the city of Lubbock due to ruptured pipeline from the city to Jones Station.
893	Maddox 2	07/02/16	07/02/16	0.06	Tripped During Startup; Flame Detector Issues.
894	Tolk 1	07/02/16	07/02/16	0.16	Emergency trip test on turbine failed.
895	Harrington 3	07/03/16	07/03/16	0.34	Unit tripped due to a low electrohydraulic pressure to LPT 20-1 pressure switch. It was determined it was a faulty solenoid switch. Switch is changed out.
896	Jones 1	07/03/16	07/04/16	0.23	Low water level in lagoon due to disruption of circulating water supply from the city of Lubbock due to ruptured pipeline from the city to Jones Station.
897	Jones 2	07/03/16	07/04/16	0.15	Low water level in lagoon due to disruption of circulating water supply from the city of Lubbock due to ruptured pipeline from the city to Jones Station.
898	Maddox 2	07/03/16	07/04/16	0.49	Tripped During Startup; Igniter Failure.
899	Plant X 2	07/03/16	07/08/16	5.10	Suspect boiler tube leak. Still Investigating.
900	Tolk 2	07/04/16	07/04/16	0.01	#9 Turbine bearing vibration.
901	Tolk 2	07/04/16	07/04/16	0.01	#9 Turbine bearing vibration.
902	Tolk 2	07/04/16	07/04/16	0.01	#9 Turbine bearing vibration.
903	Harrington 3	07/05/16	07/05/16	0.00	Unit was derated due running out of induced draft fan capability. The demand was at 100% and the boiler was going positive.
904	Tolk 2	07/05/16	07/05/16	0.01	#9 Turbine bearing vibration.
905	Harrington 3	07/06/16	07/08/16	1.73	The turbine tripped from the Auto Stop Trip system.
906	Maddox 1	07/06/16	07/06/16	0.08	Unit Trip; Loss of Gas Firing Valves.
907	Plant X 1	07/07/16	07/08/16	0.60	Unable to maintain proper boiler chemistry.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
908	Plant X 4	07/09/16	07/09/16	0.05	Operators failed to open the feedwater heater bypass valve and came online with the smaller piddle valve. This prevented us from supplying sufficient feedwater flow to the boiler to keep the unit online.
909	Maddox 2	07/10/16	07/11/16	0.74	Unit Offline: No Trip; Internal Power Transformer Failure.
910	Cunningham 3	07/12/16	07/13/16	0.90	Cunningham 3 Air conditioner failed, causing the Continuous Emission Monitoring System to overheat and shut down.
911	Maddox 2	07/12/16	07/13/16	0.58	Unit Offline.
912	Plant X 3	07/12/16	07/16/16	4.14	Unable to maintain Boiler chemistry.
913	Tolk 2	07/12/16	07/12/16	0.01	#9 Turbine bearing vibration.
914	Tolk 2	07/12/16	07/12/16	0.03	#9 Turbine bearing vibration.
915	Tolk 2	07/12/16	07/13/16	0.03	#9 Turbine bearing vibration.
916	Harrington 3	07/13/16	07/14/16	0.31	The Unit tripped due to 5X vibration probe failing to a high trip limit.
917	Jones 1	07/13/16	07/13/16	0.48	Low water level in lagoon due to disruption of circulating water supply from the city of Lubbock due to ruptured pipeline from the city to Jones Station. City making repairs to line.
918	Jones 2	07/13/16	07/13/16	0.45	Low water level in lagoon due to disruption of circulating water supply from the city of Lubbock due to ruptured pipeline from the city to Jones Station. City making repair to line.
919	Nichols 2	07/13/16	07/18/16	4.50	Forced Outage to Address Tube Leak.
920	Tolk 2	07/13/16	07/13/16	0.03	#9 Turbine bearing vibration.
921	Tolk 2	07/13/16	07/13/16	0.07	#9 Turbine bearing vibration.
922	Harrington 3	07/14/16	07/14/16	0.47	Unit was taken out of service to make a repair to a clog resistant orifice steam leak on the Steam Feed Pump HP supply line.
923	Harrington 2	07/15/16	07/16/16	0.31	The east cold reheater spray valve control valve stem broke.
924	Plant X 1	07/15/16	07/16/16	1.01	Shutdown to repair Plant X3 condenser tube leak because they share a common circulating water header.
925	Plant X 2	07/15/16	07/16/16	0.62	Suspected a condenser tube leak on Plant X3 so Plant X2 had to be shut down because they share a common circulating water header.
926	Tolk 2	07/15/16	07/15/16	0.01	#9 Turbine bearing vibration.
927	Tolk 2	07/15/16	07/18/16	0.16	#9 Turbine bearing vibration.
928	Jones 4	07/18/16	07/20/16	1.57	Maintenance Outage to investigate temperature issues in the turbine.
929	Tolk 2	07/18/16	08/16/16	1.25	#9 Turbine bearing vibration.
930	Cunningham 4	07/19/16	07/22/16	2.69	Rotor to air cooler fan out.
931	Jones 3	07/19/16	07/19/16	0.12	Maintenance outage required to blanked off gas supply to repair valve on Jones 4 due to common gas header.
932	Jones 3	07/19/16	07/19/16	0.14	Maintenance outage required to remove the blank flange in Jones 4 due to common gas header.
933	Nichols 3	07/21/16	07/21/16	0.10	Unit Shutdown In Order to Address Boiler Drum Level Problems.
934	Plant X 2	07/22/16	07/22/16	0.19	Center Boiler feed pump failed causing loss of 2400 buss.
935	Harrington 3	07/25/16	07/28/16	2.34	Unit was removed from line due to a finishing superheater tube leak.
936	Maddox 2	07/26/16	07/26/16	0.09	Unit Offline; Flame Detectors Inspection/Replacement.
937	Plant X 2	07/26/16	08/04/16	4.03	Had to de-rate the unit due to high bearing vibrations on the east boiler feed pump.
938	Harrington 2	07/27/16	07/27/16	0.02	Unit was derated due to high baghouse delta pressure. We had one compartment that had blown bags that was removed from service. This is a contributing factor for the high delta pressure.
939	Maddox 2	07/27/16	07/27/16	0.11	Unit Offline; Flame Detectors Fiber Optics Replacement.
940	Jones 1	07/28/16	07/29/16	0.81	Maintenance outage to calibrate governor valves - valves would not go completely closed on previous attempt to come off line.
941	Cunningham 3	07/29/16	07/29/16	0.15	Air to air cooler variable frequency drive, and #3 oil cooler.
942	Nichols 1	07/29/16	08/03/16	4.71	Inspection of Boiler Reheat Header.
943	Cunningham 3	08/02/16	08/02/16	0.13	Replace solenoid on main lube oil system.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
944	Plant X 2	08/03/16	08/03/16	0.28	The breaker to the east boiler feed pump malfunctioned causing smoke to roll out of the 2400v bus. The Control room operator tripped the unit to prevent further damage.
945	Jones 2	08/04/16	12/31/16	149.70	Unit outage due to structural issues with cooling tower caused by high wind events/storms.
946	Jones 1	08/06/16	08/15/16	0.73	Derate unit due to problems with #1 high pressure feedwater heater extraction block valve, had to take high pressure feedwater heater out of service.
947	Cunningham 2	08/08/16	08/08/16	0.01	Online Derate: South Boiler Feed Pump Motor bearing oil change.
948	Cunningham 3	08/08/16	08/08/16	0.13	Unit Offline: Performance Test Equipment Setup.
949	Tolk 1	08/09/16	08/11/16	1.96	Generator tripped during severe rain/thunderstorm. Suspect lightning.
950	Tolk 2	08/09/16	08/12/16	3.32	Generator tripped during severe rain/thunderstorm. Suspect lightning.
951	Jones 1	08/15/16	08/16/16	0.83	Maintenance outage to repair #31 high pressure feedwater heater extraction block valve.
952	Harrington 1	08/19/16	08/21/16	2.55	Unit was removed from line to make repairs to a 250+ gallons per minute superheater tube leak.
953	Plant X 3	08/26/16	09/02/16	7.30	Boiler Tube Leak.
954	Nichols 3	08/28/16	08/28/16	0.09	Unit Trip on reverse power due to Lightning Striking substation yard.
955	Harrington 3	08/29/16	08/31/16	0.70	Unit was derated due to a rain storm blowing in and tripping 2 coal mills. The mills were dried out and meggered good before restarting. When starting mills, both mills motors went to ground.
956	Jones 4	08/29/16	08/29/16	0.03	Rotor air cooler did not shut off causing unit to go into an unloading situation at 27 MWs.
957	Harrington 3	08/31/16	09/02/16	1.13	Unit was removed from service to make a weld repair to a hot reheat drain boot.
958	Harrington 3	09/02/16	09/03/16	0.92	Unit was removed from service to make more weld repairs to Hot Reheat drain boot.
959	Cunningham 2	09/06/16	09/08/16	2.29	Replace Reheat Valves.
960	Tolk 1	09/08/16	09/08/16	0.10	Blown fuse in generator protection relay cabinet, Tolk 1 has a Potential Transformer Unbalanced Alarm.
961	Harrington 2	09/10/16	09/13/16	2.99	Unit was removed from reserved to an unplanned outage to make repairs to a boiler/drum water sampling header.
962	Harrington 2	09/13/16	09/14/16	0.05	During start up of the unit the operator tripped the unit on high drum level when swapping boiler feed pumps.
963	Cunningham 4	09/14/16	09/14/16	0.13	Inspection of vibration probe in exhaust tunnel.
964	Harrington 2	09/15/16	09/16/16	1.63	Unit was removed from line to make repairs to a water wall tube leak.
965	Jones 4	09/15/16	09/17/16	2.62	Maintenance outage - to repair/weld exhaust ring.
966	Plant X 4	09/15/16	09/21/16	6.84	Boiler Repairs.
967	Harrington 1	09/17/16	11/03/16	47.97	High Pressure /Intermediate Pressure Turbine with bore inspection, Throttle valves, Boiler, Acidizing, Mercury and Air Toxics inspection. Capital: Replace hot reheat pipe, Exciter Rewind, air preheater baskets, cooling tower motor control centers and risers.
968	Harrington 2	09/19/16	09/19/16	0.17	Unit tripped on high drum level during start up.
969	Tolk 1	09/22/16	10/10/16	17.88	Rupture in the auxiliary cooling water piping at the circulating pit.
970	Maddox 1	09/23/16	11/23/16	60.07	Generator, Governor/Reheat Stop/Throttle/Intercept valves, Boiler. Capital: Wedge Generator, cooling tower distribution valves/header & Wiring, Inside Fireman.
971	Nichols 3	09/25/16	09/30/16	4.76	Maintenance outage to repair steam seal feed valve actuator.
972	Jones 3	09/30/16	10/01/16	1.18	Maintenance outage to perform quarterly gas calibration - also repaired crack in exhaust expansion joint.

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(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
973	Cunningham 1	10/01/16	10/01/16	0.01	Cunningham 1 boiler at too high pressure @ 1250 and needed to be brought down to 1050; unit was at 10 MW in "boiler pressure follow mode".
974	Jones 3	10/06/16	10/06/16	0.24	Startup failure due to blade path spread.
975	Tolk 1	10/10/16	10/13/16	3.75	Tube leak in the Condenser-Sodium levels were high.
976	Maddox 2	10/12/16	10/27/16	14.65	DC Oil Pump Loss of Control; Circuit Board Failure.
977	Maddox 3	10/12/16	10/21/16	9.76	Capital Work: Replace Auxiliary Oil Cooler.
978	Jones 4	10/14/16	10/14/16	0.04	Maintenance Outage - to inspect exhaust ring.
979	Nichols 2	10/14/16	10/15/16	1.05	Unit offline for Circulating Water Pump Inspection and Condenser Waterbox Cleaning.
980	Tolk 1	10/15/16	10/17/16	1.45	Repair F Mill air expansion joint.
981	Harrington 3	10/22/16	10/22/16	0.90	Unit was removed from service to make a repair to an external water wall tube leak.
982	Plant X 1	10/23/16	10/27/16	4.71	Cooling water system pipe repairs.
983	Plant X 2	10/23/16	10/27/16	4.71	Cooling water system pipe repairs.
984	Nichols 1	10/25/16	10/25/16	0.54	Unit offline for maintenance work on main gas supply pipeline.
985	Nichols 3	10/25/16	10/25/16	0.54	Unit offline for maintenance work on main gas supplier pipeline.
986	Jones 4	10/27/16	10/28/16	1.52	Maintenance outage to investigate high vibration issues.
987	Jones 1	10/30/16	11/01/16	1.91	Unplanned outage due to issues with a broken valve stem on the air ejector control valve.
988	Maddox 2	10/31/16	11/01/16	1.36	Offline: Startup Ignitor Failures; Found to be Ignitor signal amplifiers burned out; Temporary repair with single amplifier jumpered to indicate flame.
989	Tolk 2	11/01/16	11/01/16	0.01	Lost fan banks 2, 4, 6 started reducing load. Electricians were able to reset breaker.
990	Harrington 1	11/04/16	11/04/16	0.08	Unit had to come off line to make adjustments to the new turbine control system. Original scope of outage.
991	Harrington 1	11/05/16	11/06/16	0.66	Unit came off line to make repairs and trouble shoot Induced Draft Fan lube oil instrumentation issues.
992	Nichols 3	11/05/16	12/03/16	28.49	Unit in maintenance outage to repair boiler casing leaks and suspected tube leak.
993	Maddox 2	11/07/16	11/07/16	0.13	Offline: Startup Ignitor Failures.
994	Jones 4	11/08/16	11/11/16	3.34	Maintenance outage for boroscope inspection.
995	Cunningham 3	11/09/16	11/09/16	0.10	Tripped on boiler feed pump turbine and fire alarm trouble.
996	Harrington 1	11/09/16	11/09/16	0.26	Unit was derated to make repairs to a failed fan bearing.
997	Harrington 1	11/09/16	11/09/16	0.09	Unit tripped when West Induced Draft fan tripped and tripped the boiler. We feel this trip was caused by a working oil temp switch malfunction.
998	Harrington 1	11/10/16	11/12/16	1.22	Unit was removed from line to make repairs to the #2 High Pressure heater tube side safety.
999	Cunningham 3	11/12/16	12/31/16	49.63	Major Overhaul: Hot gas path upgrade.
1000	Jones 3	11/16/16	11/18/16	2.52	Maintenance outage - boroscope inspection.
1001	Jones 4	11/17/16	11/17/16	0.36	Maintenance outage to repair fuel isolation valve.
1002	Jones 1	11/22/16	12/03/16	11.32	Unplanned outage due to a rupture of the main steam vent line.
1003	Harrington 3	11/23/16	11/23/16	0.18	Unit was derated due to the East air preheater air driven drive shaft failed and had to be replaced.
1004	Maddox 1	11/23/16	12/31/16	39.00	Major discovery work found during inspections. 1. Generator rotor rewind, after winding end turn blocking was found to be cracked. Rotor was sent to MD&A shop in St. Louis for retaining ring removal to inspect. 2. Main Steam/Hot Reheat pipe cracking.
1005	Cunningham 4	11/24/16	11/24/16	0.21	Sequence Failure (Igniters).
1006	Cunningham 4	11/28/16	11/28/16	0.09	Fuel Meter Bad Quality Trip on Startup.
1007	Tolk 2	11/28/16	12/07/16	9.81	Need BUS Outage on #2 230 KV bus to Replace TK38 and TK56.
1008	Nichols 1	11/29/16	11/29/16	0.42	Unit offline for maintenance work on main gas supply pipeline.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1009	Harrington 1	11/30/16	11/30/16	0.02	Operator tripped the turbine/generator on high drum level when swapping boiler feed pumps.
1010	Harrington 1	12/02/16	12/04/16	2.26	The Unit had to come off line to make repairs to a generator liquid detector sample line that was allowing Harrington 2 to escape from the generator at a rate faster than we could run with.
1011	Plant X 1	12/03/16	12/03/16	0.12	Loss of flame.
1012	Plant X 2	12/03/16	12/31/16	15.53	West forced draft fan motor tripped (Electricians found open windings) needs to be sent off for repairs.
1013	Cunningham 4	12/05/16	12/17/16	12.38	Maintenance Outage; Generator Rotor Repairs.
1014	Harrington 1	12/06/16	12/08/16	1.69	Unit was brought off line to make repairs to a generator liquid detector sample weld line that was leaking hydrogen from the generator.
1015	Plant X 2	12/07/16	12/09/16	2.10	Sodium ion and silica readings indicated that the condenser had a tube leak.
1016	Plant X 2	12/12/16	12/16/16	3.96	Turning Gear motor burned up.
1017	Plant X 4	12/13/16	12/13/16	0.33	Boiler Repairs.
1018	Cunningham 1	12/20/16	12/27/16	6.03	Economizer Tube Leak Suspected.
1019	Tolk 1	12/25/16	12/31/16	6.88	Turbine Throttle valve not seating, it would allow steam to pressure up steam chest with turbine tripped. Repairing circulating line also.
1020	Cunningham 1	12/27/16	12/28/16	1.62	Maintenance Outage to repair economizer tube leak and high pressure drains to deaerator line leak.
1021	Nichols 3	12/27/16	12/29/16	2.67	Unit in maintenance outage to repair boiler tube damage.
1022	Cunningham 2	12/29/16	12/29/16	0.01	Boiler feed pump Valve Packing needed tightening.
1023	Maddox 3	12/30/16	12/31/16	2.00	Loss of Communication Issues.
2017					
1024	Carlsbad 5	01/01/17	12/31/17	(mothballed)	No plans to repair until retirement (mothballed).
1025	Cunningham 3	01/01/17	03/09/17	67.41	Major Overhaul: Hot gas path upgrade.
1026	Jones 2	01/01/17	03/04/17	62.08	Unit outage due to structural issues with cooling tower caused by high wind events/storms.
1027	Maddox 1	01/01/17	01/01/17	0.00	Major discovery work found during inspections: 1. Generator rotor rewind, after winding end turn blocking was found to be cracked. Rotor was sent to MD&A shop in St. Louis for retaining ring removal to inspect. 2. Main Steam/Hot Reheat pipe cracking.
1028	Maddox 1	01/01/17	01/13/17	12.67	Major discovery work found during inspections: 1. Generator rotor rewind, after winding end turn blocking was found to be cracked. Rotor was sent to MD&A shop in St. Louis for retaining ring removal to inspect. 2. Main Steam/Hot Reheat pipe cracking.
1029	Maddox 3	01/01/17	01/04/17	3.68	Loss of Communication Issues.
1030	Plant X 2	01/01/17	01/16/17	8.55	West forced draft fan motor tripped (Electricians found open windings) needs to be sent off for repairs.
1031	Tolk 1	01/01/17	01/07/17	6.58	Turbine Throttle valve not seating: allows steam to pressure up steam chest with turbine tripped.
1032	Harrington 3	01/04/17	01/14/17	10.97	Unit was shut down to make repairs to equipment needing attention before summer run.
1033	Harrington 1	01/05/17	01/08/17	2.18	Unit was derated because the condensate demand for the Harrington and Nichols Units was higher than condensate supply.
1034	Maddox 3	01/05/17	01/06/17	0.97	Offline: Lube Oil Heater Alarm.
1035	Maddox 2	01/06/17	01/06/17	0.08	Lube oil coolers not operating in correct sequence. Logic updates completed.
1036	Maddox 2	01/06/17	01/09/17	1.38	Lube oil coolers not operating in correct sequence. Logic issues resolved.
1037	Harrington 1	01/08/17	01/09/17	1.13	Unit was taken off line to make repairs to a water wall tube leak on the 6th floor.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1038	Cunningham 2	01/09/17	01/11/17	2.63	Turbine control valve bushing repair.
1039	Harrington 3	01/14/17	01/17/17	2.58	In an attempt to keep the unit protected from freezing conditions during the outage we heated the boiler water using the steam blanket and boiler circulation pumps. In doing so we created a hotter than expected environment where the critical path work was being performed.
1040	Harrington 3	01/17/17	01/20/17	1.16	Unit was derated for new bag seasoning in 5 compartments.
1041	Jones 4	01/17/17	01/17/17	0.50	Maintenance outage to repair leak in turning gear.
1042	Jones 1	01/18/17	01/23/17	5.46	Immediate shutdown due to air preheater locking up - pin rack coming off (broken welds).
1043	Jones 4	01/18/17	01/18/17	0.01	Unload then unit trip due to rotor air cooling issues.
1044	Maddox 1	01/18/17	01/18/17	0.12	Outage Related Work; Swap Leads/Polarity on voltage regulator during automatic voltage regulator MOD23 Testing; Complete.
1045	Maddox 1	01/18/17	01/20/17	0.96	Outage Related Work; 1A (west) Boiler Feedpump Inboard Bearing Vibration Issues; Removal/Repaired Complete.
1046	Cunningham 2	01/20/17	01/21/17	0.51	Boiler Feedpump Valve Packing needed tightening/replaced.
1047	Cunningham 2	01/21/17	01/21/17	0.25	Boiler Feedpump Valve Packing needed replacing.
1048	Jones 4	01/21/17	01/21/17	0.09	Due to a loss of server connection the bias was not active and caused the NOx ¹ to go high. Shut unit down to keep from getting exceedance due to high NOx ¹ emissions.
1049	Cunningham 2	01/22/17	02/02/17	10.77	Trip on Startup; Thrust Bearing Issues.
1050	Harrington 2	01/22/17	01/22/17	0.13	Water wall tube leak on the lower slope.
1051	Plant X 1	01/23/17	02/03/17	11.75	Cooling water system repair.
1052	Plant X 2	01/23/17	01/31/17	8.60	Cooling water system repairs.
1053	Plant X 3	01/23/17	02/13/17	21.67	Cooling water system repairs.
1054	Harrington 2	01/25/17	01/25/17	0.24	The unit failed to return to line when scheduled due to the intermediate-pressure (Intermediate Pressure) turbine blade ring temperatures not being warm enough to roll to transfer speed.
1055	Plant X 4	01/25/17	01/30/17	5.66	Unit tripped because the drum level dropped out due to a waterwall tube leak.
1056	Cunningham 4	01/30/17	01/31/17	0.50	Inlet Guide Vanes Positioning Issues; After Shutdown.
1057	Cunningham 1	02/01/17	02/07/17	5.58	Economizer Tube Leak .
1058	Nichols 1	02/01/17	02/03/17	2.58	Unit offline for common blowdown line replacement.
1059	Nichols 2	02/01/17	02/03/17	2.67	Unit Offline for Maintenance Work on Plant Blowdown Pipeline.
1060	Nichols 3	02/01/17	02/03/17	2.58	Unit Offline for Maintenance Work on Blowdown Pipeline.
1061	Harrington 2	02/03/17	02/04/17	0.52	Unit was derated due to a bearing in the fan drive getting hot.
1062	Nichols 1	02/03/17	02/09/17	6.17	Unit offline for maintenance work on main circulating water pipeline.
1063	Cunningham 2	02/04/17	02/04/17	0.08	Must Run Valves Wide Open Test; Following Thrust Bearing Repairs.
1064	Tolk 1	02/05/17	02/05/17	0.00	Unit tripped on Hi-drum level.
1065	Tolk 1	02/05/17	02/05/17	0.01	Unit tripped on Hi-drum level.
1066	Cunningham 1	02/07/17	02/10/17	3.47	Repair economizer tube leak.
1067	Tolk 2	02/07/17	02/07/17	0.08	Unit Trip on high vibration on #9 bearing while doing Generator rotor stability test.
1068	Tolk 2	02/11/17	04/06/17	54.92	High Pressure/Intermediate Pressure with Bore & Rotor Repair, Reheat/Governor/Throttle Valves, Boiler. Capital: Modified Nozzle Block, Replaced Bags, Reheat Terminal Tubes, Mill C gear/journals.
1069	Nichols 3	02/20/17	02/21/17	1.08	Unit Offline for Boiler Water Wall Repairs.
1070	Tolk 1	02/24/17	02/24/17	0.10	East Primary Fan inboard motor bearing high temperature. Remove fan from service and check bearing found bad thermocouple.
1071	Plant X 2	03/01/17	03/02/17	0.50	Starting 3 units, last unit to be called for exceeded available condensate limit.

