

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
1	2015 - Actual												
2	Total System ⁽¹⁾	4,122	4,024	4,001	3,529	3,588	4,051	4,678	4,694	4,392	3,733	3,672	3,576
3	2016 - Actual												
4	Total System ⁽¹⁾	3,693	3,678	3,161	3,447	3,606	4,593	4,836	4,663	4,167	3,690	3,487	3,837
5	2017 - Actual												
6	Total System ⁽¹⁾	3,884	3,660	3,553	3,430	3,999	4,350	4,374	3,976	4,121	3,337	3,195	3,613
7	2018 - Actual												
8	Total System ⁽¹⁾	3,705	3,443	3,187	3,394	4,344	4,447	4,648	4,391	3,950	3,863	3,571	3,650
9	2019 - Actual												
10	Total System ⁽¹⁾	3,614	3,638	3,727	3,471	3,607	3,944	4,223	4,261	4,146	3,430	3,413	3,458
11	2019 - Actual (Test Year Period)												
12	Total System										3,430	3,413	3,458
13	New Mexico Retail										1,088	1,024	1,075
14	2020 - Actual (Test Year Period)												
15	Total System	3,406	3,412	3,093	3,053	3,367	3,918	4,195	4,118	3,829			
16	New Mexico Retail	1,072	1,089	979	945	998	1,166	1,206	1,231	1,180			

Southwestern Public Service Company

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(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	2020 - Forecast												
18	Total System ⁽¹⁾									3,219	3,189	3,189	3,349
19	2021 - Forecast												
20	Total System ⁽¹⁾	3,308	3,327	3,165	3,222	3,649	3,885	4,046	3,988	3,894	3,395	3,391	3,554
21	2022 - Forecast												
22	Total System ⁽¹⁾	3,511	3,520	3,361	3,412	3,839	3,865	4,013	3,952	3,857	3,387	3,368	3,505
23	2023 - Forecast												
24	Total System ⁽¹⁾	3,498	3,494	3,331	3,357	3,793	3,915	4,067	4,003	3,941	3,467	3,449	3,589
25	2024 - Forecast												
26	Total System ⁽¹⁾	3,583	3,580	3,416	3,442	3,883	3,947	4,104	4,034	4,001	3,516	3,496	3,635
27	2025 - Forecast												
28	Total System ⁽¹⁾	3,621	3,612	3,440	3,463	3,907	3,990	4,142	4,076	4,035	3,542	3,521	3,662

⁽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: SEPTEMBER 30, 2020

NON-COINCIDENT PEAK DEMAND AT THE METER

Line No.	Date	Total		Total		Total		Total		New Mexico Retail NCP Demand	Total
		Loss Level 6	Loss Level 5	Loss Level 4	Loss Level 3	Loss Level 2	Loss Level 1				
1	October-19	349,587	155,342	268,171	-	-	-	-	-	773,100	
2	November-19	295,983	129,712	258,601	-	-	-	-	-	684,296	
3	December-19	327,707	135,718	265,620	-	-	-	-	-	729,045	
4	January-20	299,608	131,115	247,198	-	-	-	-	-	677,921	
5	February-20	297,737	130,611	284,044	-	-	-	-	-	732,391	
6	March-20	253,651	151,494	279,983	-	-	-	-	-	685,127	
7	April-20	222,119	116,384	255,289	-	-	-	-	-	593,793	
8	May-20	277,306	129,928	213,693	-	-	-	-	-	620,927	
9	June-20	335,154	172,146	265,774	-	-	-	-	-	773,074	
10	July-20	368,322	178,912	261,785	-	-	-	-	-	809,020	
11	August-20	357,281	183,112	296,437	-	-	-	-	-	836,829	
12	September-20	375,806	176,187	274,745	-	-	-	-	-	826,737	
13	Max	375,806	183,112	296,437	-	-	-	-	-	836,829	

NON-COINCIDENT PEAK DEMAND AT THE SOURCE

	Total Loss Level 6	Total Loss Level 5	Total Loss Level 4	Total Loss Level 3	Total Loss Level 2	Total New Mexico Retail NCP Demand
14	October-19	407,807	180,471	303,306	-	891,583
15	November-19	345,276	150,696	292,481	-	788,453
16	December-19	382,283	157,673	300,420	-	840,376
17	January-20	349,504	152,326	279,585	-	781,415
18	February-20	347,321	174,975	321,258	-	843,554
19	March-20	295,893	176,001	316,664	-	788,558
20	April-20	259,111	135,211	288,736	-	683,059
21	May-20	323,488	150,947	241,690	-	716,125
22	June-20	390,970	199,994	300,594	-	891,559
23	July-20	429,662	207,855	296,083	-	933,600
24	August-20	416,782	216,782	335,274	-	964,790
25	September-20	438,392	204,688	310,741	-	953,821
26	Max	438,392	212,733	335,274	-	964,790

Southwestern Public Service Company
Peak Demand Information

Part (b) (ii) (2 & 3)
NON-COINCIDENT CLASS PEAK DEMAND
FOR THE TEST PERIOD ENDING: SEPTEMBER 30, 2020

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	October-19	155,839	155,284	311,123	30,032	2,584	3,862	349,587
2	November-19	138,711	124,380	263,090	24,841	2,608	3,859	295,983
3	December-19	148,791	143,264	292,055	27,472	2,651	3,861	327,707
4	January-20	138,194	127,050	265,244	26,286	2,663	3,860	299,608
5	February-20	140,586	121,864	262,449	27,032	2,646	3,859	297,737
6	March-20	128,304	96,423	224,727	20,788	2,674	3,858	253,651
7	April-20	121,895	73,571	195,465	18,845	2,633	3,857	222,119
8	May-20	155,435	91,268	246,703	22,681	2,640	3,857	277,306
9	June-20	196,763	97,541	294,304	32,390	2,637	3,862	335,154
10	July-20	213,564	111,618	325,182	34,606	2,691	3,861	368,322
11	August-20	204,967	109,815	314,781	34,089	2,743	3,858	357,281
12	September-20	226,924	106,964	333,888	33,104	2,898	3,861	375,806
13	Max	226,924	155,284	333,888	34,606	2,898	3,862	375,806