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(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1072	Cunningham 2	03/02/17	03/04/17	0.74	South Boiler Feedpump Discharge Valve Limit Switch Not Opening Valve All The Way.
1073	Cunningham 1	03/06/17	03/09/17	3.24	Boiler Feedpump Leak Repairs.
1074	Cunningham 3	03/09/17	03/09/17	0.00	Test Run: 3/9/17 0957 - 1046 am.
1075	Cunningham 3	03/09/17	03/10/17	1.00	Major Overhaul: Hot gas path upgrade.
1076	Cunningham 3	03/10/17	03/10/17	0.01	Test Run: 3/10/17 1042 - 1144 am.
1077	Cunningham 3	03/10/17	03/17/17	6.96	Major Overhaul: Hot gas path upgrade.
1078	Harrington 1	03/14/17	03/14/17	0.01	Operator had a drop in gas pressure that tripped the main gas valve. The turbine was in turbine follow and closed the valves trying to maintain throttle pressure setpoint. When the governor closed the unit tripped on reverse power.
1079	Nichols 1	03/14/17	03/15/17	1.63	Unit Offline for Maintenance Work on the Auxiliary Circulating Water Supply Pipeline.
1080	Nichols 2	03/14/17	03/15/17	1.63	Unit Offline for Maintenance Work on Auxiliary Circulating Water Supply Pipeline.
1081	Maddox 1	03/16/17	03/17/17	1.00	Unit Offline: Voltage Regulator Alarm Loss of Source Power; Contactor Short to Ground Replaced.
1082	Cunningham 1	03/17/17	03/20/17	2.90	Lab Sample Chiller Out of Service.
1083	Cunningham 3	03/17/17	03/17/17	0.02	Test Run: 3/17/17 1143 - 1513.
1084	Cunningham 3	03/17/17	03/21/17	3.69	Major Overhaul: Hot gas path upgrade.
1085	Cunningham 4	03/19/17	03/24/17	4.53	Shut Down Due to Exhaust Bearing High Temperature Alarms.
1086	Maddox 2	03/19/17	03/19/17	0.10	Online Trip: On High Lube Oil Temperature.
1087	Cunningham 3	03/21/17	03/21/17	0.04	Test Run: 3/21/17 747 - 1437.
1088	Cunningham 3	03/21/17	03/22/17	1.13	Major Overhaul: Hot gas path upgrade.
1089	Cunningham 3	03/22/17	03/22/17	0.00	Test Run: 3/22/17 1751 - 1832.
1090	Cunningham 3	03/22/17	03/24/17	1.55	Major Overhaul: Hot gas path upgrade.
1091	Nichols 1	03/23/17	03/23/17	0.41	Unit Offline for Maintenance Work on the Main Gas Supply Pipeline.
1092	Cunningham 3	03/24/17	03/24/17	0.01	Test Run: 3/24/17 749 - 1002.
1093	Cunningham 3	03/24/17	03/28/17	3.91	Major Overhaul: Hot gas path upgrade.
1094	Cunningham 3	03/28/17	03/28/17	0.04	Test Run: 3/28/17 752 - 1414.
1095	Jones 3	03/28/17	03/28/17	0.25	Planned PM's, quarterly gas calibration.
1096	Maddox 2	03/28/17	03/28/17	0.10	Capital Work; Power-up & In-service New Inverter.
1097	Maddox 3	03/28/17	03/28/17	0.10	Capital Work; Power-up & In-service New Inverter.
1098	Plant X 3	03/28/17	03/30/17	2.20	Sodium Ion readings went out of operating range leading us to believe we have a condenser tube leak.
1099	Cunningham 1	03/29/17	04/06/17	7.69	Differential Current Unit Protection Relay.
1100	Tolk 1	03/31/17	04/01/17	0.33	Soot Blower Air Compressor tripped will not reload.
1101	Harrington 3	04/01/17	04/02/17	0.74	Unit was taken off line due to a failure of the door gasket on the main steam drum.
1102	Plant X 4	04/05/17	04/05/17	0.02	Generator controls and metering problems
1103	Plant X 4	04/05/17	04/05/17	0.02	High drum level after coming online.
1104	Plant X 4	04/05/17	04/07/17	1.95	Shutdown due to circulating pump failure on Plant X2 .
1105	Harrington 3	04/06/17	04/06/17	0.13	The unit was derated after losing control power to the air preheater electric motor.
1106	Nichols 3	04/06/17	04/07/17	0.23	Unit Tripped on Reset of Turbine Redundant Trip Device.
1107	Tolk 2	04/06/17	04/08/17	1.90	Unfamiliar build up on the header/tube connection of reheat terminal tubes.
1108	Tolk 2	04/08/17	04/08/17	0.01	High drum level.
1109	Maddox 2	04/09/17	04/12/17	2.54	Failed to Start; Motor Contactor Issue.
1110	Tolk 2	04/09/17	04/09/17	0.19	Removed Unit from line due to Motor Driven Boiler Feedpump leak and steam leak underneath turbine.
1111	Tolk 2	04/09/17	04/09/17	0.06	Low Bearing Oil trip malfunction.
1112	Harrington 1	04/10/17	04/10/17	0.53	Repairs to a steam drum gasket that failed.
1113	Jones 4	04/10/17	04/14/17	4.05	Planned outage - borescope inspection - performed quarter gas calibration.
1114	Maddox 1	04/10/17	04/18/17	8.76	Boiler Inspection Outage.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1115	Harrington 1	04/11/17	04/11/17	0.57	Inspect damage to the Main Boiler Feedpump suction caused by a water hammer.
1116	Tolk 2	04/11/17	04/11/17	1.00	Deaerator Heater safety relief valve.
1117	Maddox 2	04/12/17	04/12/17	0.38	Work needed on Pinnacle gas supply Regulator that supplies Maddox 1,2, &3.
1118	Maddox 2	04/12/17	04/17/17	4.99	Failed to Start; Motor Contactor Issue; Broken Fuse retainer; unable to install 13.8kv fuse.
1119	Maddox 3	04/12/17	04/12/17	0.38	Work needed on Pinnacle gas supply Regulator that supplies Maddox 1,2, &3.
1120	Harrington 2	04/21/17	06/07/17	46.43	Reheat/Intercept /Throttle Valves, Generator re-grout, Boiler. Capital: Replaced Hot Reheat Pipe, Boiler Corner Tubes, #3 High Pressure Feedwater Heater, Air Preheater Baskets, Turbine Control Software .
1121	Tolk 2	04/23/17	04/24/17	1.07	Return the West Boiler Circulating Pump to service after repairs.
1122	Nichols 1	04/26/17	04/26/17	0.51	Unit Unavailable Due to Gas Line Work by Gas Supplier.
1123	Nichols 3	04/26/17	04/26/17	0.30	Maintenance Derate Due to Gas Line Work by Gas Supplier.
1124	Nichols 2	04/28/17	04/28/17	0.21	Unit Unavailable due to Boiler Feed Pump Failure during Boiler Pressurization.
1125	Maddox 3	04/29/17	05/01/17	2.09	Offline: Lube Oil Temperature Alarm LOW.
1126	Jones 3	04/30/17	05/04/17	3.87	Borescope Inspection.
1127	Cunningham 2	05/03/17	05/10/17	7.19	Boiler Tube Leak.
1128	Quay County 1	05/03/17	05/06/17	2.98	Maintenance Outage due to Broken Shaft on Fuel Oil Pump on Emergency Diesel Generator.
1129	Plant X 3	05/04/17	05/05/17	1.04	Economizer tube leak.
1130	Tolk 2	05/05/17	05/05/17	0.02	East Induced Draft Fan tripped.
1131	Tolk 2	05/06/17	05/06/17	0.02	East Induced Draft Fan tripped.
1132	Maddox 2	05/07/17	05/08/17	0.08	Start Failure; Trip on Blade Path Temperature Spread.
1133	Maddox 3	05/08/17	05/10/17	2.38	Borescope Inspection; Compressor Turbine and Stack.
1134	Cunningham 4	05/09/17	05/12/17	3.29	Borescope Inspection.
1135	Cunningham 2	05/10/17	05/17/17	7.00	Turbine Governor Valve Actuator rebuild.
1136	Cunningham 3	05/10/17	05/11/17	0.90	Offline; Overspeed Cable Reset.
1137	Maddox 2	05/14/17	05/14/17	0.05	Start Failure; Loss of Flame: Reset by Instrument and controls.
1138	Maddox 2	05/14/17	05/16/17	1.94	Online Trip; #4 Bearing Vibration Spike.
1139	Jones 3	05/15/17	05/15/17	0.23	Maintenance outage to repair leaking oil on turning gear.
1140	Maddox 3	05/17/17	05/17/17	0.08	Capital Project Stack Inspection/Measurements.
1141	Nichols 3	05/18/17	05/18/17	0.31	Maintenance Outage to Work on Boiler Safety Valves.
1142	Cunningham 4	05/19/17	05/21/17	1.90	Repair to Gas Fuel Transmitter.
1143	Cunningham 1	05/22/17	05/23/17	1.39	Repair Gas Regulator Valve.
1144	Cunningham 2	05/22/17	05/23/17	0.67	Repair gas regulator valve.
1145	Quay County 1	05/23/17	05/31/17	7.97	Startup Failure due to Emergency Diesel Generator Problems.
1146	Maddox 3	05/25/17	05/25/17	0.17	Generator Lube Oil Cooler Breaker Repairs.
1147	Cunningham 2	05/27/17	05/31/17	3.84	Boiler Tube Leak.
1148	Maddox 2	05/29/17	05/29/17	0.05	Startup Trip; Loss of Flame; Igniter Issues.
1149	Plant X 3	05/29/17	06/08/17	9.82	Unable to maintain boiler drum level.
1150	Jones 1	06/01/17	06/01/17	0.07	Engineering and Construction personnel inadvertently tripped the normal source breaker while performing wiring checks for the JK00 replacement project.
1151	Cunningham 2	06/02/17	06/02/17	0.73	Lightning Strikes; Cooling tower fans, Boiler feed pumps, heater drains pumps unavailable.
1152	Maddox 2	06/02/17	06/02/17	0.25	Offline; Starting Motor Contact failure, Buss ground detector. Replace 13.8V Fuses.
1153	Maddox 3	06/02/17	06/02/17	0.25	Offline; Control Issues related to common Maddox 2 Start Motor Grounding Issues.
1154	Tolk 1	06/03/17	06/03/17	0.31	Low pressure feedwater pump low suction relay tripped and operated, causing pump to trip and eventually unit tripped.
1155	Nichols 2	06/05/17	06/16/17	11.67	Unit Offline for Capital Outage Work on Motor-Driven Boiler Feed Pump; Pump Element to be Replaced.

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(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1156	Jones 2	06/06/17	06/06/17	0.16	Unplanned forced outage to replace a failed governor control valve (Moog valve).
1157	Cunningham 3	06/08/17	06/08/17	0.13	Offline; Gas Line Orifice Plate Inspection.
1158	Cunningham 2	06/09/17	06/09/17	0.04	Change Oil in South Boiler Feedpump.
1159	Maddox 2	06/09/17	06/10/17	1.07	Trip on Startup; Starting Motor Failure.
1160	Maddox 2	06/10/17	06/16/17	5.73	Trip on Startup; Starting Motor Failure.
1161	Maddox 3	06/10/17	06/10/17	0.19	Offline; Unit unavailable due to Maddox 2 Start Motor Ground Repairs.
1162	Nichols 1	06/10/17	06/12/17	1.92	Unit Offline to Replace Drainage Sump Pumps.
1163	Harrington 2	06/11/17	06/13/17	2.16	Reheat safety valve lifting at a lower pressure than designed. Valve had to be inspected without pressure on it.
1164	Tolk 2	06/11/17	06/14/17	2.80	Right hand Throttle valve will not close completely stuck open at 5%.
1165	Cunningham 4	06/13/17	06/13/17	0.05	Unit tripped from full load due to false Lower Explosive Limit gas detection.
1166	Plant X 3	06/13/17	06/16/17	2.88	Boiler Tube Leak.
1167	Plant X 2	06/14/17	06/27/17	12.86	Boiler water wall tube leak.
1168	Maddox 2	06/16/17	12/31/17	198.68	Unit Offline; DC Lube Oil Pump Repairs.
1169	Jones 3	06/17/17	06/17/17	0.01	Startup failure due to blade path spread.
1170	Jones 1	06/19/17	06/19/17	0.08	Forced derate due to the loss of west Forced Draft fan.
1171	Jones 1	06/19/17	06/19/17	0.14	Forced derate due to the loss of west Forced Draft fan.
1172	Maddox 3	06/19/17	06/19/17	0.11	Capital Project Stack Inspection/Measurements.
1173	Tolk 1	06/23/17	06/23/17	0.03	East Primary Fan outboard bearing vibration - instrument crew replaced wire on the vibration probe/equipment as if was coming in and out of alarm.
1174	Nichols 3	06/26/17	06/28/17	2.67	Unit Offline due to Underground Condensate Supply Line Replacement.
1175	Harrington 1	06/27/17	06/28/17	0.96	Repaired a steam tube leak.
1176	Maddox 3	06/27/17	06/27/17	0.17	Offline; Annual Diesel Inspection.
1177	Cunningham 3	06/28/17	06/28/17	0.05	Unit tripped during operation of wet compression system due to high combustor dynamics and poor flame stability.
1178	Jones 3	06/28/17	06/28/17	0.01	Startup failure due to a blow potential transformer fuse.
1179	Jones 3	06/28/17	06/28/17	0.08	Startup failure due to blade path temperature spread. (Unit was not allowed to return to turning gear after previous start-up and reset blade path temperature).
1180	Plant X 4	07/01/17	07/01/17	0.04	Unit tripped on high drum level.
1181	Nichols 3	07/02/17	07/03/17	1.39	Unit Offline due to Water-Wall Tube Leak.
1182	Harrington 2	07/03/17	07/03/17	0.01	West baghouse deflation Variable-Frequency Drive not controlling.
1183	Harrington 2	07/04/17	07/04/17	0.01	differential Pressure Transmitter not working to allow the Variable-Frequency Drive to control.
1184	Cunningham 1	07/06/17	07/06/17	0.04	Repair Lube Oil Leak on South Boiler Feedpump.
1185	Harrington 1	07/06/17	07/06/17	0.01	Derate - Opacity problems.
1186	Harrington 2	07/06/17	07/06/17	0.02	Transmitter problems on Variable-Frequency Drive.
1187	Tolk 1	07/07/17	07/07/17	0.02	East Induced Draft Fan tripped, electricians looking into fan controller problem.
1188	Plant X 4	07/09/17	07/09/17	0.03	Drum level issues after going online caused loss of boiler and turbine.
1189	Tolk 1	07/12/17	07/12/17	0.04	Change out thermocouple on the Turbine Driven Boiler Feedpump inboard pump bearing.
1190	Cunningham 2	07/16/17	07/22/17	5.86	Boiler Tube Leak - Unable to maintain drum level.
1191	Jones 1	07/18/17	07/18/17	0.04	Condenser tube fouling; Derate due to high back pressure caused by tube fouling or possible liner blockage in circulating lines.
1192	Plant X 3	07/21/17	07/21/17	0.09	Firing Valve Instrumentation Issue.
1193	Cunningham 1	07/23/17	07/23/17	0.13	One of the reverse power relays experienced a failed coil after shutdown. Plant personnel made unit unavailable to verify the redundant relay operated as expected.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1194	Nichols 2	07/25/17	07/26/17	1.59	Unit Offline to Replace Seal on North Boiler Feed Pump Check Valve.
1195	Harrington 2	07/28/17	07/29/17	0.67	The unit was taken out of service to make repairs to the east Hot Reheat steam circuit drain line.
1196	Jones 3	07/28/17	07/28/17	0.24	Unplanned outage due to the failure of the glycol bypass which caused the inlet air temperature to go high.
1197	Cunningham 1	07/31/17	07/31/17	0.27	Replace redundant reverse power relay.
1198	Jones 4	07/31/17	07/31/17	0.03	Startup failure due to rotor air cooling issues.
1199	Harrington 3	08/02/17	08/04/17	2.10	Unit was removed from service to make a steam leak repair on the left reheat intercept valve.
1200	Cunningham 1	08/03/17	08/09/17	6.02	A large economizer tube leak sprung up and forced plant personnel to bring the unit offline.
1201	Harrington 2	08/08/17	08/08/17	0.02	High differential Pressure on baghouse with 2 compartments out of service for blown bags repair.
1202	Jones 3	08/10/17	08/10/17	0.63	Planned outage for quarterly gas calibration.
1203	Jones 4	08/11/17	08/12/17	1.63	Planned outage for quarterly gas calibration.
1204	Maddox 1	08/11/17	08/15/17	4.13	#2 High Pressure Feedwater Heater Tube Leak.
1205	Tolk 2	08/15/17	08/15/17	0.03	Vibration - #9 bearing at 7 mils dropping load to clear.
1206	Tolk 2	08/17/17	08/17/17	0.02	#9 Bearing has reached 7 mils vibration, dropping load to help lower vibration.
1207	Maddox 1	08/19/17	08/19/17	0.04	1B Boiler Feedpump Auxiliary Oil Pump Breaker Trip; Loose Connection.
1208	Cunningham 2	08/24/17	08/26/17	0.41	Packing Leak on Pump Forced Personnel to De-Rate the Unit.
1209	Cunningham 2	08/24/17	08/26/17	1.55	Blown Gasket on South Boiler Feed Pump Suction Line and Packing Leak on Pump.
1210	Harrington 2	08/24/17	08/24/17	0.00	Unit was derated due to high baghouse differential pressure when a baghouse was removed from service due to blown bags.
1211	Maddox 3	09/04/17	09/05/17	0.84	Offline; Unit unavailable due to Breaker in Substation Tripped Open.
1212	Harrington 3	09/05/17	09/05/17	0.61	Mud drum gasket leak.
1213	Cunningham 2	09/07/17	10/04/17	9.33	Failure of motor electrical lead connections on North Boiler Feed Pump.
1214	Cunningham 2	09/07/17	09/07/17	0.13	Failure of motor electrical lead connections on North Boiler Feed Pump.
1215	Cunningham 2	09/08/17	09/09/17	1.14	North Boiler Feed Pump seal ring differential line rupture.
1216	Plant X 4	09/08/17	09/09/17	1.33	Repair economizer leaks.
1217	Tolk 1	09/14/17	09/14/17	0.01	Significant coal leak on Tolk 1 "E" feeder down corner.
1218	Cunningham 3	09/15/17	09/22/17	6.76	Planned outage to install online vibration monitoring system.
1219	Nichols 1	09/15/17	11/17/17	63.72	Unit in Outage for Cooling Tower Suction Pit Roof Replacement and Air Preheater Expansion Joint Replacement.
1220	Harrington 2	09/16/17	09/16/17	0.31	Investigating the Generator Protective Relay operation.
1221	Jones 1	09/16/17	11/17/17	63.04	Governor Valves and Boiler work. Capital: Replaced Hot Reheat Pipe, Circulating Water Pipe, Air Preheater Cold Baskets, Rosemount Transmitters, Boiler Feedpump Element, Upgraded Foxboro Fieldbus Modules.
1222	Tolk 1	09/16/17	09/17/17	1.46	Boiler Tube leak - Waterwall Hanger Tube.
1223	Cunningham 2	09/17/17	09/17/17	0.23	Boiler Feed Pump Repairs.
1224	Plant X 4	09/19/17	09/20/17	0.20	Had to bring the unit down to repair a broken BUS bar in the substation at the request of the system transmission dept.
1225	Tolk 1	09/20/17	09/22/17	0.51	Boiler water wall tube leak - will hold current pressure and load until weekend.
1226	Harrington 2	09/22/17	09/23/17	1.04	Water Wall Tube leak found during a reserve shutdown.
1227	Tolk 1	09/22/17	09/24/17	2.03	Tube Leak.
1228	Jones 2	09/23/17	10/01/17	8.21	Replaced economizer expansion joint. (Leaking)
1229	Nichols 3	09/28/17	10/02/17	1.39	Derate Caused by Electrical Issues on South Forced Draft Fan.
1230	Cunningham 3	10/03/17	10/03/17	0.07	Flashback #7a.
1231	Jones 2	10/03/17	10/03/17	0.03	Forced outage due to leak in turbine trip cabinet. (Faulty gasket in elbow)

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1232	Plant X 3	10/03/17	10/05/17	2.11	Lube Oil Pump Motor Failure.
1233	Plant X 2	10/04/17	10/04/17	0.13	Condensate shortage.
1234	Tolk 1	10/05/17	10/05/17	0.01	Suction blocking at higher loads, baghouse air to Sonic horns out of service 500 MW is a high load limit.
1235	Tolk 2	10/05/17	10/05/17	0.01	Center Induced Draft fan tripped load limited until fan inspected.
1236	Harrington 1	10/08/17	10/09/17	1.17	Made repairs to transformer/rectifier set WC3.
1237	Maddox 3	10/10/17	10/11/17	0.57	Failed Monthly Test Start; Flame Detection Issue.
1238	Plant X 2	10/12/17	10/19/17	6.84	Steam Seal Regulator Failure.
1239	Plant X 4	10/16/17	10/27/17	11.64	Boiler hot spot repairs, Boiler Feedpump and Condensate pump inspection and repair.
1240	Tolk 1	10/20/17	10/20/17	0.18	Tube Leak below IR53 North wall 9th floor.
1241	Tolk 1	10/20/17	10/22/17	1.62	Tube Leak below IR53 North wall 9th floor.
1242	Cunningham 4	10/21/17	10/22/17	0.11	Gas block valve is leaking by and letting too much gas into the unit on startup which is causing the unit to fail to start.
1243	Cunningham 4	10/22/17	10/23/17	1.75	Gas block valve is leaking by and letting too much gas into the unit on startup which is causing the unit to fail to start.
1244	Harrington 1	10/22/17	10/22/17	0.01	High opacity issues.
1245	Cunningham 2	10/23/17	10/30/17	3.19	Two tubes leaking directly beneath the bull nose.
1246	Tolk 1	10/23/17	10/24/17	1.17	Tube Leak below IR53 North wall 9th floor.
1247	Cunningham 4	10/27/17	11/01/17	4.18	Gas block valve is leaking by and letting too much gas into the unit on startup which is causing the unit to fail to start.
1248	Jones 2	10/27/17	10/27/17	0.41	Unplanned forced outage due to tube leak (waterwall) A corner just below the burners.
1249	Cunningham 2	10/30/17	11/10/17	11.29	Multiple tube leaks within the furnace/water wall that needed to be addressed.
1250	Quay County 1	10/31/17	11/03/17	3.03	Generator tripped prior to startup due to possible problems in the breaker or the generator stator/rotor.
1251	Cunningham 4	11/01/17	12/31/17	61.00	Unit down for stator and rotor inspection.
1252	Maddox 1	11/01/17	11/01/17	0.02	Unit Trip:ExcessO2 Spike; Forced Draft Fan Backed Down & Unit Trip on High Drum Level.
1253	Harrington 1	11/02/17	11/12/17	9.16	Electrostatic Precipitator cleaning and inspection, Turbine front standard work, and reheat and interceptor valves.
1254	Harrington 3	11/05/17	11/06/17	0.51	Unit failed the start up due to a leaking gasket on #2 governor valve electrohydraulic line and a failed Linear Variable Inductive Transducer on the same governor valve.
1255	Cunningham 3	11/10/17	12/11/17	30.90	Performing inspection on stator windings.
1256	Tolk 1	11/10/17	11/12/17	2.46	Main steam safety relief valve, tube leak repairs and #5 economizer hopper pluggage.
1257	Harrington 3	11/13/17	11/13/17	0.04	Supply breaker FA 380 tripped causing a loss of all the south cooling tower fans. The relay on 380 opened when the #6 fan motor was started and pulled excessive amps.
1258	Plant X 1	11/13/17	11/29/17	16.52	Deaerator relief valve repair.
1259	Tolk 1	11/13/17	11/22/17	1.82	West Main Steam Safety is lifting above 2000 PSI.
1260	Maddox 1	11/14/17	11/14/17	0.12	Per TOP Lateral Fuse Out in the Well Field. Loss of Well Field.
1261	Harrington 1	11/15/17	11/16/17	0.27	E Coal Mill was removed from service due to high vibration. A mill is also out of service for repairs.
1262	Jones 1	11/17/17	11/23/17	5.11	Additional time needed to replace circulating water pipeline.
1263	Tolk 1	11/22/17	11/30/17	8.11	Repair Main steam safety relief valve.
1264	Jones 1	11/23/17	11/23/17	0.64	Unit came offline due to leak in new circulating pipe line and high boiler silica - extension of the planned outage.
1265	Jones 1	11/24/17	12/04/17	10.83	Outage extension due to high boiler silica - had to rinse and drain boiler.
1266	Maddox 3	11/27/17	11/29/17	1.73	Unit Offline; Unit unavailable for Auxiliary 480V Transformer work.
1267	Maddox 1	11/28/17	11/28/17	0.04	Feedwater Shutoff Regulator Breaker Trip; Due to Failure of Adjacent Breaker.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1268	Jones 2	11/30/17	12/01/17	0.62	Derate due to lost of the City of Lubbock effluent cooling water - prevention of contamination from debris.
1269	Tolk 1	11/30/17	12/10/17	10.24	Planned Transmission work in the sub-station (Outside of Management Control EVENT).
1270	Nichols 3	12/03/17	12/06/17	2.75	Unplanned Outage due to Possible Underground Circulating Water Leak.
1271	Harrington 1	12/04/17	12/04/17	0.30	Water Wall tube leaks were discovered and repaired.
1272	Cunningham 1	12/05/17	12/15/17	0.91	Breaker not racked in properly on the North Boiler Feedpump. Also running on the spare exciter.
1273	Plant X 2	12/05/17	12/05/17	0.60	Delayed unit start up due to shortage of condensate in storage tanks.
1274	Cunningham 1	12/07/17	12/15/17	8.17	Tube leak in economizer section.
1275	Harrington 3	12/08/17	12/09/17	0.76	Unit was unavailable to make a repair to a water wall tube leak on #4 corner.
1276	Jones 2	12/08/17	12/08/17	0.13	Unit offline due to issues with 50# gas regulator and pilot valves.
1277	Nichols 3	12/09/17	12/15/17	6.69	Maintenance Outage taken to replace plant gas supply block valve, extraction block valves, and priming air ejector throttle valve.
1278	Plant X 4	12/09/17	12/10/17	0.28	Boiler chemistry out of range. Reducing pressure and load in an attempt to bring chemistry back into range.
1279	Jones 4	12/10/17	12/13/17	3.03	Borescope Inspection.
1280	Harrington 1	12/11/17	12/11/17	0.31	Economizer tube leak.
1281	Jones 3	12/12/17	12/14/17	2.64	Borescope Inspection.
1282	Nichols 1	12/15/17	12/15/17	0.40	Maintenance outage taken to replace boiler sump piping and main plant gas block valve.
1283	Nichols 2	12/15/17	12/15/17	0.40	Maintenance outage taken for boiler sump line replacement and plant main gas block valve replacement.
1284	Harrington 2	12/17/17	12/17/17	0.03	Unit was derated due to high conductivity readings on the boiler and Feedwater systems.
1285	Jones 1	12/17/17	12/18/17	0.59	Water chemistry.
1286	Plant X 4	12/18/17	12/19/17	1.34	Economizer tube leak is compromising condensate makeup capability.
1287	Quay County 1	12/19/17	12/19/17	0.02	Unit tripped due to problems with high blade path temperature differential readings.
1288	Quay County 1	12/19/17	12/19/17	0.04	Unit tripped due to problems with high blade path temperature differential readings.
1289	Quay County 1	12/19/17	12/19/17	0.04	Unit tripped due to problems with high blade path temperature differential readings. Problem was identified as a bad/loose thermocouple.
1290	Harrington 2	12/20/17	12/21/17	0.42	Made a repair to a water wall tube leak in the dead air space on the 9th floor.
1291	Jones 4	12/20/17	12/20/17	0.10	Maintenance outage to perform gas calibrations.
1292	Jones 3	12/29/17	12/29/17	0.08	Maintenance outage to perform gas calibrations.
1293	Nichols 1	12/29/17	12/31/17	2.58	Unit in outage for Deaerator Drive Steam and Air Preheater maintenance work.
2018					
1294	Cunningham 1	01/01/18	01/04/18	3.29	Pinnacle low gas regulator problems.
1295	Cunningham 4	01/01/18	01/24/18	23.15	Unit down for stator and rotor inspection.
1296	Harrington 1	01/01/18	01/01/18	0.05	Unit was derated to prevent opacity violations.
1297	Harrington 1	01/01/18	01/02/18	0.55	Unit tripped when a controls system Control Processor failed.
1298	Maddox 2	01/01/18	01/12/18	11.65	Unit Offline; DC Lube Oil Pump Repairs.
1299	Nichols 1	01/01/18	01/09/18	8.67	Unit in outage for Deaerator Drive Steam and Air Preheater maintenance work. Cracking around the drive steam inlet was repaired. The air preheater drive gear was replaced due to excessive wear.
1300	Tolk 1	01/01/18	01/01/18	0.03	East Induced Draft Fan inboard motor bearing temperature increasing, fan taken off to prevent bearing damage.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1301	Cunningham 3	01/02/18	01/02/18	0.44	Unit was taken offline due to high NOx ¹ .
1302	Jones 3	01/03/18	01/03/18	0.06	Maintenance outage to replace actuator on glycol bypass valve.
1303	Tolk 1	01/04/18	01/04/18	0.03	East Induced Draft Fan Controller trip.
1304	Tolk 2	01/04/18	01/06/18	2.40	Tube leak.
1305	Cunningham 1	01/05/18	01/09/18	3.93	Loss of excitation.
1306	Cunningham 2	01/05/18	01/05/18	0.12	South Forced Draft fan tripped. Control related issue.
1307	Cunningham 2	01/05/18	01/10/18	1.63	Derate related to South Forced Draft fan being unavailable.
1308	Tolk 2	01/08/18	01/08/18	0.15	Lost unit on High Drum level tripping turbine then Reverse Power tripped the generator TK32 was open.
1309	Nichols 3	01/09/18	01/09/18	0.62	Maintenance Outage taken due to problems with the reverse power relays. One relay was found to have a burnt coil preventing it from operating correctly. The relay trip settings were found to have crept from their setpoints since the last inspection.
1310	Harrington 3	01/11/18	01/14/18	3.35	Repairs to a tube leak in the division panels.
1311	Jones 1	01/11/18	01/11/18	0.03	Unit tripped on high drum level.
1312	Jones 4	01/11/18	01/11/18	0.20	Maintenance outage for inspection.
1313	Harrington 2	01/12/18	01/12/18	0.25	Unit missed the scheduled on line time due to trying to prevent opacity exceedances when firing with gas and baghouse out of service.
1314	Harrington 2	01/12/18	01/15/18	2.68	Unit was removed from service due to condensate contamination.
1315	Maddox 1	01/14/18	01/19/18	5.60	Boiler & Minor System Repairs.
1316	Cunningham 3	01/15/18	01/15/18	0.11	Loss of lube oil pressure due to faulty pressure transmitter.
1317	Maddox 2	01/16/18	01/16/18	0.05	Failed Start; High Blade Path Temperature.
1318	Cunningham 3	01/18/18	01/20/18	1.63	Unit tripped offline due to fire protection system being activated. Temperature > 325.
1319	Maddox 2	01/18/18	01/18/18	0.17	Offline: Operations observed Thrust Bearing Oil Leak; Repaired.
1320	Harrington 3	01/19/18	01/19/18	0.02	B feeder was dropping feed rates for an unknown reason that needed to be addressed along with another mill out of service to repair a coal leak.
1321	Maddox 2	01/19/18	01/19/18	0.22	Offline: Main Generator Fuse Clip replacement.
1322	Maddox 2	01/21/18	01/22/18	0.88	Failed Start: Bleed Valve Failed to Close; Replaced.
1323	Tolk 2	01/22/18	01/22/18	0.41	Transmission outage.
1324	Tolk 2	01/22/18	01/23/18	0.96	Outage continuation after Transmission Planned Outage to check out Condenser Water Box pluggage.
1325	Maddox 3	01/23/18	01/23/18	0.13	Exhaust Stack Inspection.
1326	Tolk 2	01/24/18	01/25/18	1.22	Condenser waterbox door leak.
1327	Nichols 3	01/25/18	01/26/18	1.67	Unit offline to replace hogging jet valve orifice.
1328	Harrington 3	01/26/18	01/27/18	1.48	Platen panel tube leak.
1329	Plant X 1	01/29/18	01/31/18	2.42	Maintenance Outage for circulating water discharge valve repair.
1330	Plant X 2	01/29/18	01/31/18	2.42	Maintenance outage for Plant X1 circulating discharge valve repair.
1331	Plant X 3	01/29/18	01/31/18	2.42	Maintenance outage for repair to Plant X1 circulating discharge valves.
1332	Quay County 1	01/29/18	01/30/18	1.38	Unit was in Maintenance Outage to replace a bad thermocouple in the latter stages of the turbine section of the combustion turbine. This thermocouple caused the unit to trip in earlier runs.
1333	Cunningham 2	01/31/18	02/02/18	2.12	Leaking economizer drain piping.
1334	Maddox 2	01/31/18	01/31/18	0.17	Offline; Ignitor found out; Replaced.
1335	Quay County 1	02/01/18	02/01/18	0.03	Unit tripped shortly after startup. Possibly due to high blade path temperature differentials between turbine stages.
1336	Tolk 2	02/01/18	02/01/18	0.49	Transmission work