NON-COINCIDENT PEAK DEMAND AT THE SOURCE

DEMAND LOSS FACTOR								Total Loss Level 6 Sec Non-Demand
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	October-19	181,793	181,145	362,937	35,033	3,015	4,505	407,807
15	November-19	161,811	145,094	306,905	28,978	3,042	4,502	345,276
16	December-19	173,570	167,123	340,694	32,048	3,093	4,504	382,283
17	January-20	161,209	148,209	309,418	30,664	3,107	4,503	349,504
18	February-20	163,999	142,159	306,157	31,534	3,086	4,502	347,321
19	March-20	149,672	112,481	262,153	24,249	3,120	4,500	295,893
20	April-20	142,195	85,823	228,018	21,984	3,071	4,499	259,111
21	May-20	181,321	106,468	287,789	26,458	3,079	4,500	323,488
22	June-20	229,532	113,786	343,318	37,784	3,076	4,505	390,970
23	July-20	249,131	130,207	379,338	40,370	3,139	4,504	429,662
24	August-20	239,101	128,103	367,205	39,766	3,199	4,501	416,782
25	September-20	264,716	124,778	389,493	38,617	3,381	4,504	438,392
26	Max	264,716	181,145	389,493	40,370	3,381	4,505	438,392

1.166539

Southwestern Public Service Company
Peak Demand Information

Part (b) (ii) (2 & 3)
NON-COINCIDENT CLASS PEAK DEMAND
FOR THE TEST PERIOD ENDING: SEPTEMBER 30, 2020

NON-COINCIDENT PEAK DEMAND AT THE METER

Line No.		(IP)		(LMS)		(SG)		(PG)		Total		Sub-Trans		BB Transmission	
		Irrigation Service		Large Municipal and School Service		Sec General Service		Primary General Service		Loss Level 5 NCP Demand		Loss Level 4 NCP Demand		Loss Level 3 NCP Demand	
1	October-19	11,661		24,745		118,936		268,171		155,342		268,171		-	
2	November-19	5,238		18,473		106,001		258,601		129,712		258,601		-	
3	December-19	3,251		19,221		113,246		265,620		135,718		265,620		-	
4	January-20	4,895		17,514		108,706		247,198		131,115		247,198		-	
5	February-20	10,379		20,356		119,876		284,044		150,611		284,044		-	
6	March-20	26,053		19,488		105,952		279,983		151,494		279,983		-	
7	April-20	13,370		14,062		88,952		255,289		116,384		255,289		-	
8	May-20	13,048		15,471		101,409		213,693		129,928		213,693		-	
9	June-20	20,176		21,561		130,409		265,774		172,146		265,774		-	
10	July-20	21,714		23,514		133,685		261,785		178,912		261,785		-	
11	August-20	20,552		24,743		137,817		296,437		183,112		296,437		-	
12	September-20	20,026		25,077		131,083		274,745		176,187		274,745		-	
13	Max	26,053		25,077		137,817		296,437		183,112		296,437		-	

NON-COINCIDENT PEAK DEMAND AT THE SOURCE

		(IP)		(LMS)		(SG)		(PG)		Total		Sub-Trans		BB Transmission	
		Irrigation Service		Large Municipal and School Service		Sec General Service		Primary General Service		Loss Level 5 NCP Demand		Loss Level 4 NCP Demand		Loss Level 3 NCP Demand	
14	October-19	13,547		28,748		138,177		303,306		180,471		303,306		-	
15	November-19	6,086		21,461		123,149		292,481		150,696		292,481		-	
16	December-19	3,777		22,330		131,566		300,420		157,673		300,420		-	
17	January-20	5,687		20,347		126,291		279,585		152,326		279,585		-	
18	February-20	12,058		23,649		139,268		321,258		174,975		321,258		-	
19	March-20	30,268		22,641		123,092		316,664		176,001		316,664		-	
20	April-20	15,533		16,337		103,342		288,736		135,211		288,736		-	
21	May-20	15,159		17,974		117,814		241,690		150,947		241,690		-	
22	June-20	23,440		25,049		151,505		300,594		199,994		300,594		-	
23	July-20	25,226		27,318		155,311		296,083		207,855		296,083		-	
24	August-20	23,877		28,745		160,111		335,274		212,733		335,274		-	
25	September-20	23,266		29,134		152,288		310,741		204,688		310,741		-	
26	Max	30,268		29,134		160,111		335,274		212,733		335,274		-	

Southwestern Public Service Company
Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST PERIOD ENDED: SEPTEMBER 30, 2020

ADJUSTED COINCIDENT PEAK DEMAND AT THE METER

Line No.		ADJUSTED CONCURRENT PEAK DEMAND AT THE METER										New Mexico Retail
		6		5		4		3		2		
		Total	Loss Level	Total	Loss Level	Total	Loss Level	Total	Loss Level	Total	Loss Level	
1	October-19	316,022		118,689		235,486		22,922		284,637		977,756
2	November-19	254,945		105,137		234,683		21,238		309,451		925,454
3	December-19	298,184		107,847		244,376		22,078		295,774		968,259
4	January-20	289,124		97,411		230,697		21,535		330,380		969,147
5	February-20	282,640		114,913		255,846		20,301		308,036		981,736
6	March-20	195,288		98,239		255,805		18,710		320,992		889,033
7	April-20	211,268		103,332		220,840		20,899		299,695		856,034
8	May-20	269,203		115,531		196,875		17,670		301,290		900,569
9	June-20	317,237		148,409		258,347		22,857		300,466		1,047,316
10	July-20	335,907		168,540		253,911		22,285		301,468		1,082,112
11	August-20	318,725		174,811		264,918		18,883		329,415		1,106,752
12	September-20	304,501		166,426		258,055		19,565		311,541		1,060,088
13	12-CP	282,754		126,607		242,487		20,745		307,762		980,355
14	4-CP	319,093		164,546		258,808		20,897		310,722		1,074,067
15	MAX PEAK	335,907		174,811		264,918		22,922		330,380		1,106,752

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

		Total		Total		Total		Total		New Mexico Retail CP Demand
		Loss Level	6	Loss Level	5	Loss Level	4	Loss Level	3	
16	October-19	368,652	137,889	266,338	23,631	291,374	1,087,885			
17	November-19	297,404	122,145	265,430	21,895	316,774	1,023,649			
18	December-19	347,843	125,294	276,393	22,762	302,774	1,075,065			
19	January-20	337,274	113,169	260,922	22,201	338,200	1,071,767			
20	February-20	329,711	133,502	289,366	20,930	315,326	1,088,834			
21	March-20	227,811	114,131	289,319	19,289	328,589	979,139			
22	April-20	246,452	120,048	249,774	21,546	306,788	944,608			
23	May-20	314,036	134,220	222,669	18,217	308,420	997,563			
24	June-20	370,070	172,418	292,194	23,564	307,577	1,165,823			
25	July-20	391,849	195,804	287,178	22,975	308,603	1,206,409			
26	August-20	371,806	203,090	299,627	19,467	337,211	1,231,200			
27	September-20	355,212	193,348	291,864	20,171	318,914	1,179,509			
28	12-CP	329,843	147,088	274,256	21,387	315,046	1,087,621			
29	4-CP	372,234	191,165	292,716	21,544	318,076	1,195,735			
30	MAX PEAK	391,849	203,090	299,627	23,631	338,200	1,231,200			