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1337	Tolk 1	02/03/18	02/08/18	5.91	Low Pressure Turbine Overhaul *** Due to the Main Power Transformer explosion and fire on Unit 2 marketing needed this Unit back. Work was stopped and necessary repairs done to bring Unit 1 on line.
1338	Plant X 2	02/04/18	02/12/18	8.01	Not enough condensate to start the unit due to economizer tube leak on Plant X4. Waiting to build enough condensate in the storage tanks to proceed with the start up.
1339	Jones 3	02/05/18	02/05/18	0.24	Direct Air Injection System maintenance.
1340	Maddox 3	02/05/18	09/10/18	217.22	Scheduled/Planned Gas Turbine Overhaul.
1341	Plant X 1	02/05/18	02/12/18	6.72	Condensate shortage due to Plant X4 economizer leak.
1342	Tolk 2	02/05/18	05/26/18	110.07	Main Power transformer faulted, and a FIRE, fire out at 20:00.
1343	Harrington 2	02/06/18	02/06/18	0.32	Unit tripped on high Turbine Thrust reading.
1344	Harrington 2	02/06/18	02/07/18	0.38	Unit was removed from service to make adjustments on the Thrust readings.
1345	Harrington 2	02/07/18	02/07/18	0.14	Unit tripped due to a Field Circuit Trip on the automatic voltage regulators (AVR).
1346	Plant X 4	02/08/18	02/09/18	1.34	Economizer tube leak is compromising condensate makeup capability.
1347	Cunningham 2	02/10/18	02/12/18	0.06	Control Valve not opening fully.
1348	Harrington 1	02/11/18	02/16/18	2.69	Unit was derated due to freeze damage to the lube oil auxiliary cooling water cooler.
1349	Harrington 2	02/11/18	02/11/18	0.02	Unit was derated to prevent opacity exceedances because of failed bags.
1350	Cunningham 2	02/12/18	02/16/18	0.84	Worn control valve actuator cam bushings.
1351	Nichols 1	02/12/18	02/12/18	0.69	Nichols 1 was in outage to repair an economizer tube leak. A small hole was found on the tube/header weld on the economizer inlet header. The hole was patched with a pad weld.
1352	Cunningham 2	02/13/18	02/16/18	2.51	Replace E rod bushings and control valve bushings.
1353	Harrington 1	02/16/18	02/16/18	0.01	Unit tripped on loss of flame.
1354	Harrington 3	02/16/18	02/26/18	10.36	Unit had to come off line to repair a superheat tube leak.
1355	Cunningham 2	02/21/18	02/28/18	6.85	Waterwall tube leak.
1356	Jones 4	02/22/18	02/22/18	0.39	Direct Air Injection System issue.
1357	Maddox 2	02/26/18	03/02/18	4.13	Substation Group Replaced potential transformer Fuses/ HOLDERS.
1358	Nichols 1	02/26/18	03/07/18	3.22	The North Forced Draft Fan motor tripped during a routine re-pressurization while the unit was in hot standby status. The motor was found to have a fault in the windings. Visual inspection found burnt coils. Motor will be rewound.
1359	Maddox 2	03/02/18	03/07/18	5.11	Potential transformer 13.8 Fuse Failure; Replacement Needed.
1360	Harrington 2	03/06/18	03/06/18	0.16	Unit was derated to put a temporary auxiliary cooling water lube oil cooler in service.
1361	Nichols 1	03/07/18	03/07/18	0.20	The North Forced Draft Fan motor tripped during a routine re-pressurization while the unit was in hot standby status. The motor was found to have a fault in the windings. Visual inspection found burnt coils. Motor will be rewound.
1362	Nichols 1	03/07/18	04/04/18	12.24	The North Forced Draft Fan motor tripped during a routine re-pressurization while the unit was in hot standby status. The motor was found to have a fault in the windings. Visual inspection found burnt coils. Motor will be rewound.
1363	Cunningham 2	03/10/18	03/12/18	1.45	Boiler tube leak.
1364	Cunningham 2	03/12/18	05/19/18	68.60	Turbine control valves and Boiler crown seal repairs.
1365	Maddox 2	03/12/18	03/12/18	0.03	Failed Start; High Blade Path Temperature Spread.
1366	Nichols 1	03/12/18	03/12/18	0.25	Outage for updating control logic for the Forced Draft fans. Fans will now be controlled by air flow calculated by differential pressure versus being controlled by discharge pressure.
1367	Cunningham 1	03/13/18	03/14/18	1.39	Gas supply regulating valve repair.
1368	Jones 2	03/14/18	03/15/18	0.29	West main circulating bearing oil pump failure.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1369	Plant X 4	03/17/18	03/18/18	0.14	Boiler chemistry (Silica) requires the unit to be dispatched at less than rated boiler pressure. Unable to meet load demand at the lower pressure.
1370	Harrington 1	03/18/18	03/19/18	1.42	Unit was removed from service to make a repair to a tube leak at a weld between the tube and the header.
1371	Maddox 2	03/19/18	03/20/18	0.36	Unit Tripped on loss of flame.
1372	Cunningham 4	03/21/18	03/21/18	0.10	Overspeed Trip Valve went to failure mode due to loss of control air.
1373	Cunningham 4	03/22/18	03/22/18	0.05	Turbine enclosure gas detector calibration issue.
1374	Jones 3	03/22/18	03/22/18	0.17	Server Reboot and Gas Calibration.
1375	Jones 4	03/22/18	03/22/18	0.33	Server reboot and gas calibration.
1376	Maddox 1	03/28/18	03/29/18	0.79	Main Pinnacle Gas Valve Repairs.
1377	Maddox 2	03/28/18	03/29/18	0.79	Main Pinnacle Gas Valve Repairs.
1378	Quay County 1	03/29/18	03/29/18	0.07	Cause of trip is unknown.
1379	Maddox 1	03/31/18	04/01/18	0.90	Reverse Osmosis System failed to start; water conservations.
1380	Maddox 2	03/31/18	04/01/18	1.50	Reverse Osmosis System failed to start; water conservations.
1381	Harrington 3	04/02/18	04/02/18	0.02	Turbine Boiler Feedpump Tripped on low oil pressure and the startup boiler feedpump tripped on start signal causing the unit to trip.
1382	Nichols 1	04/02/18	04/04/18	2.56	The rewind North Forced Draft Fan motor is being reinstalled. Leak on liquid level transmitter on the deaerator is being repaired.
1383	Harrington 2	04/03/18	04/03/18	0.75	Repaired an exterior steam leak on a blind flange on # 3 high pressure heater.
1384	Cunningham 3	04/07/18	04/07/18	0.02	Field breaker did not close.
1385	Cunningham 3	04/07/18	04/07/18	0.06	Stopped per supervisor for slow acceleration.
1386	Cunningham 3	04/07/18	04/07/18	0.13	Blade path tripped unit.
1387	Cunningham 3	04/07/18	04/07/18	0.06	Blade path tripped unit.
1388	Cunningham 3	04/07/18	04/09/18	2.12	Blade path tripped unit.
1389	Maddox 2	04/07/18	04/07/18	0.32	Online Trip; Oil cooler trouble shooting.
1390	Harrington 1	04/08/18	04/28/18	19.33	Unit was removed from service for a mini outage.
1391	Jones 4	04/08/18	04/28/18	20.46	FM 200 (Fire Suppressant) discharged, awaiting refill to ensure fire protection.
1392	Cunningham 3	04/09/18	04/13/18	3.52	Tripped on Vibration.
1393	Harrington 2	04/09/18	04/09/18	0.01	Unit was derated due to multiple compartments out of service to prevent an opacity event.
1394	Maddox 1	04/09/18	04/09/18	0.06	Press Switch Calibration for Auxiliary Lube Oil Pump.
1395	Plant X 2	04/12/18	04/15/18	2.53	Main Circulator Motor Bearing Abnormal Indication.
1396	Quay County 1	04/12/18	04/16/18	3.77	Unit tripped due to starting diesel overheating and tripping on high coolant temperature brought on by insufficient cooling.
1397	Cunningham 3	04/13/18	04/13/18	0.35	Low air flow.
1398	Cunningham 3	04/13/18	04/13/18	0.13	Blade path spread high.
1399	Cunningham 3	04/13/18	04/16/18	2.74	Low air flow.
1400	Jones 3	04/13/18	04/13/18	0.11	Gas orifice plate maintenance.
1401	Maddox 2	04/13/18	04/14/18	0.71	NOx ¹ Water Injection: Low Flow Alarm.
1402	Plant X 1	04/15/18	04/18/18	2.96	No.1 Turbine Bearing Overheat.
1403	Maddox 1	04/16/18	04/17/18	1.09	High Pressure Feedwater Heater Tube Leaks & Gas Valve Repairs.
1404	Maddox 2	04/16/18	04/16/18	0.37	Main Pinnacle Gas Valve Repairs.
1405	Maddox 2	04/16/18	04/18/18	2.08	AC Lube Oil Pump Fails to Start.
1406	Plant X 2	04/16/18	04/26/18	10.53	Unable to maintain Drum level.
1407	Jones 2	04/17/18	04/17/18	0.07	Adding oil to F bus transformer.
1408	Nichols 2	04/18/18	04/19/18	1.00	Forced outage was taken in preparation for replacing the Deaerator Drain Valve and #1 Feedwater Heater Air Vent Orifice.
1409	Plant X 3	04/18/18	04/18/18	0.05	X929 Motor operated knife switch not seated properly while closed. Knife switch connects generator to the ring buss.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1410	Nichols 2	04/19/18	04/20/18	1.65	Outage taken to replace Deaerator Drain Valve and #1 Feedwater Heater Air Vent Orifice.
1411	Tolk 1	04/22/18	04/22/18	0.24	B phase on generator has lower voltage coming offline to check.
1412	Harrington 2	04/23/18	04/23/18	0.01	Unit was derated due to high baghouse differential Pressure. Compartments removed from service to replace failed bags.
1413	Harrington 3	04/23/18	04/23/18	0.10	Unit was derated due to feedwater and boiler silica increase when the #5 heater extraction tripped close.
1414	Harrington 3	04/23/18	04/26/18	3.14	Unit was removed from service to make repairs to the failed #5 feedwater heater extraction joint at the Low Pressure Turbine.
1415	Maddox 2	04/23/18	04/23/18	0.10	Online Trip: Loss of instrument Air.
1416	Jones 1	04/25/18	04/26/18	0.06	Low water level in lagoon due to disruption of circulating water supply from the city of Lubbock.
1417	Jones 2	04/25/18	04/26/18	0.06	City of Lubbock effluent line air relief valve failed.
1418	Plant X 2	04/26/18	04/30/18	4.07	Unable to produce enough condensate to maintain 3 units, 1 with tube leak and another with economizer leak.
1419	Jones 2	04/27/18	04/28/18	0.31	Limited water supply to the plant from the City of Lubbock.
1420	Harrington 1	04/28/18	04/28/18	0.12	Unit tripped when swapping from the piddle valve to the #3 heater using the main feed pump for start up. The feed pump issue was original scope of work.
1421	Plant X 1	04/28/18	05/08/18	10.52	Unit is running with a tube leak causing us to lose condensate. We decided to take it off tonight to help us keep Plant X3 & X4 online.
1422	Plant X 3	04/28/18	04/30/18	1.98	Reverse Osmosis . make up system failure. Unable to maintain necessary condensate level.
1423	Plant X 4	04/28/18	04/30/18	1.57	Reverse Osmosis system failure. Unable to supply necessary condensate to maintain load above the minimum.
1424	Maddox 2	04/29/18	04/29/18	0.04	Startup Failure;
1425	Maddox 2	04/30/18	05/01/18	1.20	Startup Failure;
1426	Jones 4	05/01/18	05/01/18	0.01	Variable guide vanes failure.
1427	Plant X 4	05/01/18	05/01/18	0.58	Repair a leak on feedwater check valve just before the boiler economizer inlet.
1428	Harrington 1	05/02/18	05/02/18	0.01	Unit was derated when ramping up on load and the opacity started getting high. The derate was to prevent opacity violations.
1429	Jones 1	05/02/18	05/02/18	0.18	Loss of Deaerator level, boiler feed pumps tripped and drum level tripped.
1430	Jones 1	05/03/18	05/03/18	0.08	Derate due to lose of one Boiler Feedpump because of outboard bearing getting hot.
1431	Maddox 2	05/03/18	05/03/18	0.72	Offline: Starting Motor Failure Alarm; Trouble shooting.
1432	Jones 3	05/04/18	05/04/18	0.25	Maintenance to perform a water wash.
1433	Jones 4	05/04/18	05/04/18	0.28	Computer Maintenance - water wash.
1434	Harrington 1	05/05/18	05/05/18	0.00	Unit was derated to prevent opacity violations. Electrostatic Precipitator seems to be fouled.
1435	Plant X 4	05/08/18	05/08/18	0.01	Spray water station for reheat temperature control was not functioning as designed.
1436	Plant X 3	05/11/18	05/18/18	6.55	Suspected condenser tube leak is fouling boiler chemistry.
1437	Jones 2	05/13/18	05/16/18	2.86	Waterwall tube leaks in B & D corners.
1438	Jones 4	05/13/18	05/24/18	10.75	Planned outage borescope inspection.
1439	Nichols 2	05/15/18	05/16/18	1.71	Outage taken to repair an economizer tube leak. The leaky tube was repaired.
1440	Plant X 1	05/17/18	05/17/18	0.68	Plant X3 condenser tube leak, cannot isolate Plant X3 without Plant X1 offline.
1441	Plant X 2	05/17/18	05/17/18	0.66	Plant X3 has a condenser tube, cannot isolate Plant X3 without Plant X2 offline.
1442	Harrington 2	05/18/18	05/23/18	5.56	Summer prep outage.
1443	Cunningham 2	05/19/18	05/19/18	0.01	Post Outage testing.
1444	Cunningham 2	05/19/18	05/19/18	0.06	Post Outage Testing Turbine overspeed trip testing.
1445	Cunningham 2	05/19/18	05/20/18	0.01	Post Outage Testing.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1446	Cunningham 2	05/20/18	05/20/18	0.39	Outage due to scope related logic modification.
1447	Cunningham 2	05/20/18	05/30/18	0.26	Coming out of outage and inspecting equipment.
1448	Plant X 1	05/21/18	05/21/18	0.27	Unable to keep ignitors in during startup.
1449	Plant X 1	05/21/18	05/22/18	1.04	Oil trip test failed.
1450	Plant X 3	05/21/18	05/21/18	0.07	X929 in Sub Station did not seat correctly, Transmission Operations advised to limit load till repaired.
1451	Plant X 3	05/21/18	05/21/18	0.12	Outage required for X929 Separation according to Transmission Work Request 909194.
1452	Maddox 2	05/23/18	05/24/18	0.82	Online Trip; Vibration Hardware Failure; #1 Bring Hardware Failure.
1453	Jones 3	05/24/18	06/01/18	7.90	Maintenance outage for borescope.
1454	Maddox 2	05/24/18	05/26/18	2.53	Ignition Failure; Low Fuel Pressure at Ignition.
1455	Harrington 2	05/25/18	05/25/18	0.12	Unit tripped on a turbine rotor position out of range and a mismatch from the probe readings.
1456	Plant X 2	05/25/18	05/30/18	5.15	Pre-heater motor failed causing the unit's inability to achieve full load. 10 MW de-rate required.
1457	Harrington 2	05/26/18	05/26/18	0.01	Unit was derated to prevent high baghouse differential pressure situation and to prevent the furnace from operating positive.
1458	Tolk 2	05/27/18	05/27/18	0.19	BALANCE SHOT.
1459	Tolk 2	05/27/18	05/27/18	0.10	BALANCE SHOTS.
1460	Harrington 2	05/29/18	05/30/18	0.04	Unit had to be derated due to high baghouse differential pressure.
1461	Harrington 1	05/30/18	05/30/18	0.02	Unit was derated to prevent opacity exceedances.
1462	Jones 1	05/30/18	05/30/18	0.07	Leaking Electro-Hydraulic Control fluid on the right side governor control cylinder.
1463	Plant X 2	05/31/18	06/01/18	0.30	Unit limited to one Circulator Pump, unable to achieve full load.
1464	Nichols 3	06/01/18	06/08/18	6.87	Steam seal regulator bypass valve and actuator, and hogging jet block valve were replaced.
1465	Harrington 2	06/03/18	06/03/18	0.02	Unit was derated due to 2 baghouse compartments being out of service at the same time due to bag failures.
1466	Harrington 3	06/09/18	06/09/18	0.39	Unit was removed from service to make repairs to the high pressure supply motor operated block valve to the main feedpump.
1467	Plant X 2	06/09/18	06/15/18	6.00	Unable to maintain drum level.
1468	Jones 2	06/10/18	06/12/18	0.09	Issues with feedwater level controls - had to take the High Pressure heaters out of service.
1469	Tolk 1	06/12/18	06/12/18	0.32	Generator over excitation relay trip, electricians investigating exciter and voltage regulator.
1470	Maddox 2	06/13/18	06/13/18	0.07	Inlet Guide Vane Failure.
1471	Nichols 2	06/13/18	06/14/18	1.74	Hogging jet block and throttle valves were replaced after throttle valve failed in the closed position.
1472	Nichols 3	06/14/18	06/15/18	1.53	An Electro-Hydraulic Control leak at a fitting on the upper control valve caused the unit to be taken offline to perform repairs.
1473	Harrington 1	06/16/18	06/16/18	0.55	Unit was removed from line to make repairs to a water wall but leak.
1474	Plant X 4	06/19/18	06/19/18	0.02	Unable to purge boiler due to pilots not tripped indication caused by flame rod malfunction.
1475	Plant X 4	06/19/18	06/20/18	1.16	Fire discovered on D corner of boiler.
1476	Harrington 1	06/20/18	06/20/18	0.01	Unit tripped on Reverse Power.
1477	Harrington 1	06/20/18	06/20/18	0.01	Unit tripped on Reverse Power.
1478	Harrington 1	06/20/18	06/20/18	0.01	Unit tripped on reverse power.
1479	Jones 1	06/20/18	06/28/18	0.23	Derate because of chattering Reheat pressure relief valve.
1480	Jones 2	06/20/18	06/20/18	0.01	Issues with feedwater level controls - had to take the High Pressure heaters out of service.
1481	Tolk 1	06/20/18	06/20/18	0.31	Need to remove Turbine Driven Boiler Feedpump from service to replace breakdown bushing on inboard side of pump.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1482	Tolk 1	06/20/18	06/23/18	3.45	Turbine Driven Feed Pump would not isolate online and required coming offline to allow feed pump repairs.
1483	Harrington 3	06/21/18	06/21/18	0.01	Unit had to be derated due to the boiler going positive. The air preheaters are fouled.
1484	Plant X 1	06/21/18	06/21/18	0.21	Loss of boiler igniters, causing boiler trip.
1485	Harrington 2	06/22/18	06/22/18	0.01	Unit was derated due to high baghouse pressure. We had 2 baghouse compartments out of service for bag failures.
1486	Maddox 2	06/25/18	06/28/18	3.49	CHANGE FUSE HOLDERS AND FUSES.
1487	Plant X 1	06/25/18	06/25/18	0.07	Boiler tripped due to high ignitor header pressure.
1488	Plant X 4	06/26/18	06/26/18	0.02	Boiler Feed pump trip.
1489	Plant X 4	06/26/18	06/28/18	1.88	Fire in D corner due to loss of refractory.
1490	Jones 1	06/27/18	06/27/18	0.37	Repair to a hot reheat pipe flange on the pressure relief valve.
1491	Jones 2	06/27/18	06/27/18	0.09	Generator breaker would not operate - could not get online.
1492	Jones 1	06/30/18	07/01/18	0.03	Repair to a hot reheat pipe flange on the pressure relief valve.
1493	Harrington 3	07/01/18	07/01/18	0.14	Unit tripped when changes were being made to the baghouse distributed control system.
1494	Harrington 3	07/01/18	07/02/18	0.12	Unit was derated due to high baghouse excessive differential pressure with 4 baghouse compartments out of service.
1495	Jones 1	07/01/18	07/01/18	0.14	Repair to a hot reheat pipe flange on the pressure relief valve.
1496	Jones 1	07/01/18	07/01/18	0.02	Derated due to high backpressure.
1497	Jones 3	07/01/18	07/01/18	0.01	Startup failure due to blade path temperature spread.
1498	Plant X 1	07/03/18	07/04/18	0.95	Appears that a Fieldbus Module failed causing loss of boiler level indication, tripping boiler.
1499	Harrington 2	07/06/18	07/06/18	0.06	Unit was derated due to high baghouse pressure. Unit had 3 compartments out of service to replace bags.
1500	Cunningham 1	07/07/18	07/07/18	0.05	Deaerator level went high. Operations manually tripped unit for protection.
1501	Harrington 2	07/07/18	07/07/18	0.02	Unit was derated due baghouse pressure high. Unit had compartments out of service for bag replacements.
1502	Cunningham 2	07/08/18	07/08/18	0.11	Burner fuel pressure high.
1503	Cunningham 2	07/08/18	07/11/18	2.97	Turbine did not trip after the generator tripped.
1504	Plant X 4	07/08/18	07/08/18	0.10	Gas Firing valve malfunction caused boiler instability issues.
1505	Harrington 3	07/09/18	07/10/18	0.84	Unit tripped when the south auxiliary cooling water motor went to ground and tripped E buss. D Buss also tripped, so all critical 480V equipment lost power.
1506	Maddox 2	07/10/18	07/10/18	0.06	#5 BEARING FIRE SYSTEM TRIP.
1507	Maddox 2	07/12/18	07/13/18	0.70	Igniter failed and was replaced with a new igniter .
1508	Plant X 4	07/12/18	07/13/18	0.76	Hot spot on D corner, 4th floor.
1509	Harrington 2	07/14/18	07/16/18	0.14	Unit was derated due to baghouse compartments being out of service to replace failed bags.
1510	Maddox 2	07/14/18	07/17/18	2.73	GENERATOR BREAKER TRIP COIL FAILED.
1511	Nichols 2	07/15/18	07/15/18	0.03	North Circulation Pump tripped due to water spraying into the motor. The water came from the auxiliary cooling water line to the circulating water pump bearing.
1512	Plant X 4	07/15/18	07/15/18	0.16	Drum level trip.
1513	Plant X 4	07/15/18	07/16/18	0.15	Drum level trip.
1514	Plant X 4	07/15/18	07/16/18	0.20	High load suspect in boiler swings causing drum level trip.
1515	Cunningham 3	07/16/18	08/01/18	5.97	Air flow and blade path temperature issue causing reduced load.
1516	Harrington 2	07/16/18	07/17/18	0.06	Unit was derated due to high baghouse differential pressure. Baghouse compartments had to be removed from service to replace failed bags.
1517	Plant X 2	07/16/18	07/17/18	0.27	Main gas Regulator restricted flow.
1518	Harrington 1	07/18/18	07/18/18	0.02	Unit was derated due to high exit gas temperatures. This condition causes the opacity to spike and high average readings.
1519	Plant X 2	07/18/18	07/18/18	0.46	Maintenance outage to repair main gas regulator.
1520	Harrington 1	07/20/18	07/20/18	0.02	Unit was derated to prevent opacity exceedances.
1521	Harrington 2	07/21/18	07/22/18	0.10	Unit was derated due to baghouse compartments taken out of service to make repairs to failed bags.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1522	Harrington 1	07/22/18	07/22/18	0.01	Unit was derated to prevent opacity exceedances. The boiler exit temps were above 360 degrees. When this happens the ash becomes less reactive and causes this.
1523	Jones 2	07/23/18	07/23/18	0.02	Turbine drain valves did not work in auto. Derate was taken to make repair.
1524	Cunningham 2	07/24/18	07/26/18	1.46	Inspect Turbine Trip Mechanism.
1525	Cunningham 4	07/26/18	07/26/18	0.02	Lightning tripped unit.
1526	Harrington 2	07/27/18	07/27/18	0.01	Unit was derated due to high baghouse differential Pressure. Baghouse compartment taken out of service due to bag failures.
1527	Nichols 3	07/27/18	07/27/18	0.57	The south circulating water piping feeding into the condenser waterbox began to leak due to severe wall thinning at the waterbox inlet flange.
1528	Cunningham 4	07/28/18	07/28/18	0.01	High Lube oil cause unit to trip.
1529	Cunningham 3	07/30/18	08/01/18	2.17	Repair inlet guide vanes for better air flow.
1530	Harrington 2	07/31/18	07/31/18	0.05	Unit was derated due to high baghouse differential pressure. The high differential pressure was caused by having compartments out of service to replace failed bags.
1531	Cunningham 3	08/01/18	12/31/18	152.04	Compressor damage, requires major overhaul to repair.
1532	Jones 2	08/01/18	08/02/18	0.07	Drains pump repaired.
1533	Jones 3	08/01/18	08/01/18	0.23	Startup failure due to no differential pressure signal on exciter blower.
1534	Harrington 2	08/02/18	08/02/18	0.03	Unit was derated due to high baghouse differential pressure. The high differential pressure is due to having a compartment(s) out of service to replace failed bags.
1535	Cunningham 4	08/03/18	08/03/18	0.23	Inspect Inlet Guide Vanes For Loose Hardware.
1536	Plant X 3	08/04/18	08/24/18	20.33	Maintenance Outage for boiler hotspots.
1537	Tolk 1	08/04/18	08/04/18	0.12	South Auxiliary Cooling Water Pump tripped and would not restart electricians called and checking it out will be limited on load with one Auxiliary Cooling Water pump for cooling.
1538	Tolk 2	08/05/18	08/05/18	0.03	East Induced Draft Fan trip - outlet damper not operating properly, had to manually operate damper. Unit can return to Automatic Generator Control with a 406 net MW limit.
1539	Jones 4	08/06/18	08/07/18	1.25	Repair Gas Separator Leak.
1540	Jones 2	08/08/18	08/11/18	3.68	Gas firing valve failure.
1541	Cunningham 1	08/09/18	08/14/18	5.75	Repair economizer tube leak.
1542	Cunningham 2	08/09/18	08/09/18	0.06	Reduce load to change out electronics on extraction valves controller.
1543	Plant X 2	08/09/18	08/25/18	16.04	Boiler waterwall tube leak.
1544	Jones 1	08/10/18	08/12/18	0.12	Leak in High Pressure Feedwater Heater #1 Seal Weld on Head.
1545	Nichols 2	08/11/18	08/11/18	0.40	Auxiliary Cooling Water to Generator Gas Cooler sprung a leak. Outage was taken to shut Auxiliary Cooling Water supply off to repair leak.
1546	Plant X 1	08/12/18	08/12/18	0.14	Gas Firing valve control failed.
1547	Jones 1	08/13/18	08/19/18	0.48	Leak in High Pressure Feedwater Heater #1 Seal Weld on Head.
1548	Harrington 3	08/14/18	08/17/18	3.30	Unit was removed from service to make repairs to a water wall tube leak.
1549	Jones 2	08/14/18	08/14/18	0.00	Bank of fans failed on main power transformer. Needed to derate to lower oil temperature, while repairs were made on bank of fans.
1550	Harrington 2	08/15/18	08/15/18	0.02	Unit was derated due to high baghouse pressure. Compartments out of service to replace failed bags.
1551	Jones 2	08/15/18	08/16/18	1.35	Gas firing valve control issues.
1552	Harrington 1	08/18/18	08/23/18	4.90	Unit was removed from service to make repairs to a water wall tube failure.
1553	Jones 1	08/20/18	08/20/18	0.63	Fix leak on High Pressure Feedwater Heater #1.
1554	Jones 1	08/24/18	08/28/18	1.29	Boiler Feedpump suction strainers limiting flow.
1555	Cunningham 4	08/27/18	08/28/18	1.25	Replace inlet air filters.
1556	Harrington 3	08/27/18	08/27/18	0.24	Generator voltage regulator would not go in to service.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1557	Cunningham 4	08/28/18	08/28/18	0.12	Turning gear motor failed to start.
1558	Harrington 1	08/28/18	08/28/18	0.37	Tripped on low drum level.
1559	Jones 1	08/28/18	08/28/18	0.53	Unit will need to come offline to clean Boiler Feedpump suction strainers
1560	Harrington 2	08/29/18	08/30/18	1.14	Unit was removed from service to replace a failed valve that is used for boiler circulating pump purge.
1561	Harrington 2	08/30/18	08/30/18	0.04	The unit experienced an ash clinker falling that caused a change in furnace airflow. Operations removed the air and fuel for 1 hour to prevent an opacity recordable event.
1562	Jones 2	08/30/18	08/31/18	1.68	Leak in main circulating water piping.
1563	Maddox 2	08/30/18	08/30/18	0.16	Replaced roof exhaustor motor.
1564	Jones 1	09/01/18	09/01/18	0.02	Turbine oil leak.
1565	Harrington 2	09/02/18	09/02/18	0.17	Unit tripped due to low instrument air pressure. An Air dryer to failed with the backup dryer out of service and the back up instrument air compressor did not auto start due to an compressor error.
1566	Jones 1	09/04/18	09/05/18	0.28	Not getting enough effluent from the city. Need to derate to conserve water.
1567	Jones 2	09/05/18	09/05/18	0.18	Low flow of effluent from the city. Plant needed to increase lagoon level.
1568	Tolk 2	09/05/18	09/05/18	0.26	Loss of "A" buss leaving only one primary air fan available.
1569	Nichols 1	09/06/18	09/06/18	0.54	Leak in economizer header inlet tubes was repaired.
1570	Plant X 1	09/06/18	09/07/18	0.65	East Boiler feed pump recirculation pipe failed.
1571	Harrington 2	09/07/18	09/07/18	0.05	Unit was derated to relieve baghouse differential pressure. Increased differential pressure resulted when several baghouse compartments were out of service at the same time due to bag failures.
1572	Harrington 3	09/07/18	11/04/18	57.93	Planned Major Outage.
1573	Harrington 1	09/08/18	09/09/18	0.01	Unit Electrostatic Precipitator was fouled.
1574	Harrington 2	09/08/18	09/08/18	0.36	Electrician walking down and hanging LOTO (lock out/tag out) tags went to the automatic voltage regulator on the wrong unit and cleared the power to Field Breaker 41.
1575	Maddox 1	09/08/18	09/08/18	0.05	Tripped on Startup due to high drum level.
1576	Plant X 4	09/08/18	09/21/18	13.00	Planned outage for superheat and reheat valve repair.
1577	Cunningham 1	09/10/18	09/24/18	13.46	Air flow pressure switch failed.
1578	Maddox 3	09/10/18	09/10/18	0.00	TEST RUN AFTER OVERHAUL.
1579	Maddox 3	09/10/18	09/10/18	0.02	Testing.
1580	Maddox 3	09/10/18	09/11/18	0.48	TEST RUN AFTER OVERHAUL.
1581	Cunningham 4	09/12/18	09/14/18	2.26	Excitation failure, brushless exciter, two diodes need to be replaced.
1582	Harrington 1	09/12/18	09/12/18	0.72	Unit was removed from service to determine why the Electrostatic Precipitator was not performing as designed.
1583	Jones 3	09/12/18	09/12/18	0.13	Compressor water wash.
1584	Jones 4	09/12/18	09/12/18	0.19	Compressor water wash.
1585	Harrington 1	09/13/18	09/15/18	2.28	Cleaning the Electrostatic Precipitator.
1586	Jones 2	09/14/18	09/14/18	0.25	Loss of control power on normal source transformer breaker.
1587	Jones 2	09/14/18	09/14/18	0.08	Normal source transformer differential 86N relay. Normal source transformer blew out oil.
1588	Nichols 1	09/14/18	09/14/18	0.77	Turbine stop valves before seat drain line sprung a leak during startup operations. Compromised pipe and valve were replaced.
1589	Maddox 2	09/15/18	09/15/18	0.19	Lube oil pump coupling broke. Replaced coupling.
1590	Jones 4	09/18/18	09/19/18	1.64	PM's and Gas Calibration.
1591	Cunningham 4	09/20/18	09/20/18	0.05	Oil cooler bypass stuck open.
1592	Jones 3	09/20/18	09/21/18	1.65	Preventive Maintenance & Gas Calibration.
1593	Maddox 1	09/21/18	09/21/18	0.13	Hot Reheat header seal box skin leak.
1594	Maddox 1	09/21/18	12/22/18	91.90	Hot Reheat header seal box skin leak.
1595	Nichols 3	09/21/18	09/21/18	0.02	The unit was derated due to problems with the Forced Draft Fan variable frequency drive cooling system.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1596	Plant X 4	09/21/18	10/07/18	17.00	Substation Outage.
1597	Harrington 2	09/22/18	09/23/18	0.07	FA280 Breaker tripped on over current causing the loss of 1/2 of the Cooling Tower fans.
1598	Tolk 1	09/22/18	11/14/18	53.70	Low Pressure Turbine with/bore, Throttle/Intercept Valves, Boiler, Mercury and Air Toxic Standards Capital Replaced Burner Assembly, Submerged Scraper Conveyor Chain/Trough.
1599	Jones 1	09/23/18	09/23/18	0.15	Not getting enough effluent from the city. Need to derate to conserve water.
1600	Jones 2	09/23/18	09/23/18	0.46	Lagoon level low. Chlorides high on cooling towers.
1601	Cunningham 1	09/24/18	10/05/18	11.72	Planned outage
1602	Jones 1	09/24/18	09/24/18	0.10	Lagoon level low, chlorides high on cooling towers.
1603	Jones 2	09/24/18	09/24/18	0.10	Lagoon level low. Chlorides high on cooling towers.
1604	Jones 3	09/24/18	09/29/18	5.45	Install pig launcher/receiver barrel on Red River gas line.
1605	Jones 4	09/24/18	09/29/18	5.45	Install pig launcher/receiver on Red River gas line.
1606	Jones 1	09/25/18	09/25/18	0.14	Not getting enough effluent from the city. Lagoon level low.
1607	Jones 2	09/25/18	09/25/18	0.11	Low flow of effluent from the city. Plant needed to increase lagoon level.
1608	Nichols 3	09/26/18	09/26/18	0.69	Unit brought offline for water wall tube leak.
1609	Nichols 1	09/28/18	10/04/18	6.14	Unit entered into immediate outage due to loss of Automatic Voltage Regulator and inability to manually control machine voltage.
1610	Plant X 3	09/30/18	09/30/18	0.50	Repair economizer tube leak.
1611	Jones 3	10/01/18	10/01/18	0.28	Install pig launcher/receiver barrel on Red River gas line.
1612	Jones 3	10/02/18	10/02/18	0.15	Install pig launcher/receiver barrel on Red River gas line.
1613	Plant X 3	10/02/18	10/03/18	0.84	Voltage regulator auto control failure.
1614	Cunningham 2	10/03/18	10/13/18	10.12	Water wall tube leak in furnace.
1615	Cunningham 4	10/03/18	10/03/18	0.15	Shut unit to add SF6 gas in L915 breaker.
1616	Harrington 1	10/03/18	10/03/18	0.01	Unit tripped on reverse power when the boiler fuel rejected to manual when igniters were taken out of service and the turbine rejected to turbine follow and closed the governor valves.
1617	Jones 1	10/04/18	10/05/18	0.04	Forced Draft fan motor winding temperature alarm due to Engineering and Construction testing.
1618	Jones 3	10/04/18	10/04/18	0.01	Auto unload due to both collector fans failing.
1619	Harrington 1	10/06/18	10/07/18	0.02	Unit was derated to prevent opacity exceedances because we lost the first 2 fields of transformer/rectifier sets.
1620	Harrington 1	10/07/18	10/07/18	0.02	Unit was derated to prevent opacity exceedances.
1621	Harrington 1	10/07/18	10/08/18	0.06	Unit was derated to prevent opacity exceedances due to the Electrostatic Precipitator being fouled.
1622	Harrington 1	10/08/18	10/08/18	0.01	Unit was derated due to the East Induced Draft fan had higher than normal vibration on the inboard Fan and Motor bearings.
1623	Harrington 1	10/08/18	10/09/18	0.12	Unit tripped due to a high level in the Feed pump seal water drain vessel. The valving for the steam supply to the sump pump was not valved in.
1624	Jones 2	10/08/18	10/11/18	3.51	Removal of normal source transformer.
1625	Cunningham 2	10/13/18	11/02/18	19.68	Complete spring 2018 outage work, boiler repairs, balance of plant bearing inspections, turbine control valve bushings.
1626	Harrington 1	10/16/18	10/18/18	0.20	Unit was derated to control opacity.
1627	Harrington 2	10/16/18	10/16/18	0.01	Unit was derated to remove baghouse compartments out of service due to failed bags. This causes a higher than normal baghouse pressure difference.
1628	Jones 4	10/16/18	10/16/18	0.44	Static frequency converter relay would not close.
1629	Harrington 1	10/18/18	10/18/18	0.03	Unit was derated to control Opacity and prevent an opacity exceedance.
1630	Harrington 1	10/18/18	10/19/18	0.15	Unit was derated to perform an unscheduled dead rap.
1631	Harrington 1	10/19/18	10/19/18	0.02	Unit was derated to control opacity emissions. The Electrostatic Precipitator is fouled.