Southwestern Public Service Company

Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST PERIOD ENDED: SEPTEMBER 30, 2020

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	October-19	128,519	155,284	283,803	25,273	2,001	1,954	316,022
2	November-19	109,165	124,380	233,545	19,915	-	1,485	254,945
3	December-19	119,878	143,264	263,142	22,725	4,358	1,612	298,184
4	January-20	131,922	127,050	258,972	20,062	3,571	1,343	289,124
5	February-20	103,139	121,864	225,003	21,690	13,978	1,578	282,640
6	March-20	81,852	96,423	178,275	15,586	-	1,428	195,288
7	April-20	120,621	73,571	194,191	16,029	-	1,047	211,268
8	May-20	156,825	91,268	248,093	19,868	-	1,242	269,203
9	June-20	190,518	97,541	288,060	27,610	-	1,567	317,237
10	July-20	190,334	111,618	301,952	32,095	-	1,861	335,907
11	August-20	175,121	109,815	284,935	32,120	-	1,670	318,725
12	September-20	164,497	106,964	271,461	31,369	-	1,671	304,501
13	12-CP	139,366	113,254	252,619	23,695	1,992	1,538	282,754
14	4-CP	180,117	106,485	286,602	30,799	-	1,692	319,093
15	MAX PEAK	190,518	155,284	301,952	32,120	20,391	1,954	335,907

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

DEMAND LOSS FACTOR								
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	October-19	149,923	181,145	331,067	29,482	2,335	3,489	368,652
17	November-19	127,345	145,094	272,439	23,232	-	1,733	297,404
18	December-19	139,842	167,123	306,965	26,509	5,084	1,881	347,843
19	January-20	153,892	148,209	302,101	23,403	4,166	1,566	337,274
20	February-20	120,316	142,159	262,475	25,303	16,306	1,840	329,711
21	March-20	95,483	112,481	207,964	18,181	-	1,666	227,811
22	April-20	140,709	85,823	226,532	18,698	-	1,222	246,452
23	May-20	182,942	106,468	289,410	23,177	-	1,449	314,036
24	June-20	222,247	113,786	336,033	32,209	-	1,828	370,070
25	July-20	222,032	130,207	352,239	37,440	-	2,170	391,849
26	August-20	204,285	128,103	332,388	37,469	-	1,948	371,806
27	September-20	191,892	124,778	316,669	36,593	-	1,949	355,212
28	12-CP	162,576	132,115	294,690	27,641	2,324	1,794	329,843
29	4-CP	210,114	124,218	334,332	35,928	-	1,974	372,234
30	MAX PEAK	222,247	181,145	352,239	37,469	23,787	2,279	391,849

1.166539

Southwestern Public Service Company

Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST PERIOD ENDED: SEPTEMBER 30, 2020

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	(PG) Primary General Service	Total Loss Level 4 Primary Distribution	Sub-Trans. Loss Level 3 Transmission	BB - Transmission Loss Level 2 Transmission
1	October-19	2,807	16,655	99,227	-	235,486	22,922	284,637
2	November-19	487	14,816	89,835	-	234,683	21,238	309,451
3	December-19	478	14,255	93,115	-	244,376	22,078	295,774
4	January-20	2,443	12,697	82,271	-	230,697	21,535	330,380
5	February-20	3,741	16,031	95,141	-	255,846	20,301	308,036
6	March-20	3,490	12,918	81,831	-	255,805	18,710	320,992
7	April-20	9,969	13,047	80,315	-	220,840	20,899	299,695
8	May-20	10,971	13,297	91,263	-	196,875	17,670	301,290
9	June-20	17,585	17,533	113,291	-	258,347	22,857	300,466
10	July-20	19,584	22,221	126,734	-	253,911	22,285	301,468
11	August-20	17,536	22,711	134,564	-	264,918	18,883	329,415
12	September-20	16,867	23,424	126,135	-	258,055	19,565	311,541
13	12-CP	8,830	16,634	101,143	-	242,487	20,745	307,762
14	4-CP	17,893	21,472	125,181	-	258,808	20,897	310,722
15	MAX PEAK	19,584	23,424	134,564	-	264,918	22,922	330,380