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(a) Total Maintenance by Operating Unit for Four Years Prior to the Test Year Period by Month

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1632	Harrington 2	10/19/18	10/19/18	0.01	Unit was derated because of high baghouse differential pressure resulting from baghouse compartments being out of service for bag replacement.
1633	Jones 1	10/19/18	10/19/18	0.05	Voltage regulator tripping issues.
1634	Tolk 2	10/19/18	10/23/18	4.00	Reheat tube leak.
1635	Harrington 1	10/20/18	10/20/18	0.02	Unit was derated to control opacity. Unit Electrostatic Precipitator is fouled.
1636	Harrington 1	10/23/18	10/23/18	0.04	Unit was derated to control opacity. The Electrostatic Precipitator is fouled.
1637	Harrington 1	10/23/18	10/23/18	0.00	Unit was derated to control opacity. The Electrostatic Precipitator is fouled.
1638	Cunningham 4	10/24/18	12/10/18	46.98	Generator Cooling fan blade Broke.
1639	Harrington 1	10/25/18	10/27/18	2.48	Unit was removed from service to make repairs to 3 low temperature superheated tubes in the penthouse.
1640	Jones 2	10/26/18	10/26/18	0.19	Main gas pressure transmitter faulted, which showed low flow of gas. This caused the main gas firing valve to fully open. This altered Fuel/Air ratios which caused the unit to trip.
1641	Jones 4	10/27/18	10/27/18	0.04	Collector blower failure #1.
1642	Plant X 4	10/27/18	10/27/18	0.04	Boiler Feed Pump Packing Failure, removed pump from service.
1643	Plant X 4	10/27/18	10/27/18	0.03	Limited to 1 Feed Pump due to packing failure.
1644	Plant X 4	10/27/18	10/28/18	0.70	Offline to repair Boiler Feed Pump packing.
1645	Harrington 1	11/01/18	11/02/18	0.04	Unit was derated to prevent opacity exceedances.
1646	Cunningham 2	11/02/18	11/26/18	24.16	Boiler buck stay repairs.
1647	Jones 3	11/04/18	11/09/18	5.73	Borescope Inspection.
1648	Harrington 3	11/05/18	11/05/18	0.03	Unit was removed from service to perform an electrical and mechanical overspeed test.
1649	Jones 1	11/07/18	11/07/18	0.22	Lagoon level low, chlorides high on cooling towers.
1650	Jones 2	11/07/18	11/07/18	0.22	Lagoon level low. Chlorides high on cooling towers.
1651	Harrington 1	11/08/18	11/09/18	0.10	Unit was derated to eliminate high opacity events and prevent an opacity violation.
1652	Harrington 2	11/08/18	11/08/18	0.04	Unit was derated because of high baghouse differential pressure resulting from baghouse compartments being out of service for bag replacement.
1653	Harrington 3	11/08/18	11/09/18	1.10	Unit was removed from service to clean out economizer hoppers from contractor materials left in this section after a major outage.
1654	Harrington 1	11/09/18	11/09/18	0.10	Unit was derated to prevent high opacity events and to prevent an opacity violation.
1655	Jones 1	11/09/18	11/10/18	0.09	High Pressure heaters bypassed for leak on #1 High Pressure heater.
1656	Harrington 1	11/10/18	11/14/18	3.49	Unit was in a Reserved Shutdown when operations discovered a tube leak that would not allow the unit to return to line without repairs.
1657	Jones 1	11/10/18	11/11/18	1.26	Repair #1 High Pressure heater leak.
1658	Maddox 2	11/10/18	11/10/18	0.15	Water Injection line leaking, replaced line.
1659	Tolk 2	11/10/18	11/10/18	0.06	Unit trip on flame failure.
1660	Tolk 2	11/10/18	11/10/18	0.02	Unit trip on flame failure.
1661	Jones 4	11/11/18	11/17/18	6.38	Borescope Inspection.
1662	Plant X 3	11/12/18	11/14/18	2.50	Economizer tube leak repair.
1663	Harrington 2	11/13/18	11/13/18	0.06	Unit was derated because of high baghouse differential pressure resulting from baghouse compartments being out of service for bag replacement.
1664	Tolk 2	11/13/18	11/13/18	0.02	Lost Start up breaker TC200 then lost power to C Buss.
1665	Nichols 1	11/14/18	11/14/18	0.34	Unit was in a maintenance outage to repair the voltage regulator.
1666	Tolk 1	11/14/18	11/14/18	0.14	Low Pressures with/bore, Throttle/Intercept Valves, Boiler, Mercury and Air Toxic Standards Capital Replaced Burner Assembly, Submerged Scraper Conveyor Chain/Trough.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1667	Tolk 1	11/14/18	11/16/18	1.29	Low Pressures with/bore, Throttle/Intercept Valves, Boiler, Mercury and Air Toxic Standards Capital Replaced Burner Assembly, Submerged Scraper Conveyor Chain/Trough.
1668	Harrington 2	11/16/18	11/16/18	0.03	Unit was derated because of high baghouse differential pressure resulting from baghouse compartments being out of service for bag replacement.
1669	Harrington 2	11/17/18	11/18/18	0.15	Unit was derated due to high baghouse differential pressure. The baghouse had 2 compartments out of service to perform a complete bag change in one on the compartments.
1670	Harrington 3	11/18/18	11/19/18	0.90	Unit was removed from service to clean debris out of the economizer hoppers left from the economizer retube during the major outage.
1671	Harrington 1	11/19/18	11/20/18	0.05	Unit was derated to control opacity due to a fouled Electrostatic Precipitator.
1672	Harrington 2	11/19/18	11/19/18	0.04	Unit was derated due to high baghouse differential pressure caused by having 2 compartments out of service to replace failed bags.
1673	Tolk 1	11/19/18	11/19/18	0.02	Hot pump bearings on South main circulating.
1674	Harrington 2	11/20/18	11/20/18	0.02	Unit was derated due to high baghouse differential pressure. This was caused from baghouse compartments being out of service to replace failed bags.
1675	Maddox 2	11/22/18	12/06/18	13.99	Maddox 2 interposing relay between Distributed Control System and 52G generator breaker failed.
1676	Tolk 1	11/24/18	11/26/18	1.58	Economizer tube leak.
1677	Plant X 1	11/26/18	12/09/18	14.00	Planned Outage - Replaced Boiler Analyzers, Clean lube oil cooler.
1678	Plant X 2	11/26/18	12/09/18	14.00	Planned Outage - Replaced Drum Level Indicator, Replaced Blowdown Valve, Replaced Water Analyzers.
1679	Plant X 3	11/26/18	12/09/18	14.00	Planned Outage - Replaced Boiler Analyzers, Replaced Superheat/Reheat Spray Block Valve, Inspect furnace, boiler tube repair, hot spot repair.
1680	Cunningham 2	11/27/18	11/27/18	0.06	Post outage testing, set low speed stop, high speed stop, and perform overspeed trip.
1681	Jones 1	11/27/18	11/29/18	2.60	Installation of backflow preventer on potable water supply.
1682	Jones 2	11/27/18	11/29/18	2.55	Installation of backflow preventer on potable water supply.
1683	Maddox 3	11/27/18	11/28/18	1.03	Replacing gas valve.
1684	Jones 4	11/28/18	11/28/18	0.09	Offline due to NOx ¹ emissions.
1685	Cunningham 2	12/01/18	12/02/18	0.95	Distributed Control System computer Control Processor failure. Replaced Control Processor.
1686	Jones 1	12/03/18	12/03/18	0.21	Derate to makeup condensate due to issues with the Reverse Osmosis.
1687	Jones 2	12/03/18	12/03/18	0.14	Derate to catch up on condensate water due to Reverse Osmosis system out of service.
1688	Jones 4	12/03/18	12/03/18	0.25	Offline due to NOx ¹ emissions.
1689	Nichols 2	12/03/18	12/03/18	0.67	Maintenance Outage to Repair Leaking Boiler Drum Safety.
1690	Harrington 2	12/04/18	12/05/18	0.10	Unit had to be derated due to high baghouse differential pressure. The unit had 2 baghouse compartments out of service to replace failed bags.
1691	Jones 1	12/04/18	12/04/18	0.54	Derate to makeup condensate due to issues with the Reverse Osmosis.
1692	Jones 2	12/04/18	12/04/18	0.21	Derate to catch up on condensate water due to Reverse Osmosis system out of service.
1693	Cunningham 2	12/06/18	12/14/18	7.55	Boiler Tube Rupture that causing unit to come offline.
1694	Tolk 1	12/06/18	12/06/18	0.13	"A" feeder - foreign object on belt caused feeder to trip.
1695	Harrington 1	12/07/18	12/10/18	0.47	Unit was derated to prevent opacity violations. Electrostatic Precipitator is dirty.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ²	Reason for Outage
1696	Harrington 2	12/09/18	12/09/18	0.02	Unit was derated because of high baghouse differential pressure. The baghouse had 2 compartments out of service to replace failed bags.
1697	Cunningham 4	12/10/18	12/11/18	0.85	Unit tripped Due to Stator Spread High: Bad Resistance Temperature Detector.
1698	Harrington 1	12/10/18	12/10/18	0.09	This derate as for an unscheduled derate to dead rap the Electrostatic Precipitator for Mercury and Air Toxic Standards testing.
1699	Harrington 2	12/10/18	12/10/18	0.02	Unit was derated to reduce baghouse differential pressure. This is caused from baghouse compartment(s) being out of service to replace failed bags.
1700	Nichols 1	12/10/18	12/12/18	1.56	Unit was in a maintenance outage to repair an economizer tube leak.
1701	Tolk 1	12/11/18	12/11/18	0.13	A,B & C mills are all unavailable - overhaul.
1702	Plant X 3	12/12/18	12/12/18	0.04	Due to loss of East Forced Draft fan.
1703	Plant X 3	12/12/18	12/31/18	4.84	Derate to loss of east Forced Draft fan motor.
1704	Harrington 3	12/13/18	12/15/18	2.57	Unit was removed from service to make repairs to a water wall tube leak.
1705	Maddox 2	12/14/18	12/14/18	0.07	Trip due to blade path temperature spread.
1706	Harrington 1	12/15/18	12/16/18	0.17	Unit was derated to prevent opacity exceedances. This is caused from a dirty Electrostatic Precipitator
1707	Harrington 2	12/15/18	12/15/18	0.02	Unit was derated to reduce the baghouse differential pressure. This is caused from having baghouse compartments out of service to replace failed bags.
1708	Cunningham 1	12/16/18	12/23/18	6.47	Repair safety relief valves, replace south drum vent valves, replace north superheat cross over link vent valves.
1709	Harrington 2	12/17/18	12/17/18	0.02	Unit was derated due to high differential pressure on the baghouse. we had 2 compartments out of service to replace failed bags.
1710	Nichols 1	12/17/18	12/21/18	4.35	Unit was in a maintenance outage for substation work on B903. The breaker needed to be worked to allow easier operation.
1711	Plant X 3	12/18/18	12/18/18	0.04	Outside of Management Control - Transmission working on X931.
1712	Tolk 1	12/19/18	12/21/18	1.26	C Mill out of service due to mechanical problems, A & B mill unavailable due to gas restraint - upper mill to be started before reaching 200 MW.
1713	Tolk 2	12/19/18	12/19/18	0.92	Gas is currently unavailable. The main gas RCV (remote control valve) was closed by Xcel Gas Control Center Golden by our request. Qualified team member to arrive later this afternoon to open valve.
1714	Quay County 1	12/20/18	12/20/18	0.13	Outage taken to replace the combustion turbine starting diesel engine radiator.
1715	Maddox 1	12/22/18	12/31/18	1.45	During planned outage inspection (this was part of outage scope) found west condensate pump wore out. Pulled and sent off for pump replacement.
1716	Maddox 2	12/23/18	12/23/18	0.04	Vibration hardware tripped Maddox 2, reset and restarted Maddox 2.
1717	Harrington 1	12/24/18	12/24/18	0.06	Unit was derated due to 2 coal mills/feeders unavailable.
1718	Plant X 3	12/24/18	12/24/18	0.36	Turbine thrust position high trip.
1719	Nichols 3	12/27/18	12/27/18	0.50	Unit in outage to repair boiler safety.
1720	Harrington 1	12/29/18	12/29/18	0.49	Unit was removed from service due to inaccurate emissions data gathering.

¹ NOx-Nitrogen dioxide and nitric oxide are referred to together as oxides of nitrogen (NOx)
O2 - Oxygen

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(b) Total Maintenance by Operating Unit for Test Year Period (April 1, 2018 - March 31, 2019) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ¹	Reason for Outage
1	Cunningham 3	01/01/19	05/21/19	140.53	Compressor damage, requires major overhaul to repair.
2	Cunningham 4	01/01/19	01/03/19	2.25	Main firing valve actuator failure. Replaced actuator.
3	Harrington 1	01/01/19	01/02/19	1.51	Unit was removed from line due to inaccurate emissions data.
4	Maddox 1	01/01/19	03/11/19	10.54	During planned outage inspection (this was part of outage scope) found west condensate pump wore out. Pulled and sent off for pump replacement.
5	Plant X 3	01/01/19	01/09/19	2.13	Derate do to loss of East Forced Draft fan motor.
6	Harrington 2	01/02/19	01/02/19	0.02	Unit was derated due to high baghouse differential pressure. Baghouse had 2 compartments out of service to replace failed bags.
7	Plant X 3	01/02/19	01/02/19	0.05	Turbine thrust position high trip.
8	Harrington 2	01/03/19	01/03/19	0.03	Unit was derated due to high baghouse differential pressure. Compartment 22 was removed from service to replace failed bags.
9	Tolk 1	01/03/19	01/09/19	6.14	Boiler tube leak in the Reheat section.
10	Cunningham 2	01/04/19	01/23/19	19.44	Boiler water wall tube leak.
11	Harrington 1	01/04/19	01/04/19	0.43	Changed out a Main Boiler Feed Pump (MBFP) recirculation check valve and a Deaerator (DA) recirculation valve.
12	Harrington 3	01/05/19	01/05/19	0.01	Unit was derated due to high baghouse differential pressure. Compartments 14 and 11 out at the same time to replace failed bags.
13	Plant X 2	01/05/19	01/10/19	5.17	Boiler tube leak.
14	Jones 2	01/07/19	01/08/19	1.19	Left side governor valve actuator electrohydraulic leak.
15	Harrington 1	01/08/19	01/08/19	0.40	Generator Step-up Transformer cooling pump issues.
16	Cunningham 4	01/11/19	01/11/19	0.25	Distributed Control System (DCS) Server - Cleaning to remove dust buildup.
17	Nichols 3	01/12/19	01/17/19	1.22	Unit derated to 180 net MWs due to boiler feed pump auxiliary oil pump motor failure.
18	Harrington 1	01/13/19	01/13/19	0.02	Unit was derated to control high opacity readings.
19	Tolk 1	01/13/19	01/18/19	5.59	Boiler reheat tube inspection.
20	Harrington 3	01/14/19	01/14/19	0.02	Unit was derated due to high baghouse differential pressure. The high differential pressure was caused from 4 baghouse compartments being out of service to replace failed bags.
21	Jones 3	01/14/19	01/14/19	0.07	Replace filters in control oil system.
22	Harrington 1	01/15/19	01/15/19	0.01	Unit was derated to control opacity. The high opacity is due to a foul Electrostatic Precipitator.
23	Harrington 1	01/15/19	01/25/19	9.95	Unit was removed from service to inspect the constant oil preservation system (COPs) tank and assess the Generator Step-up Transformer oil.
24	Plant X 2	01/15/19	06/07/19	142.52	Generator rotor collector brushes were arcing causing the voltage regulator to act erratically.
25	Harrington 2	01/16/19	01/16/19	0.01	Unit was derated due to high baghouse pressure with compartments out of service.
26	Jones 1	01/16/19	01/17/19	0.68	Repair 7th floor backpass casing.
27	Harrington 3	01/17/19	01/23/19	5.49	Unit was removed from service to clear refractory and other trash from the economizer ash removal hoppers. Also inspected the cooling tower circulation system.
28	Jones 4	01/18/19	01/18/19	0.12	Outage to inspect exhaust section for loose material.
29	Maddox 3	01/18/19	01/18/19	0.03	Blown fuse on Turning Gear Hand-Off-Auto (HOA) switch.

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(b) Total Maintenance by Operating Unit for Test Year Period (April 1, 2018 - March 31, 2019) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ¹	Reason for Outage
30	Jones 2	01/19/19	04/06/19	77.04	Generator, Reheat Stop/Intercept/Governor Valves, Boiler, Boiler Acidizing. Capital: Replace Hot Reheat Pipe, Cooling Circulating piping Liner, Rewind Exciter Rotor, Upgrade Foxboro fieldbus modules (FBMs).
31	Cunningham 4	01/21/19	01/21/19	0.18	Inlet Guide Vanes (IGVs) actuator calibration.
32	Maddox 1	01/21/19	01/22/19	0.29	Replacing cooling tower fan motors and gearboxes (capital project).
33	Harrington 2	01/22/19	01/23/19	0.15	East Induced Draft Fan lube oil system pressure could not be maintained due to dirty in line filters. The West Forced Draft Fan had the same issues.
34	Cunningham 4	01/23/19	01/23/19	0.17	Main Firing Valve failure.
35	Harrington 2	01/23/19	01/23/19	0.85	Unit was started up with the decision to not have a main circulator being in service and ruptured the Low Pressure Shell Diaphragm.
36	Harrington 2	01/23/19	01/23/19	0.09	Unit was unable to start up because the Center and South Main circulators would not start.
37	Cunningham 2	01/25/19	01/25/19	0.01	High burner pressure caused unit to trip.
38	Cunningham 2	01/25/19	01/25/19	0.00	Operator green flagged switch instead of red flagging switch.
39	Cunningham 2	01/25/19	01/25/19	0.00	Operator green flagged switch instead of red flagging switch.
40	Cunningham 2	01/25/19	01/25/19	0.01	South Boiler Feed Pump 4160V Breaker Microswitch failed.
41	Harrington 1	01/25/19	01/25/19	0.02	Turbine tripped on high drum level.
42	Harrington 1	01/25/19	01/25/19	0.28	Generator breaker tripped from Trip Circuit Supervision (TCS) and would not reclose. There was a contactor in the breaker panel that had to be replaced.
43	Cunningham 4	01/28/19	01/28/19	0.17	Replace Hydraulic System oil filters.
44	Maddox 1	01/28/19	01/28/19	0.03	Boiler pressure sagged during start-up and tripped the unit on reverse power .
45	Cunningham 2	01/29/19	01/29/19	0.07	Calibrate the South Boiler Feed Pump Oil Pressure Switch, adjusted Boiler Feed Pump (BFP) oil pump pressure relief setting.
46	Harrington 1	01/29/19	01/29/19	0.06	Unit was derated to control opacity due to a fouled Electrostatic Precipitator.
47	Harrington 1	01/29/19	01/29/19	0.02	Unit was derated to control opacity due to a fouled Electrostatic Precipitator.
48	Harrington 2	01/30/19	01/30/19	0.02	Unit was derated due to high baghouse differential pressure when compartments were removed from service to replace failed bags.
49	Harrington 2	2/1/2019	2/1/2019	0.02	Unit was derated due to high baghouse differential pressure when compartments were removed from service to replace failed bags.
50	Cunningham 1	2/4/2019	2/8/2019	4.30	Maintenance Outage work on High Pressure drains pump, Air Preheater Oil, Air Preheater motor, condensate pump breaker, and other electric needs.
51	Cunningham 2	2/4/2019	2/4/2019	0.10	Broken pipe nipple on fuel gas system.
52	Jones 3	2/4/2019	2/6/2019	2.19	Emissions Permit Compliance.
53	Tolk 1	2/5/2019	2/6/2019	1.32	Reheat tube replacement.
54	Maddox 3	2/6/2019	2/6/2019	0.06	Attempt to restart for over speed testing. Voltage regulator caused field breaker to trip after generator breaker opens, field breaker won't reset.
55	Maddox 3	2/6/2019	2/7/2019	1.05	Voltage regulator caused field breaker to trip after generator breaker opens, field breaker won't reset.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ¹	Reason for Outage
56	Cunningham 4	2/7/2019	2/7/2019	0.45	Replace Uninterruptible Power Supply (UPS) power source.
57	Harrington 1	2/8/2019	2/8/2019	0.03	Unit was derated due to high vibration on the #1 bearing. The high vibrations was caused by the #4 Governor Valve (GV) not operating as designed.
58	Harrington 1	2/8/2019	2/9/2019	0.05	Unit was derated because the #4 Governor Valve (GV) was removed from service due to not operating as designed and causing a high vibration on #1 bearing.
59	Maddox 3	2/8/2019	2/8/2019	0.23	Voltage regulator caused field breaker to trip after generator breaker opens, field breaker won't reset.
60	Harrington 2	2/9/2019	02/15/19	6.52	Unit was removed from service for a mini outage.
61	Jones 4	2/9/2019	2/9/2019	0.08	Outage to inspect exhaust section for loose material.
62	Cunningham 2	02/10/19	02/17/19	7.10	Waterwall Tube leak.
63	Maddox 3	02/13/19	02/14/19	1.36	Replace Speed probe.
64	Plant X 3	02/13/19	02/16/19	2.82	Generator Viscous seal inspection/repair.
65	Harrington 1	02/15/19	02/16/19	0.03	Unit was derated to prevent Opacity exceedances. Electrostatic precipitator is fouled.
66	Tolk 2	02/15/19	02/16/19	0.04	Reducing pressure and load due to SiO2 contamination in the boiler. Will remain here till we are able to clean up the boiler. Suspected silica contamination from anodamine injection.
67	Harrington 1	02/16/19	02/16/19	0.05	Unit was derated to prevent opacity exceedances. Electrostatic precipitator is fouled.
68	Harrington 2	02/17/19	02/17/19	0.16	Unit missed on line schedule due to the Automatic Voltage Regulator (AVR) not operating as designed.
69	Harrington 2	02/17/19	02/17/19	0.07	Unit was derated to "season" the new bags in the 5 baghouse compartments we rebagged.
70	Harrington 2	02/17/19	02/18/19	0.42	Unit tripped due to a dirty contact in the Automatic Voltage Regulator (AVR) not showing the AVR field breaker closed.
71	Harrington 2	02/18/19	02/23/19	0.45	Unit was derated to "season" the new bags put in 6 baghouse compartments.
72	Harrington 1	02/19/19	02/19/19	0.06	Unit was derated to prevent opacity violations.
73	Maddox 2	02/19/19	02/19/19	0.05	Bleed Valve issue.
74	Plant X 3	02/19/19	02/28/19	9.32	Forced outage due to waterwall tube leak.
75	Harrington 3	02/21/19	02/21/19	0.03	Unit was derated because there was only one Main Circulator in service. The South was out of service to change the oil and the North would not start when trying to swap it with the south one.
76	Harrington 1	02/23/19	05/22/19	88.69	Major Outage on Boiler, Electrostatic Precipitator, Turbine, and Auxiliaries.
77	Harrington 3	02/24/19	02/24/19	0.03	Unit was derated when we tripped P buss Normal Source breaker. We were in the process of using Harrington 3 for Harrington 1 Station Power while the Start-up transformers were out of service.
78	Plant X 4	02/24/19	02/24/19	0.02	High Pressure Heater Relief lifted at Full load pressures, derate to lower boiler pressure.
79	Plant X 4	02/25/19	02/27/19	0.27	High Pressure Heater Relief lifted at Full load pressures, derate to lower boiler pressure.
80	Maddox 1	02/26/19	02/26/19	0.26	Black Plant 5 year and 3 year test, EOP-005.
81	Maddox 2	02/26/19	02/26/19	0.26	Black Plant 5 year and 3 year test, EOP-005.
82	Maddox 2	02/26/19	02/28/19	1.83	After black plant testing Maddox 2 was switched back from "black" to normal power. During this time Maddox 2 was not on turning gear but was hot. Maddox 2 needs 48 hours of turning gear time before it should be available again.

Southwestern Public Service Company

Power Plant Maintenance Information

(b) Total Maintenance by Operating Unit for Test Year Period (April 1, 2018 - March 31, 2019) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ¹	Reason for Outage
83	Maddox 3	02/26/19	02/26/19	0.26	5 year and 3 year black plant testing, EOP-005.
84	Maddox 1	02/27/19	3/1/2019	0.97	Boiler Feed Pump lube oil pump pressure switch caused 4160 breaker to not close.
85	Nichols 1	02/27/19	02/27/19	0.59	Nichols 1 unit was in a maintenance outage to repair a economizer tube leak.
86	Plant X 4	02/27/19	02/27/19	0.80	Loss of Power on the 480 Volt Buss.
87	Tolk 1	02/27/19	02/27/19	0.06	Electrohydraulic (EH) issues - Turbine Controls- Reheat Stop Valve stuck on test lowered reheat pressure to see if it would open. Ended up with low Electrohydraulic (EH) pressure taking us offline.
88	Maddox 2	02/28/19	03/19/19	19.00	Turning Gear Motor failed. Motor needs rewind.
89	Plant X 3	02/28/19	3/6/2019	5.94	Substation outage requested for substation crew.
90	Quay County 1	02/28/19	3/1/2019	1.38	Maintenance outage taken to replace starting diesel radiator.
91	Cunningham 2	03/02/19	03/15/19	13.62	Boiler tube leak in furnace section.
92	Tolk 2	03/07/19	03/12/19	5.72	Mini Outage - Scope of work included grit blasting Finishing Superheat, cleaning Auxiliary Cooling Water Heat exchanger, Inspect Reheater.
93	Plant X 3	03/08/19	03/08/19	0.18	Excessive condensate usage, unable to make up water in the condensate tanks.
94	Plant X 3	03/09/19	03/21/19	11.62	Unable to maintain drum level, waterwall tube leak.
95	Harrington 2	03/11/19	03/11/19	0.04	Unit was derated due to high baghouse pressure. Two compartments out of service to replace failed bags.
96	Maddox 1	03/11/19	04/22/19	41.86	During planned outage inspection (this was part of outage scope) found west condensate pump wore out. Pulled the pump and sent off pump for refurbishing.
97	Jones 3	03/12/19	03/13/19	1.74	Gas Calibrations.
98	Plant X 1	03/13/19	03/13/19	0.15	Start-up failure due to synchronization issues.
99	Jones 4	03/14/19	03/15/19	1.96	Gas Calibrations.
100	Tolk 1	03/15/19	03/15/19	0.01	A coal feeder problem. Relay problem on Controls.
101	Tolk 1	03/16/19	03/16/19	0.06	A mill problems. Relay problem on Controls.
102	Cunningham 2	03/17/19	04/08/19	22.44	Boiler tube leak.
103	Tolk 2	03/18/19	03/18/19	0.25	Heat Exchangers will not isolate.
104	Cunningham 1	03/19/19	03/22/19	0.31	Oil Lubrication problems on South Boiler Feed pump.
105	Maddox 2	03/19/19	03/19/19	0.05	Bleed valve failed on startup.
106	Cunningham 1	03/22/19	03/23/19	0.11	South Boiler Feedwater Pump packing blew when starting up.
107	Plant X 1	03/22/19	03/29/19	6.73	Superheat Tube Leak.
108	Maddox 1	03/23/19	03/23/19	0.09	High back pressure. Near 4.0.
109	Cunningham 1	03/24/19	04/15/19	22.48	South Boiler Feedwater Pump Fluid Drive temperatures high.
110	Tolk 1	03/27/19	03/30/19	3.19	Repair on reheat tubes.
111	Cunningham 4	03/29/19	04/02/19	4.10	#5 bearing thermocouple shorted causing high temperature indication.
112	Harrington 2	03/30/19	03/30/19	0.34	Unit tripped when the generator automatic voltage regulator failed and opened the field breaker.
113	Plant X 4	03/30/19	Aug., 2019	TBD	Generator Inspection/Rewedge, Generator Breaker Replacement, Turbine Valve Inspection/Repairs, Boiler Inspection/Repairs, Boiler Chemical Clean, Distributed Control System Upgrade, BOP Inspections/Repairs, Cooling Tower Inspection/Repairs.

*Note: April 1, 2018 through December 31, 2018 information provided on prior pages.

Southwestern Public Service Company

Power Plant Maintenance Information

(b) Scheduled System Maintenance Information (ii) Five Years Beyond the Test Year Period

Line No.	Unit Name	Planned Outage Month
2019		
1	Cunningham 2	April
2	Plant X 1	April
3	Plant X 3	April
4	Jones 4	April
5	Maddox 1	April
6	Jones 1	April
7	Jones 3	May
8	Nichols 3	May
9	Nichols 3	September
10	Harrington 3	September
11	Jones 4	September
12	Jones 3	September
13	Nichols 1	September
14	Cunningham 2	October
15	Jones 4	November
16	Jones 3	November
17	Maddox 1	November
18	Plant X 3	November
2020		
19	Plant X 2	January
20	Jones 4	January
21	Harrington 2	January
22	Jones 4	March
23	Jones 3	March
24	Cunningham 2	April
25	Harrington 3	April
26	Nichols 3	May
27	Jones 4	May
28	Jones 3	May
29	Harrington 1	May
30	Jones 4	September
31	Jones 3	September
32	Tolk 1	September
33	Plant X 4	September
34	Cunningham 4	September
35	Maddox 1	September
36	Tolk 2	November
37	Jones 4	November
38	Jones 3	November

Southwestern Public Service Company

Power Plant Maintenance Information

(b) Scheduled System Maintenance Information (ii) Five Years Beyond the Test Year Period

Line No.	Unit Name	Planned Outage Month
2021		
39	Jones 3	January
40	Nichols 3	January
41	Cunningham 2	January
42	Plant X 4	February
43	Jones 4	March
44	Jones 3	March
45	Harrington 1	April
46	Tolk 1	April
47	Harrington 2	April
48	Tolk 2	May
49	Jones 4	May
50	Jones 3	May
51	Jones 4	September
52	Jones 3	September
53	Maddox 2	September
54	Harrington 3	September
55	Plant X 3	September
56	Jones 4	November
57	Quay County	November
58	Jones 3	November
2022		
59	Tolk 1	February
60	Plant X 4	February
61	Jones 4	March
62	Jones 3	March
63	Harrington 2	April
64	Plant X 4	April
65	Nichols 3	May
66	Harrington 3	May
67	Jones 4	May
68	Jones 3	May
69	Tolk 2	May
70	Jones 4	September
71	Jones 3	September
72	Harrington 1	September
73	Plant X 3	September
74	Jones 4	November
75	Jones 3	November

Southwestern Public Service Company

Power Plant Maintenance Information

(b) Scheduled System Maintenance Information (ii) Five Years Beyond the Test Year Period

Line No.	Unit Name	Planned Outage Month
2023		
76	Jones 4	February
77	Jones 3	February
78	Jones 1	March
79	Plant X 4	April
80	Harrington 3	April
81	Tolk 1	April
82	Harrington 1	April
83	Tolk 2	May
84	Nichols 3	May
85	Jones 4	May
86	Jones 3	May
87	Jones 4	September
88	Jones 3	September
89	Harrington 2	September
90	Plant X 3	September
91	Jones 4	November
92	Jones 3	November
93	Cunningham 4	November
2024		
94	Cunningham 4	January
95	Plant X 4	February
96	Harrington 1	April
97	Tolk 2	April
98	Harrington 2	May
99	Tolk 1	May
100	Nichols 3	May
101	Harrington 3	September
102	Quay County	October
103	Plant X 3	November

As of May 1, 2019

Southwestern Public Service Company

Customer Service Interruption Information

Total Company				New Mexico Jurisdiction			
Line No.	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	
1	Transmission			Transmission			
2	2014			2014			
3	1/18/14 11:08 PM *	82	Clovis, NM	1/18/14 11:08 PM *	82	Clovis, NM	
4	2/19/14 8:27 AM *	19	Hereford, TX	8/23/14 1:00 AM *	138	Carlsbad, NM	
5	3/13/14 10:43 AM *	102	Amarillo, TX, Canyon, TX	9/24/14 6:56 PM *	77	Roswell, NM	
6	4/20/14 2:10 PM *	106	Amarillo, TX				
7	5/22/14 5:21 PM *	73	Pampa, TX				
8	6/30/14 8:21 PM *	99	Levelland, TX				
9	7/14/14 5:20 PM *	59	Hereford, TX				
10	7/15/14 10:47 AM *	27	Hereford, TX				
11	8/13/14 3:43 PM *	41	Levelland, TX				
12	8/23/14 1:00 AM *	138	Carlsbad, NM				
13	9/24/14 6:56 PM *	77	Roswell, NM				
14	10/13/14 7:54 PM *	65	Perryton, TX				
15	11/3/14 11:54 PM *	166	Lubbock, TX				
16	2015			2015			
17	1/20/15 10:43 AM *	45	Levelland, TX	2/22/15 11:59 AM *	106	Carlsbad, NM	
18	1/22/15 3:22 AM *	342	Plainview, TX	6/15/15 12:10 PM *	141	Carlsbad, NM	
19	1/24/15 8:39 AM *	64	Levelland, TX	7/5/15 10:45 AM *	18	Carlsbad, NM	
20	2/22/15 11:59 AM *	106	Carlsbad, NM	8/16/15 8:13 AM	124	Carlsbad, NM	
21	2/25/15 12:25 PM	21	Lubbock, TX	10/8/15 7:46 PM *	391	Hobbs, NM	
22	2/26/15 7:42 AM *	61	Levelland, TX, Lubbock, TX	10/20/15 12:32 PM *	132	Hobbs, NM	
23	3/1/15 2:12 PM *	158	Lubbock, TX				
24	3/2/15 8:05 AM *	73	Lubbock, TX				
25	3/4/15 10:24 AM *	201	Plainview, TX				
26	3/4/15 10:25 AM *	125	Plainview, TX				
27	4/18/15 5:33 PM *	101	Pampa, TX				
28	5/2/15 9:55 AM *	85	Dumas, TX				
29	5/3/15 7:59 PM *	63	Levelland, TX, Lubbock, TX				
30	5/19/15 8:33 AM *	316	Lubbock, TX				
31	5/27/15 3:24 PM *	103	Lubbock, TX				
32	6/13/15 7:25 PM *	271	Seminole, TX				
33	6/15/15 12:10 PM *	141	Carlsbad, NM				
34	6/18/15 6:03 PM *	46	Lubbock, TX				
35	7/5/15 10:45 AM *	18	Carlsbad, NM				
36	7/13/15 11:40 AM *	91	Plainview, TX				
37	7/20/15 6:16 PM	70	Seminole, TX				
38	8/9/15 10:15 AM	198	Amarillo, TX				
39	8/9/15 2:16 PM	169	Amarillo, TX				
40	8/16/15 8:13 AM	124	Carlsbad, NM				
41	8/21/15 9:08 PM *	1,540	Seminole, TX/Levelland TX				
42	8/22/15 2:29 AM *	1,212	Seminole, TX				
43	10/8/15 7:46 PM *	391	Hobbs, NM				
44	10/20/15 12:32 PM *	132	Hobbs, NM				
45	10/22/15 12:37 AM *	196	Canyon, TX				
46	11/16/15 6:50 PM *	244	Pampa, TX				
47	11/16/15 6:51 PM *	457	Pampa, TX				
48	11/26/15 3:28 PM *	35	Levelland, TX, Lubbock, TX				
49	11/27/15 5:28 AM *	772	Levelland, TX				
50	11/27/15 7:59 AM *	773	Levelland, TX, Plainview, TX				
51	11/27/15 8:42 AM *	359	Plainview, TX				
52	11/27/15 11:19 AM *	131	Levelland, TX, Lubbock, TX				
53	11/27/15 11:20 AM *	84	Levelland, TX				
54	12/9/15 1:40 AM *	85	Levelland, TX				
55	12/13/15 5:59 PM *	107	Perryton, TX				
56	12/26/15 6:46 PM *	134	Pampa, TX				
57	12/26/15 7:48 PM *	484	Levelland, TX				
58	12/26/15 7:55 PM *	477	Levelland, TX				
59	12/27/15 8:07 PM *	148	Pampa, TX				
60	2016			2016			
61	3/10/16 10:41 PM *	216	Pampa, TX	5/17/16 9:53 PM *	97	Carlsbad, NM	
62	4/20/16 3:31 PM *	91	Borger, TX	6/21/16 12:08 AM *	64	Carlsbad, NM	
63	4/26/16 4:08 PM *	29	Lubbock, TX	11/21/16 3:53 PM *	54	Roswell, NM	
64	5/17/16 9:53 PM *	97	Carlsbad, NM	12/23/16 12:52 AM	84	Hobbs, NM	
65	6/9/16 9:05 PM *	158	Hereford, TX				

Southwestern Public Service Company

Customer Service Interruption Information

Total Company				New Mexico Jurisdiction			
Line No.	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	
Transmission (continued)				Transmission (continued)			
66							
67	6/11/16 7:49 PM *	139	Levelland, TX, Lubbock, TX				
68	6/11/16 8:20 PM *	541	Levelland, TX				
69	6/15/16 6:46 PM *	35	Levelland, TX, Lubbock, TX				
70	6/15/16 9:30 PM *	17	Levelland, TX				
71	6/21/16 12:08 AM *	64	Carlsbad, NM				
72	7/3/16 9:44 PM	62	Hereford, TX/Amarillo, TX/Canyon/TX				
73	7/6/16 7:23 PM *	73	Plainview, TX				
74	7/14/16 4:32 PM *	74	Lubbock, TX				
75	9/16/16 12:32 AM *	204	Lubbock, TX				
76	11/21/16 3:53 PM *	54	Roswell, NM				
77	12/23/16 12:52 AM	84	Hobbs, NM				
78	12/31/16 1:08 AM *	67	Borger, TX/Amarillo, TX				
2017				2017			
80	1/15/17 2:54 PM *	81	Amarillo, TX	2/23/17 1:11 PM *	623	Carlsbad, NM	
81	1/15/17 3:34 PM *	1,936	Perryton, TX	3/23/17 7:05 PM *	254	Carlsbad, NM	
82	1/15/17 9:06 PM *	138	Borger, TX	6/23/17 2:59 PM	18	Hobbs, NM	
83	1/16/17 9:09 AM *	61	Borger, TX/Pampa, TX	8/15/17 5:30 PM *	38	Carlsbad, NM	
84	1/16/17 11:00 AM *	145	Pampa, TX				
85	1/16/17 11:16 AM *	4,309	Pampa, TX				
86	1/16/17 11:56 AM *	25	Perryton, TX				
87	1/18/17 3:41 PM *	51	Pampa, TX				
88	1/20/17 1:51 PM *	44	Plainview, TX				
89	1/21/17 1:32 PM	81	Seminole, TX				
90	1/26/17 4:47 PM *	31	Pampa, TX				
91	2/23/17 1:11 PM *	623	Carlsbad, NM				
92	2/28/17 3:21 PM *	70	Amarillo, TX				
93	2/28/17 3:48 PM *	53	Levelland, TX				
94	3/23/17 7:05 PM *	254	Carlsbad, NM				
95	5/3/17 9:24 PM *	188	Plainview, TX				
96	5/3/17 10:18 PM *	159	Plainview, TX				
97	6/15/17 4:41 PM *	63	Levelland, TX				
98	6/21/17 10:36 PM	407	Dumas, TX/Borger, TX				
99	6/23/17 2:59 PM	18	Hobbs, NM				
100	7/1/17 1:42 AM *	48	Levelland, TX				
101	7/4/17 9:20 PM *	138	Plainview, TX				
102	7/26/17 2:34 PM	83	Amarillo, TX				
103	7/30/17 6:14 PM *	79	Levelland, TX				
104	8/15/17 5:30 PM *	38	Carlsbad, NM				
105	8/24/17 8:55 PM	22	Dumas, TX/Amarillo, TX				
106	9/6/17 1:05 AM *	190	Levelland, TX				
107	9/19/17 1:18 PM *	335	Perryton, TX				
108	9/19/17 5:27 PM *	82	Perryton, TX				
109	9/19/17 6:04 PM *	56	Perryton, TX				
110	10/6/17 9:27 PM	472	Amarillo, TX/Borger, TX				
111	10/8/17 1:33 AM *	85	Pampa, TX				
112	12/22/17 7:28 AM *	69	Lubbock, TX				
2018				2018			
114	3/23/18 3:39 PM *	193	Perryton, TX	6/3/18 9:01 PM * B	41	Carlsbad, NM	
115	4/30/18 1:36 AM B	51	Plainview, TX				
116	5/30/18 8:53 PM * B	57	Perryton, TX				
117	6/3/18 9:01 PM * B	41	Carlsbad, NM				
118	6/22/18 9:22 PM * B	240	Borger, TX				
119	6/22/18 9:34 PM B	264	Pampa, TX				
120	6/24/18 11:50 PM * B	678	Amarillo, TX				
121	6/25/18 12:52 AM * B	183	Amarillo, TX				
122	7/13/18 4:01 PM * B	68	Lubbock, TX				
123	7/29/18 10:42 AM B	438	Pampa, TX				
124	8/17/18 11:40 PM B	91	Seminole, TX				
125	9/1/18 5:45 PM B	111	Seminole, TX				
126	11/3/18 7:00 AM * B	104	Borger, TX				
2019				2019			
128	3/9/19 2:31 AM * B	189	Plainview, TX	3/12/19 6:07 PM * B	804	Carlsbad, NM/Roswell, NM	
129	3/12/19 6:07 PM * B	804	Carlsbad, NM/Roswell, NM				
130	3/13/19 1:23 AM * B	146	Levelland, TX				
131	3/13/19 1:58 PM * B	299	Pampa, TX				
132	3/29/19 9:21 PM * B	65	Plainview, TX				