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

DEMAND LOSS FACTOR										DEMAND LOSS FACTOR										DEMAND LOSS FACTOR																								
(IRR)					(LMS)					(SG)					Total					(PG)					Total					Sub-Trans.					BB - Transmission									
Irrigation Service					Large Municipal and School Service					Sec General Service					Loss Level 5 Secondary- Demand					Primary General Service					Loss Level 3 Primary Distribution					Loss Level 4 Primary Distribution					Loss Level 2 Transmission					Loss Level 1 Transmission				
16	October-19	3,261	19,349	115,279	-	266,338	23,631	291,374	266,338	23,631	291,374	266,338	23,631	291,374	266,338	23,631	291,374	266,338	23,631	291,374	266,338	23,631	291,374	266,338	23,631	291,374	266,338	23,631	291,374	266,338	23,631	291,374												
17	November-19	565	17,213	104,367	-	265,430	21,895	316,774	265,430	21,895	316,774	265,430	21,895	316,774	265,430	21,895	316,774	265,430	21,895	316,774	265,430	21,895	316,774	265,430	21,895	316,774	265,430	21,895	316,774	265,430	21,895	316,774												
18	December-19	555	16,561	108,178	-	276,393	22,762	302,774	276,393	22,762	302,774	276,393	22,762	302,774	276,393	22,762	302,774	276,393	22,762	302,774	276,393	22,762	302,774	276,393	22,762	302,774	276,393	22,762	302,774	276,393	22,762	302,774												
19	January-20	2,839	14,751	95,580	-	260,922	22,201	338,200	260,922	22,201	338,200	260,922	22,201	338,200	260,922	22,201	338,200	260,922	22,201	338,200	260,922	22,201	338,200	260,922	22,201	338,200	260,922	22,201	338,200	260,922	22,201	338,200												
20	February-20	4,346	18,624	110,532	-	289,366	20,930	315,326	289,366	20,930	315,326	289,366	20,930	315,326	289,366	20,930	315,326	289,366	20,930	315,326	289,366	20,930	315,326	289,366	20,930	315,326	289,366	20,930	315,326	289,366	20,930	315,326												
21	March-20	4,055	15,008	95,068	-	289,319	19,289	328,589	289,319	19,289	328,589	289,319	19,289	328,589	289,319	19,289	328,589	289,319	19,289	328,589	289,319	19,289	328,589	289,319	19,289	328,589	289,319	19,289	328,589	289,319	19,289	328,589												
22	April-20	11,582	15,158	93,307	-	249,774	21,546	306,788	249,774	21,546	306,788	249,774	21,546	306,788	249,774	21,546	306,788	249,774	21,546	306,788	249,774	21,546	306,788	249,774	21,546	306,788	249,774	21,546	306,788	249,774	21,546	306,788												
23	May-20	12,746	15,448	106,027	-	222,669	18,217	308,420	222,669	18,217	308,420	222,669	18,217	308,420	222,669	18,217	308,420	222,669	18,217	308,420	222,669	18,217	308,420	222,669	18,217	308,420	222,669	18,217	308,420	222,669	18,217	308,420												
24	June-20	20,430	20,370	131,618	-	292,194	23,564	307,577	292,194	23,564	307,577	292,194	23,564	307,577	292,194	23,564	307,577	292,194	23,564	307,577	292,194	23,564	307,577	292,194	23,564	307,577	292,194	23,564	307,577	292,194	23,564	307,577												
25	July-20	22,753	25,815	147,236	-	287,178	22,975	308,603	287,178	22,975	308,603	287,178	22,975	308,603	287,178	22,975	308,603	287,178	22,975	308,603	287,178	22,975	308,603	287,178	22,975	308,603	287,178	22,975	308,603	287,178	22,975	308,603												
26	August-20	26,385	26,385	156,332	-	299,627	19,467	337,211	299,627	19,467	337,211	299,627	19,467	337,211	299,627	19,467	337,211	299,627	19,467	337,211	299,627	19,467	337,211	299,627	19,467	337,211	299,627	19,467	337,211	299,627	19,467	337,211												
27	September-20	19,595	27,213	146,540	-	291,864	20,171	318,914	291,864	20,171	318,914	291,864	20,171	318,914	291,864	20,171	318,914	291,864	20,171	318,914	291,864	20,171	318,914	291,864	20,171	318,914	291,864	20,171	318,914	291,864	20,171	318,914												
28	12-CP	10,258	19,324	117,505	-	274,256	21,387	315,046	274,256	21,387	315,046	274,256	21,387	315,046	274,256	21,387	315,046	274,256	21,387	315,046	274,256	21,387	315,046	274,256	21,387	315,046	274,256	21,387	315,046	274,256	21,387	315,046												
29	4-CP	20,788	24,946	145,432	-	292,716	21,544	318,076	292,716	21,544	318,076	292,716	21,544	318,076	292,716	21,544	318,076	292,716	21,544	318,076	292,716	21,544	318,076	292,716	21,544	318,076	292,716	21,544	318,076	292,716	21,544	318,076												
30	MAX PEAK	22,753	27,213	156,332	-	299,627	23,631	338,200	299,627	23,631	338,200	299,627	23,631	338,200	299,627	23,631	338,200	299,627	23,631	338,200	299,627	23,631	338,200	299,627	23,631	338,200	299,627	23,631	338,200	299,627	23,631	338,200												

Southwestern Public Service Company
Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST PERIOD ENDED: SEPTEMBER 30, 2020

ADJUSTED COINCIDENT PEAK DEMAND AT THE METER

Line No.		Total		Total		Total		Total		New Mexico Retail CP Demand	
		Loss Level	6	Loss Level	5	Loss Level	4	Loss Level	3		Loss Level
1	October-19	314,951		118,280		234,675		22,922		285,374	976,203
2	November-19	254,403		104,914		234,183		21,238		308,720	923,458
3	December-19	297,693		107,663		243,959		23,135		305,689	978,139
4	January-20		289,821	97,653		231,270		21,535		330,380	970,659
5	February-20		291,111	118,834		264,576		17,904		334,709	1,027,134
6	March-20		200,876	101,050		263,125		16,484		322,807	904,342
7	April-20		226,429	110,747		236,688		21,531		308,099	903,494
8	May-20		279,786	120,073		204,615		21,283		304,395	930,152
9	June-20		319,028	149,247		259,805		22,857		299,957	1,050,894
10	July-20		327,752	164,448		247,747		22,285		301,468	1,063,699
11	August-20		311,380	170,782		258,813		20,399		321,134	1,082,508
12	September-20		287,699	157,243		243,817		21,570		306,201	1,016,531
13	12-CP		283,411	126,744		243,606		21,095		310,745	985,601
14	4-CP		311,465	160,430		252,545		21,778		307,190	1,053,408
15	MAX PEAK		327,752	170,782		264,576		23,135		334,709	1,082,508

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

		Total Loss Level	Total Loss Level	Total Loss Level	Total Loss Level	Total Loss Level	Total Loss Level	New Mexico Retail CP Demand
		6	5	4	3	2		
16	October-19	367,403	137,414	265,421	23,631	292,128		1,085,998
17	November-19	296,771	121,885	264,865	21,895	316,027		1,021,443
18	December-19	347,270	125,080	275,921	23,851	312,923		1,085,046
19	January-20	338,087	113,450	261,570	22,201	338,200		1,073,509
20	February-20	339,593	138,057	299,239	18,458	342,631		1,137,978
21	March-20	234,330	117,397	297,598	16,994	330,447		996,767
22	April-20	264,138	128,663	267,698	22,198	315,391		998,087
23	May-20	326,382	139,497	231,423	21,942	311,599		1,030,842
24	June-20	372,159	173,391	293,844	23,564	307,056		1,170,014
25	July-20	382,335	191,050	280,205	22,975	308,603		1,185,169
26	August-20	363,237	198,409	292,721	21,030	328,734		1,204,132
27	September-20	335,613	182,680	275,760	22,238	313,448		1,129,739
28	12-CP	330,610	147,248	275,522	21,748	318,099		1,093,227
29	4-CP	363,336	186,383	285,633	22,452	314,460		1,172,264
30	MAX PEAK	382,335	198,409	299,239	23,851	342,631		1,204,132