Southwestern Public Service Company

Customer Service Interruption Information

Total Company				New Mexico Jurisdiction		
Line No.	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location
133	Distribution			Distribution		
134	2014			2014		
135	5/3/14 1:27 PM	71	Amarillo, TX	5/12/14 11:06 PM	184	Hobbs, NM
136	5/12/14 11:06 PM	184	Hobbs, NM			
137	5/28/14 10:53 PM	96	Amarillo, TX			
138	6/6/14 1:02 AM	53	Pampa, TX			
139	9/22/14 8:37 AM	28	Amarillo, TX			
140	11/12/14 6:07 AM	74	Hereford, TX			
141	11/20/14 7:41 AM	22	Dumas, TX			
142	12/23/14 6:48 AM	68	Plainview, TX			
143	2015			2015		
144	3/22/15 12:13 PM	46	Amarillo, TX	3/25/15 10:46 AM	139	Hobbs, NM
145	3/22/15 8:51 PM	45	Borger, TX	6/13/15 12:25 PM *	227	Carlsbad, NM
146	3/25/15 10:46 AM	139	Hobbs, NM	7/20/15 3:43 PM *	266	Hobbs, NM/Carlsbad, NM
147	6/13/15 12:25 PM *	227	Carlsbad, NM	8/26/15 2:34 PM *	73	Hobbs, NM
148	7/2/15 4:10 AM *	141	Van Buren, TX	9/5/15 1:38 AM *	171	Hobbs, NM
149	7/2/15 6:49 AM *	26	Amarillo, TX	10/6/15 12:09 PM *	524	Carlsbad, NM
150	7/15/15 2:19 PM *	152	Borger, TX	11/8/15 12:27 PM *	180	Carlsbad, NM
151	7/20/15 3:43 PM *	266	Hobbs, NM/Carlsbad, NM	11/16/15 3:30 PM *	96	Carlsbad, NM
152	7/23/15 11:27 AM *	103	Borger, TX	11/26/15 9:16 PM *	384	Clovis, NM
153	7/28/15 10:44 PM *	155	Borger, TX	12/2/15 6:46 AM *	199	Carlsbad, NM
154	8/21/15 10:57 PM *	279	Seminole, TX			
155	8/26/15 2:34 PM *	73	Hobbs, NM			
156	8/29/15 2:46 AM *	174	Borger, TX			
157	9/5/15 1:38 AM *	171	Hobbs, NM			
158	9/13/15 3:54 AM *	60	Plainview, TX			
159	10/6/15 12:09 PM *	524	Carlsbad, NM			
160	11/8/15 12:27 PM *	180	Carlsbad, NM			
161	11/16/15 3:30 PM *	96	Carlsbad, NM			
162	11/17/15 6:23 PM *	39	Hereford, TX			
163	11/26/15 9:16 PM *	384	Clovis, NM			
164	11/30/15 4:45 AM *	451	Levelland, TX			
165	11/30/15 5:26 AM *	416	Levelland, TX			
166	12/2/15 6:46 AM *	199	Carlsbad, NM			
167	2016			2016		
168	1/12/16 12:11 PM *	91	Hobbs, NM/Carlsbad, NM	1/12/16 12:11 PM *	91	Hobbs, NM/Carlsbad, NM
169	2/28/16 8:10 AM *	566	Carlsbad, NM	2/28/16 8:10 AM *	566	Carlsbad, NM
170	3/1/16 3:13 AM *	67	Carlsbad, NM	3/1/16 3:13 AM *	67	Carlsbad, NM
171	3/8/16 3:54 PM *	156	Clovis, NM	3/8/16 3:54 PM *	156	Clovis, NM
172	3/12/16 8:48 PM *	84	Amarillo, TX	8/8/16 3:21 PM *	62	Hobbs, NM
173	4/1/16 1:18 PM *	40	Canyon, TX	8/17/16 3:39 PM *	293	Hobbs, NM
174	4/8/16 11:03 AM *	48	Borger, TX	9/16/16 3:36 PM *	144	Hobbs, NM
175	5/16/16 9:07 AM *	50	Borger, TX	12/19/16 5:58 AM *	1,148	Hobbs, NM
176	5/28/16 8:03 PM *	37	Amarillo, TX			
177	6/11/16 10:48 PM *	196	Levelland, TX			
178	6/15/16 8:32 AM *	46	Plainview, TX			
179	7/14/16 10:39 PM *	195	Levelland, TX			
180	8/8/16 3:21 PM *	62	Hobbs, NM			
181	8/17/16 3:39 PM *	293	Hobbs, NM			
182	9/6/16 5:45 PM *	120	Hereford, TX			
183	9/15/16 9:06 AM *	125	Plainview, TX			
184	9/16/16 3:36 PM *	144	Hobbs, NM			
185	9/22/16 3:54 PM *	351	Lubbock, TX			
186	12/19/16 5:58 AM *	1,148	Hobbs, NM			
187	2017			2017		
188	2/28/17 2:29 PM *	26	Lubbock, TX	3/23/17 3:45 PM *	187	Carlsbad, NM
189	3/23/17 3:45 PM *	187	Carlsbad, NM	3/24/17 6:26 AM *	91	Carlsbad, NM
190	3/24/17 6:26 AM *	91	Carlsbad, NM			

Southwestern Public Service Company

Customer Service Interruption Information

Total Company				New Mexico Jurisdiction			
Line No.	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	
191	Distribution (continued)			Distribution (continued)			
192	2018			2018			
193	1/16/18 7:04 PM *	1,365	Pampa, TX	1/24/18 10:02 AM *	59	Carlsbad, NM	
194	1/24/18 10:02 AM *	59	Carlsbad, NM				
195	2/20/18 8:33 AM *	239	Seminole, TX				
196	5/7/18 8:10 PM * B	197	Perryton, TX				
197	5/7/18 10:03 PM * B	51	Perryton, TX				
198	5/7/18 10:19 PM * B	31	Perryton, TX				
199	5/24/18 9:25 PM B	38	Borger/Pampa, TX				
200	6/20/18 4:26 PM * B	151	Seminole, TX				
201	6/22/18 10:07 PM * B	236	Pampa, TX				
202	6/27/18 12:12 PM * B	143	Pampa, TX				
203	2019			2019			
204	3/13/19 12:13 PM B	306	Roswell, NM	3/13/19 12:13 PM B	306	Roswell, NM	
205	3/28/19 3:48 AM * B	108	Plainview, TX				

* Event MW load unavailable, cannot determine if event exceeds 15 MW.
B - Base Period/Test Year Period months.

Southwestern Public Service Company

Line Loss Information

Part (a)(i) and (b)

Line loss data is calculated for the total system. Refer to the table below for the historical demand and energy loss factors by voltage level. Factors are generated on a total system basis and then applied to the New Mexico retail jurisdiction according to voltage level and class of customer. Therefore, the New Mexico losses are based on system losses but the actual loss within the jurisdiction is dependent upon the customer mix. Monthly data are not available as discussed in Schedule M-3. Refer to Schedule M-3 for a discussion of the methods, procedures, and formulae used for developing loss information.

The most recent Line Loss Study (2016) was developed using load and sales information from January 2016 through December 2016 and was approved in Case No. 17-00255-UT.

Part (a)(ii) – (v)

New Mexico Jurisdiction

	Current (Based on 2016 Line Loss Study)	
Voltage Level	Demand Loss Factor	Energy Loss Factor
Backbone Transmission (115 kV+)	1.023667	1.029633
Sub-Transmission (69 kV)	1.030961	1.035919
Primary Distribution	1.131015	1.105898
Secondary Distribution	1.161769	1.125047
Secondary Distribution Line	1.166539	1.128389

Part (a)(vi)

Southwestern Public Service Company does not forecast line loss data.

Southwestern Public Service Company

Reliability Indices Information

Line No.	Year	(a) Total System			(b) New Mexico Jurisdiction		
		SAIDI ⁽¹⁾	SAIFI ⁽²⁾	CAIDI ⁽³⁾	SAIDI ⁽¹⁾	SAIFI ⁽²⁾	CAIDI ⁽³⁾
(c) Four Years Prior to the Test Year Period							
1							
2	2014 Year End	79.8	0.86	93.0	74.6	0.80	92.8
3	2015 Year End	124.2	1.23	100.7	132.9	1.26	105.6
4	2016 Year End	101.8	1.10	92.7	118.3	1.17	101.5
5	2017 Year End	118.3	1.11	107.0	90.3	0.94	96.1
6	2018 Year End	116.3	1.07	108.9	106.2	1.03	102.7
(d) Twelve Months of Test Year Period							
7							
8	April 2018	8.8	0.11	78.1	6.1	0.10	61.9
9	May 2018	13.1	0.14	91.8	8.6	0.09	98.8
10	June 2018	17.6	0.15	120.6	16.4	0.14	119.8
11	July 2018	13.4	0.11	116.9	10.7	0.08	126.5
12	August 2018	10.0	0.10	103.2	12.7	0.12	106.5
13	September 2018	8.2	0.08	103.4	8.4	0.09	97.2
14	October 2018	13.4	0.10	139.3	19.9	0.15	133.8
15	November 2018	4.2	0.04	115.2	4.9	0.05	99.7
16	December 2018	9.3	0.10	95.2	5.0	0.07	68.5
17	January 2019	3.6	0.04	101.1	7.1	0.07	101.4
18	February 2019	6.1	0.05	124.7	5.1	0.05	110.2
19	March 2019	9.9	0.06	157.4	4.0	0.04	99.7
20	Test Year Period - Twelve Months Ended 3/31/2019 ⁽⁴⁾	117.6	1.07	109.9	108.9	1.04	104.7
(e) Five Years Beyond the Base Period							
21							
22	Forecast 2019 YE ⁽⁵⁾	110.2	1.03	106.6	104.8	1.01	104.3
23	2020 ⁽⁶⁾	-	-	-	-	-	-
24	2021 ⁽⁶⁾	-	-	-	-	-	-
25	2022 ⁽⁶⁾	-	-	-	-	-	-
26	2023 ⁽⁶⁾	-	-	-	-	-	-
27	2024 ⁽⁶⁾	-	-	-	-	-	-

Notes: SPS reliability indices are based on IEEE 1366 normalization methodology applied at the Operating Company level.

New Mexico reliability indices are based on IEEE 1366 normalization methodology applied at the State of New Mexico level.

$$(1) \text{ SAIDI - System Average Interruption Duration Index} = \frac{\text{Sum of Customer Minutes Out (CMO)}}{\text{Total Number of Customers Served}}$$

Indicates the total duration of interruption(in minutes) for the average customer from outages lasting longer than 5 minutes

Customer Minutes Out (CMO) is the number of customers interrupted on an outage multiplied by its duration.

$$(2) \text{ SAIFI - System Average Interruption Frequency Index} = \frac{\text{Sum of Sustained Customers Interrupted (SCI)}}{\text{Total Number of Customers Served}}$$

Indicates how many times the average customer experiences a sustained interruption lasting longer than 5 minutes over the measured period of time.

Sustained Customer Interruptions (SCI) is the number of customers interrupted from an outage.

$$(3) \text{ CAIDI - Customer Average Interruption Duration Index} = \frac{\text{Sum of Customer Minutes Out (CMO)}}{\text{Sum of Sustained Customers Interrupted (SCI)}}$$

Indicates the average time (in minutes) to restore service of an outage lasting longer than 5 minutes over the measure period of time.

⁽⁴⁾ Amounts may not appear to total correctly due to rounding.

⁽⁵⁾ SPS 2019 forecast is based on using the current year-to-date March results added to the previous 5 year average April to December performance.

⁽⁶⁾ SPS forecasts targets to meet for the current year, but does not forecast beyond the current year.

Southwestern Public Service Company

Reserve Margin Information
(a), (c), (e) Total System

Line No.	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1	4,513	4,529	4,487	4,487	4,485	4,472	4,472	4,472	4,472	4,472	4,472
2	1,524	1,348	1,335	1,463	1,486	1,240	1,240	1,240	1,235	1,235	1,011
3	6,037	5,877	5,822	5,950	5,971	5,712	5,712	5,712	5,707	5,707	5,483
4	5,080	4,805	4,839	4,374	4,648	4,111	4,118	4,153	4,046	4,077	4,052
5	18.8%	22.3%	20.3%	36.0%	28.5%	39.0%	38.7%	37.5%	41.1%	40.0%	35.3%

(d) Twelve months of the Test Year Period												
	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
6	4,524	4,524	4,492	4,492	4,492	4,492	4,405	4,405	4,405	4,405	4,405	4,405
7	1,769	1,682	1,011	1,078	1,027	970	1,549	1,391	1,384	1,332	1,406	1,376
8	6,293	6,206	5,503	5,570	5,519	5,462	5,954	5,796	5,789	5,737	5,811	5,781
9	3,394	4,344	4,447	4,648	4,391	3,950	3,863	3,571	3,650	3,614	3,638	3,727
10	85.4%	42.9%	23.8%	19.8%	25.7%	38.3%	54.1%	62.3%	58.6%	58.7%	59.7%	55.1%

(b) New Mexico Jurisdiction. SPS does not track reserve margin by jurisdiction.

Southwestern Public Service Company

Fuel Statistics Information

Parts (a, c, d, e, f) Four Years Prior to Test Year Period
Total Company

Line No.	Description	Year Ended 12/31/2014	Year Ended 12/31/2015	Year Ended 12/31/2016	Year Ended 12/31/2017	Year Ended 12/31/2018
1	<u>Cost of Fuel (\$)</u>					
2	Coal Cost	\$ 222,635,917	\$ 222,489,616	\$ 198,989,690	\$ 178,575,514	\$ 143,141,708
3	Gas Cost	246,655,197	147,590,411	136,458,707	121,077,493	160,755,274
4	Oil Cost	327,431	176,631	200,682	151,035	623,649
5	<u>Cost of Fuel by Type</u>					
6	Coal (\$ /MMBtu)	\$ 1.76	\$ 1.77	\$ 1.77	\$ 1.75	\$ 1.59
7	Gas (\$ /MMBtu)	4.76	3.12	2.81	3.39	2.24
8	Oil (\$ /MMBtu)	25.52	22.72	16.00	15.96	15.03
9	<u>Generation by Type (MWh)</u>					
10	Coal	12,418,027	12,125,104	10,711,953	9,776,148	8,535,946
11	Gas	4,544,866	3,950,471	4,300,907	3,079,842	6,419,303
12	Oil	706	394	337	196	169
13	<u>Total Fuel</u>					
14	Total Fuel Cost (\$)	\$ 469,618,545	\$ 370,256,659	\$ 335,649,079	\$ 299,804,042	\$ 304,520,631
15	Cost (\$ /MMBtu)	\$ 2.64	\$ 2.14	\$ 2.08	\$ 2.18	\$ 1.88
16	Generation - (MWh)	16,963,598	16,075,969	15,013,197	12,856,185	14,955,418

Note: Coal cost excludes Non-mine and Non-freight costs

(b) SPS does not calculate fuel cost specifically for the New Mexico jurisdiction. Instead, system fuel costs are allocated to each jurisdiction. Therefore, New Mexico fuel cost per MMBtu is the same as the system fuel cost shown above.

Southwestern Public Service Company

Fuel Statistics Information
Parts (a,c,d,e,g) Twelve Months of the Test Year Period
Total Company

Line No.	Description	April 2018	May 2018	June 2018	July 2018	August 2018	September 2018
1	Cost of Fuel (\$)						
2	Coal Cost	\$ 7,388,970	\$ 12,167,777	\$ 13,362,560	\$ 16,933,600	\$ 15,215,145	\$ 12,952,137
3	Gas Cost	11,404,220	15,853,351	16,728,497	23,689,059	17,249,595	12,391,064
4	Oil Cost	6,939	0	-	467	-	7,097
5	Cost of Fuel by Type						
6	Coal (\$ /MMBtu)	\$ 1.57	\$ 1.57	\$ 1.60	\$ 1.60	\$ 1.63	\$ 1.79
7	Gas (\$ /MMBtu)	1.97	1.97	2.38	2.27	2.37	1.97
8	Oil (\$ /MMBtu)	18.79	-	-	18.79	-	18.79
9	Generation by Type (MWh)						
10	Coal	442,188	743,309	807,354	1,033,457	915,821	689,572
11	Gas	519,015	716,335	611,762	941,211	713,314	562,693
12	Oil	21	-	-	-	-	21
13	Total Fuel						
14	Total Fuel Cost (\$)	\$ 18,800,128	\$ 28,021,128	\$ 30,091,057	\$ 40,623,125	\$ 32,464,740	\$ 25,350,298
15	Cost (\$ /MMBtu)	\$ 1.79	\$ 1.77	\$ 1.96	\$ 1.93	\$ 1.95	\$ 1.87
16	Generation - (MWh)	961,224	1,459,644	1,419,116	1,974,668	1,629,135	1,252,286

Note: Coal cost excludes Non-mine and Non-freight costs

(b) SPS does not calculate fuel cost specifically for the New Mexico jurisdiction. Instead, system fuel costs are allocated to each jurisdiction. Therefore, New Mexico fuel cost per MMBtu is the same as the system fuel cost shown above.

Southwestern Public Service Company

Fuel Statistics Information

Parts (a,c,d,e,g) Twelve Months of the Test Year Period
Total Company

Line No.	Description	October 2018	November 2018	December 2018	January 2019	February 2019	March 2019	Total Test Year Period
1	<u>Cost of Fuel (\$)</u>							
2	Coal Cost	\$ 9,615,856	\$ 12,446,632	\$ 13,937,673	\$ 8,423,143	\$ 9,322,508	\$ 9,290,772	\$ 141,056,772
3	Gas Cost	13,604,022	12,659,955	9,033,597	10,779,110	6,839,755	9,210,564	159,442,790
4	Oil Cost	8,470	7,474	7,371	5,446	7,381	7,350	57,994
5	<u>Cost of Fuel by Type</u>							
6	Coal (\$ /MMBtu)	\$ 1.50	\$ 1.66	\$ 1.66	\$ 1.71	\$ 1.68	\$ 1.69	\$ 1.64
7	Gas (\$ /MMBtu)	2.06	2.26	2.18	2.36	1.97	1.40	2.10
8	Oil (\$ /MMBtu)	16.47	17.79	14.67	18.79	18.79	18.82	17.67
9	<u>Generation by Type (MWh)</u>							
10	Coal	560,799	722,737	801,260	612,368	526,743	516,349	8,371,957
11	Gas	568,393	456,202	389,577	367,750	355,844	578,327	6,780,422
12	Oil	23	22	5	16	22	22	151
13	<u>Total Fuel</u>							
14	Total Fuel Cost (\$)	\$ 23,228,349	\$ 25,114,061	\$ 22,978,642	\$ 19,207,698	\$ 16,169,643	\$ 18,508,686	\$ 300,557,555
15	Cost (\$ /MMBtu)	\$ 1.79	\$ 1.92	\$ 1.83	\$ 2.02	\$ 1.79	\$ 1.53	\$ 1.85
16	Generation - (MWh)	1,129,215	1,178,960	1,190,842	980,134	882,609	1,094,698	15,152,529

Note: Coal cost excludes Non-mine and Non-freight costs

(b) SPS does not calculate fuel cost specifically for the New Mexico jurisdiction. Instead, system fuel costs are allocated to each jurisdiction. Therefore, New Mexico fuel cost per MMBtu is the same as the system fuel cost shown above.