Southwestern Public Service Company

Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST PERIOD ENDED: SEPTEMBER 30, 2020

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	October-19	128,077	154,749	282,826	25,186	2,001	1,947	314,951
2	November-19	108,933	124,115	233,048	19,873	-	1,482	254,403
3	December-19	119,673	143,020	262,693	22,686	6,347	1,609	297,693
4	January-20	132,250	127,366	259,615	20,112	3,571	1,346	289,821
5	February-20	106,659	126,022	232,680	22,430	13,978	1,631	291,111
6	March-20	84,194	99,182	183,376	16,032	-	1,469	200,876
7	April-20	129,277	78,850	208,127	17,179	-	1,123	226,429
8	May-20	162,990	94,856	257,846	20,649	-	1,291	279,786
9	June-20	191,594	98,092	289,686	27,766	-	1,576	319,028
10	July-20	185,713	108,908	294,621	31,316	-	1,815	327,752
11	August-20	171,085	107,284	278,369	31,380	-	1,632	311,380
12	September-20	155,420	101,062	256,482	29,638	-	1,579	287,699
13	12-CP	139,655	113,626	253,281	23,687	1,992	1,542	283,411
14	4-CP	175,953	103,837	279,789	30,025	-	1,650	311,465
15	MAX PEAK	191,594	154,749	294,621	31,380	13,978	1,947	327,752

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE											
				DEMAND LOSS FACTOR							
				(RL)	(RH)	Total	(SGS)	(SL)	(AL)	(SMS)	Total
				Residential Service	Residential With Heating	Residential	Small General Service	Street Lighting	Area Lighting	Small Muni and School Service	Loss Level 6 Sec Non-Demand
16	October-19	149,407	180,521	329,927	29,381	2,335	3,489	2,271	367,403		
17	November-19	127,074	144,785	271,859	23,182	-	-	1,729	296,771		
18	December-19	139,603	166,838	306,442	26,464	5,084	7,404	1,877	347,270		
19	January-20	154,274	148,577	302,852	23,461	4,166	6,038	1,570	338,087		
20	February-20	124,421	147,009	271,431	26,166	16,306	23,787	1,903	339,593		
21	March-20	98,215	115,700	213,915	18,702	-	-	1,713	234,330		
22	April-20	150,806	91,982	242,788	20,040	-	-	1,310	264,138		
23	May-20	190,134	110,654	300,788	24,088	-	-	1,506	326,382		
24	June-20	223,501	114,428	337,930	32,391	-	-	1,838	372,159		
25	July-20	216,641	127,045	343,687	36,531	-	-	2,118	382,335		
26	August-20	199,577	125,151	324,728	36,606	-	-	1,903	363,237		
27	September-20	181,304	117,893	299,197	34,574	-	-	1,842	335,613		
28	12-CP	162,913	132,549	295,462	27,632	3,393	1,798	330,610			
29	4-CP	205,256	121,129	326,385	35,025	-	1,925	363,336			
30	MAX PEAK	223,501	180,521	343,687	36,606	23,787	2,271	382,335			

Southwestern Public Service Company

Peak Demand Information

Part (b) (ii) (1 & 3)
FOR THE TEST PERIOD ENDED: SEPTEMBER 30, 2020

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	(PG) Primary General Service	Total Loss Level 4 Primary Distributor	Sub-Trans. Loss Level 3 Transmission	BB - Transmission Loss Level 2 Transmission
1	October-19	2,797	16,597	98,886	118,280	234,675	234,675	22,922	285,374
2	November-19	486	14,785	89,643	104,914	234,183	234,183	21,238	308,720
3	December-19	477	14,230	92,956	107,663	243,959	243,959	23,135	305,689
4	January-20	2,449	12,728	82,475	97,653	231,270	231,270	21,535	330,380
5	February-20	3,869	16,578	98,387	118,834	264,576	264,576	17,904	334,709
6	March-20	3,590	13,288	84,172	101,050	263,125	263,125	16,484	322,807
7	April-20	10,685	13,984	86,078	110,747	236,688	236,688	21,531	308,099
8	May-20	11,402	13,819	94,851	120,073	204,615	204,615	21,283	304,395
9	June-20	17,684	17,632	113,930	149,247	259,805	259,805	22,857	299,957
10	July-20	19,109	21,681	123,657	164,448	247,747	247,747	22,285	301,468
11	August-20	17,132	22,187	131,463	170,782	258,813	258,813	20,399	321,134
12	September-20	15,936	22,131	119,176	157,243	243,817	243,817	21,570	306,201
13	12-CP	8,801	16,637	101,306	126,744	243,606	243,606	21,095	310,745
14	4-CP	17,465	20,908	122,057	160,430	252,545	252,545	21,778	307,190
15	MAX PEAK	19,109	22,187	131,463	170,782	264,576	264,576	23,135	334,709

ADJUSTED COINCIDENT PEAK DEMAND AT THE SOURCE

	DEMAND LOSS FACTOR			DEMAND LOSS FACTOR		DEMAND LOSS FACTOR		DEMAND LOSS FACTOR		DEMAND LOSS FACTOR	
	(IRR) Irrigation Service	(LMS) Large Municipal and School Service	(SG) Sec General Service	Total Loss Level 5 Secondary- Demand	(PG) Primary General Service	Total Loss Level 4 Primary Distributor	Sub-Trans. Loss Level 3 Transmission	BB - Transmission Loss Level 2 Transmission			
16	October-19	3,250	19,282	114,882	137,414	265,421		23,631		1,023,667	
17	November-19	564	17,176	104,145	121,885	264,865		21,895		292,128	
18	December-19	554	16,533	107,993	125,080	275,921		23,851		316,027	
19	January-20	2,846	14,787	95,817	113,450	261,570		22,201		312,923	
20	February-20	4,495	19,259	114,303	138,057	299,239		18,458		338,200	
21	March-20	4,171	15,437	97,789	117,397	297,598		16,994		342,631	
22	April-20	12,413	16,246	100,003	128,663	267,698		22,198		330,447	
23	May-20	13,247	16,055	110,195	139,497	231,423		21,942		315,391	
24	June-20	20,545	20,485	132,361	173,391	293,844		23,564		311,599	
25	July-20	22,200	25,189	143,661	191,050	280,205		22,975		307,056	
26	August-20	19,903	25,777	152,730	198,409	292,721		21,030		308,603	
27	September-20	18,514	25,712	138,454	182,680	275,760		22,238		328,734	
28	12-CP	10,225	19,328	117,694	147,248	275,522		21,748		313,448	
29	4-CP	20,291	24,290	141,802	186,383	285,633		22,452		318,099	
30	MAX PEAK	22,200	25,777	152,730	198,409	299,239		23,851		314,460	
										342,631	

Southwestern Public Service Company

Plant in Service

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

Line No.	Functional Classification	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019
1	Intangible Plant	\$ 139,573,181	\$ 167,596,907	\$ 213,477,777	\$ 215,877,632	\$ 230,199,569
2	Steam Production Plant	1,778,542,883	1,815,785,408	1,853,752,229	1,884,564,127	1,956,349,625
3	Other Production Plant	285,916,607	286,076,811	288,426,379	289,558,245	992,671,964
4	Transmission Plant	2,228,536,692	2,493,769,017	2,678,015,144	2,986,635,950	3,271,394,574
5	Distribution Plant	1,138,649,650	1,211,728,536	1,297,259,442	1,379,555,963	1,490,887,064
6	General Plant	343,681,523	377,811,783	425,849,102	463,851,962	506,052,439
7	Electric Plant Purchased	10	-	-	-	-
8	Removal of Asset Retirement Costs					
9	Asset Retirement Cost - Steam	\$ 1,912,473	\$ 775,690	\$ 775,690	\$ 254,077	\$ (28,046,786)
10	Asset Retirement Cost - Other	(136,263)	(136,263)	(136,263)	(136,263)	(16,152,845)
11	Asset Retirement Cost - Transmission	(25,029)	(25,029)	(5,621,098)	(7,467,368)	(25,029)
12	Asset Retirement Cost - Distribution	(5,621,098)	(5,621,098)	(64,394)	(64,394)	(7,467,368)
13	Asset Retirement Cost - General	(200,929)	(64,394)	(25,029)	(25,029)	(64,394)
14	Total Removal of Asset Retirement Costs	\$ (4,070,845)	\$ (5,071,094)	\$ (5,071,094)	\$ (7,438,977)	\$ (51,756,421)
15	Total Electric Plant In Service *	\$ 5,910,829,700	\$ 6,347,697,369	\$ 6,751,708,980	\$ 7,212,604,903	\$ 8,395,798,814
16	Plant Held For Future Use	\$ 14,434,483	\$ 4,166,104	\$ 4,166,104	\$ 4,167,109	\$ 4,167,109
17	Construction Work In Progress	236,696,984	260,327,432	351,875,295	849,058,368	486,406,071
18	Electric Plant Acquisition Adjustment	-	-	-	-	-
19	Total Electric Utility Plant	\$ 6,161,961,168	\$ 6,612,190,905	\$ 7,107,750,378	\$ 8,065,830,380	\$ 8,886,371,993

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	12/31/2015 ⁽¹⁾	12/31/2016 ⁽²⁾	12/31/2017 ⁽²⁾	12/31/2018 ⁽³⁾	12/31/2019 ⁽⁴⁾
20	Intangible Plant	\$ 33,942,119	\$ 42,055,248	\$ 53,568,177	\$ 60,348,598	\$ 69,363,986
21	Steam Production Plant	344,717,537	401,301,212	409,692,144	526,351,740	610,631,813
22	Other Production Plant	55,416,414	63,224,966	63,744,237	80,872,539	309,840,876
23	Transmission Plant	421,558,227	483,794,258	519,538,233	625,549,535	809,340,482
24	Distribution Plant	397,327,636	428,091,420	458,308,623	492,950,361	552,700,083
25	General Plant	81,385,087	93,712,429	105,627,605	129,070,597	152,233,147
26	Electric Plant Purchased	2	-	-	-	-
27	Removal of Asset Retirement Costs					
28	Asset Retirement Cost - Steam	\$ 370,676	\$ 171,433	\$ 171,433	\$ 70,963	\$ (8,754,192)
29	Asset Retirement Cost - Other	(26,411)	(30,115)	(30,115)	(38,058)	(5,041,758)
30	Asset Retirement Cost - Transmission	(4,735)	(4,856)	(1,090,500)	(1,564,037)	(6,192)
31	Asset Retirement Cost - Distribution	(1,961,462)	(1,985,877)	(22,750)	(23,010)	(2,768,295)
32	Asset Retirement Cost - General	(47,581)	(15,972)	(6,208)	(6,964)	(19,371)
33	Total Removal of Asset Retirement Costs	<u>(1,669,511)</u>	<u>(1,865,387)</u>	<u>(978,140)</u>	<u>(1,561,106)</u>	<u>(16,589,808)</u>
34	Total Electric Plant In Service	<u>\$ 1,332,677,509</u>	<u>\$ 1,510,314,146</u>	<u>\$ 1,609,500,879</u>	<u>\$ 1,913,582,263</u>	<u>\$ 2,487,520,579</u>
35	Plant Held For Future Use	1,942,405	920,738	920,738	1,163,858	1,010,255
36	Construction Work In Progress	49,994,631	59,033,299	75,064,748	224,046,667	157,457,709
37	Electric Plant Acquisition Adjustment	-	-	-	-	-
38	Total Electric Utility Plant	<u>\$ 1,384,614,545</u>	<u>\$ 1,570,268,184</u>	<u>\$ 1,685,486,366</u>	<u>\$ 2,138,792,788</u>	<u>\$ 2,645,988,543</u>

Notes:

- ⁽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 Case No. 19-00170-UT.
⁽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 September 30, 2020.

Southwestern Public Service Company

Plant in Service

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

Line No.	Functional Classification	10/31/2019	11/30/2019	12/31/2019	1/31/2020	2/29/2020	3/31/2020
1	Intangible Plant	\$ 223,980,533	\$ 226,121,649	\$ 230,199,569	\$ 231,265,799	\$ 231,791,731	\$ 232,783,466
2	Steam Production Plant	1,917,745,720	1,925,325,293	1,956,349,625	1,954,272,340	1,954,573,773	1,944,411,598
3	Other Production Plant	990,363,445	992,584,292	992,671,964	992,929,851	992,959,861	992,654,329
4	Transmission Plant	3,221,066,159	3,229,388,703	3,271,394,574	3,274,346,693	3,287,533,715	3,300,829,008
5	Distribution Plant	1,469,247,684	1,475,553,732	1,490,887,064	1,497,996,495	1,503,592,773	1,509,973,914
6	General Plant	489,948,527	488,012,846	506,052,439	508,660,570	512,051,714	516,521,132
7	Electric Plant Purchased	-	-	-	-	-	-
8	Removal of Asset Retirement Costs						
9	Asset Retirement Cost - Steam	\$ 254,077	\$ 254,077	\$ (28,046,786)	\$ (28,046,786)	\$ (28,046,786)	\$ (28,046,786)
10	Asset Retirement Cost - Other	(16,152,845)	(16,152,845)	(16,152,845)	(16,152,845)	(16,152,845)	(16,152,845)
11	Asset Retirement Cost - Transmission	(25,029)	(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)	(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	\$ (23,455,558)	\$ (23,455,558)	\$ (51,756,421)	\$ (51,756,421)	\$ (51,756,421)	\$ (51,756,421)
15	Total Electric Plant In Service *	\$ 8,288,896,510	\$ 8,313,530,956	\$ 8,395,798,814	\$ 8,407,715,326	\$ 8,430,747,146	\$ 8,445,417,025
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	438,716,629	453,269,487	486,406,071	522,206,516	564,562,682	617,376,175
18	Electric Plant Acquisition Adjustment	-	-	-	-	-	-
19	Total Electric Utility Plant	\$ 8,731,780,247	\$ 8,770,967,552	\$ 8,886,371,993	\$ 8,934,088,951	\$ 8,999,476,936	\$ 9,066,960,308

Southwestern Public Service Company

Plant in Service

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

Line No.	Functional Classification	4/30/2020	5/31/2020	6/30/2020	7/31/2020	8/31/2020	9/30/2020
1	Intangible Plant	\$ 232,893,877	\$ 232,998,448	\$ 235,828,080	\$ 235,936,078	\$ 236,421,159	\$ 236,997,016
2	Steam Production Plant	1,941,150,949	1,949,839,364	1,948,845,752	1,952,154,927	1,953,441,820	1,955,538,263
3	Other Production Plant	993,428,714	993,580,686	988,567,334	996,048,305	997,434,807	997,472,214
4	Transmission Plant	3,310,399,500	3,433,271,977	3,438,307,866	3,439,667,586	3,443,764,699	3,444,365,421
5	Distribution Plant	1,520,657,114	1,528,081,025	1,545,921,595	1,559,060,498	1,569,893,617	\$ 1,576,806,222
6	General Plant	516,044,362	526,055,915	528,805,266	531,133,724	532,622,429	536,041,240
7	Electric Plant Purchased	-	-	-	-	-	-
8	Removal of Asset Retirement Costs						
9	Asset Retirement Cost - Steam	\$ (28,046,786)	\$ (28,046,786)	\$ (28,046,786)	\$ (28,046,786)	\$ (28,046,786)	\$ (28,046,786)
10	Asset Retirement Cost - Other	(16,152,845)	(16,152,845)	(16,152,845)	(16,152,845)	(16,152,845)	(16,152,845)
11	Asset Retirement Cost - Transmission	(25,029)	(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)	(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	<u>\$ (51,756,421)</u>	<u>\$ (51,756,421)</u>	<u>\$ (51,756,421)</u>	<u>\$ (51,756,421)</u>	<u>\$ (51,756,421)</u>	<u>\$ (51,756,421)</u>
15	Total Electric Plant In Service *	<u>\$ 8,462,818,095</u>	<u>\$ 8,612,070,994</u>	<u>\$ 8,634,519,470</u>	<u>\$ 8,662,244,696</u>	<u>\$ 8,681,822,109</u>	<u>\$ 8,695,463,955</u>
16	Plant Held For Future Use	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109	\$ 4,167,109	4,167,108.50
17	Construction Work In Progress	736,404,854	709,059,710	802,661,604	882,610,566	974,308,812	1,075,370,125.77
18	Electric Plant Acquisition Adjustment	-	-	-	-	-	-
19	Total Electric Utility Plant	<u>\$ 9,203,390,058</u>	<u>\$ 9,325,297,813</u>	<u>\$ 9,441,348,182</u>	<u>\$ 9,549,022,370</u>	<u>\$ 9,660,298,029</u>	<u>\$ 9,775,001,189</u>

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	10/31/2019 ⁽⁴⁾	11/30/2019 ⁽⁴⁾	12/31/2019 ⁽⁴⁾	1/31/2020 ⁽⁴⁾	2/29/2020 ⁽⁴⁾	3/31/2020 ⁽⁴⁾
20	Intangible Plant	\$ 67,490,059	\$ 68,135,222	\$ 69,363,986	\$ 69,685,264	\$ 69,843,738	\$ 70,142,569
21	Steam Production Plant	598,582,447	600,948,245	610,631,813	609,983,434	610,077,520	606,905,619
22	Other Production Plant	309,120,322	309,813,511	309,840,876	309,921,370	309,930,737	309,835,371
23	Transmission Plant	796,889,272	798,948,262	809,340,482	810,070,834	813,333,293	816,622,539
24	Distribution Plant	544,677,955	547,015,727	552,700,083	555,335,684	557,410,330	559,775,940
25	General Plant	147,388,690	146,806,389	152,233,147	153,017,737	154,037,877	155,382,389
26	Electric Plant Purchased	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27	Removal of Asset Retirement Costs						
28	Asset Retirement Cost - Steam	\$ 79,304	\$ 79,304	\$ (8,754,192)	\$ (8,754,192)	\$ (8,754,192)	\$ (8,754,192)
29	Asset Retirement Cost - Other	(5,041,758)	(5,041,758)	(5,041,758)	(5,041,758)	(5,041,758)	(5,041,758)
30	Asset Retirement Cost - Transmission	(6,192)	(6,192)	(6,192)	(6,192)	(6,192)	(6,192)
31	Asset Retirement Cost - Distribution	(2,768,295)	(2,768,295)	(2,768,295)	(2,768,295)	(2,768,295)	(2,768,295)
32	Asset Retirement Cost - General	(19,371)	(19,371)	(19,371)	(19,371)	(19,371)	(19,371)
33	Total Removal of Asset Retirement Costs	\$ (7,756,311)	\$ (7,756,311)	\$ (16,589,808)	\$ (16,589,808)	\$ (16,589,808)	\$ (16,589,808)
34	Total Electric Plant In Service	\$ 2,456,392,433	\$ 2,463,911,045	\$ 2,487,520,579	\$ 2,491,424,515	\$ 2,498,043,688	\$ 2,502,074,619
35	Plant Held For Future Use	1,010,255	\$ 1,010,255	\$ 1,010,255	\$ 1,010,255	\$ 1,010,255	\$ 1,010,255
36	Construction Work In Progress	142,019,846	146,730,847	157,457,709	169,046,907	182,758,300	199,854,903
37	Electric Plant Acquisition Adjustment	-	-	-	-	-	-
38	Total Electric Utility Plant	\$ 2,599,422,534	\$ 2,611,652,147	\$ 2,645,988,543	\$ 2,661,481,676	\$ 2,681,812,242	\$ 2,702,939,776

Notes:

⁽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 September 30, 2020.

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	4/30/2020 ⁽⁴⁾	5/31/2020 ⁽⁴⁾	6/30/2020 ⁽⁴⁾	7/31/2020 ⁽⁴⁾	8/31/2020 ⁽⁴⁾	9/30/2020 ⁽⁴⁾
20	Intangible Plant	\$ 70,175,838	\$ 70,207,347	\$ 71,059,975	\$ 71,092,517	\$ 71,238,682	\$ 71,412,200
21	Steam Production Plant	605,887,878	608,599,777	608,289,643	609,322,530	609,724,205	610,378,564
22	Other Production Plant	310,077,079	310,124,514	308,559,705	310,894,727	311,327,493	311,339,169
23	Transmission Plant	818,990,271	849,388,826	850,634,701	850,971,095	851,984,718	852,133,336
24	Distribution Plant	563,736,405	566,488,589	573,102,427	577,973,267	581,989,309	584,551,943
25	General Plant	155,238,965	158,250,689	159,077,762	159,778,220	160,226,059	161,254,523
26	Electric Plant Purchased	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27	Removal of Asset Retirement Costs						
28	Asset Retirement Cost - Steam	\$ (8,754,192)	\$ (8,754,192)	\$ (8,754,192)	\$ (8,754,192)	\$ (8,754,192)	\$ (8,754,192)
29	Asset Retirement Cost - Other	(5,041,758)	(5,041,758)	(5,041,758)	(5,041,758)	(5,041,758)	(5,041,758)
30	Asset Retirement Cost - Transmission	(6,192)	(6,192)	(6,192)	(6,192)	(6,192)	(6,192)
31	Asset Retirement Cost - Distribution	(2,768,295)	(2,768,295)	(2,768,295)	(2,768,295)	(2,768,295)	(2,768,295)
32	Asset Retirement Cost - General	(19,371)	(19,371)	(19,371)	(19,371)	(19,371)	(19,371)
33	Total Removal of Asset Retirement Costs	<u>\$ (16,589,808)</u>	<u>\$ (16,589,808)</u>	<u>\$ (16,589,808)</u>	<u>\$ (16,589,808)</u>	<u>\$ (16,589,808)</u>	<u>\$ (16,589,808)</u>
34	Total Electric Plant In Service	<u>\$ 2,507,516,628</u>	<u>\$ 2,546,469,935</u>	<u>\$ 2,554,134,405</u>	<u>\$ 2,563,442,548</u>	<u>\$ 2,569,900,660</u>	<u>\$ 2,574,479,927</u>
35	Plant Held For Future Use	\$ 1,010,255	\$ 1,010,255	\$ 1,010,255	\$ 1,010,255	\$ 1,010,255	\$ 1,010,255
36	Construction Work In Progress	238,386,460	229,534,383	259,834,868	285,715,673	315,399,915	348,115,138
37	Electric Plant Acquisition Adjustment	-	-	-	-	-	-
38	Total Electric Utility Plant	<u>\$ 2,746,913,342</u>	<u>\$ 2,777,014,573</u>	<u>\$ 2,814,979,528</u>	<u>\$ 2,850,168,475</u>	<u>\$ 2,886,310,829</u>	<u>\$ 2,923,605,319</u>

Notes:

⁽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 September 30, 2020.

Southwestern Public Service Company

Plant in Service

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

Line No.	Functional Classification	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
1	Intangible Plant	\$ 248,599,533	\$ 278,110,265	\$ 324,116,899	\$ 350,462,225	\$ 373,140,216
2	Steam Production Plant	1,981,419,753	2,018,218,931	2,062,424,021	2,089,348,076	2,179,169,370
3	Other Production Plant	1,824,182,882	1,839,976,865	1,852,521,595	1,854,392,095	1,893,652,343
4	Transmission Plant	3,682,785,986	3,887,624,897	4,106,267,505	4,235,929,510	4,471,768,936
5	Distribution Plant	1,639,681,707	1,739,803,058	1,889,678,106	2,089,947,247	2,278,656,136
6	General Plant	554,883,510	620,653,737	692,160,496	770,897,853	842,155,456
7	Electric Plant Purchased	-	-	-	-	-
8	Removal of Asset Retirement Costs					
9	Asset Retirement Cost - Steam	\$ (28,046,786)	\$ (28,046,786)	\$ (28,046,786)	\$ (28,046,786)	\$ (28,046,786)
10	Asset Retirement Cost - Other	(16,152,845)	(16,152,845)	(16,152,845)	(16,152,845)	(16,152,845)
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	\$ (51,756,421)	\$ (51,756,421)	\$ (51,756,421)	\$ (51,756,421)	\$ (51,756,421)
15	Total Electric Plant In Service *	\$ 9,879,796,949	\$ 10,332,631,331	\$ 10,875,412,201	\$ 11,339,220,585	\$ 11,986,786,035
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	119,474,950	137,897,506	231,012,681	493,682,933	563,087,315
18	Electric Plant Acquisition Adjustment	-	-	-	-	-
19	Total Electric Utility Plant	\$ 10,003,439,008	\$ 10,474,695,946	\$ 11,110,591,990	\$ 11,837,070,626	\$ 12,554,040,459

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 2024 is not available.

Southwestern Public Service Company

Plant in Service

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

Line No.	Functional Classification	12/31/2020 ⁽⁴⁾	12/31/2021 ⁽⁴⁾	12/31/2022 ⁽⁴⁾	12/31/2023 ⁽⁴⁾	12/31/2024 ⁽⁴⁾
20	Intangible Plant	\$	\$	\$	\$	\$
21	Steam Production Plant	74,908,283	83,800,489	97,663,259	105,601,661	112,435,018
22	Other Production Plant	618,456,906	629,942,966	643,740,619	652,144,375	680,180,131
23	Transmission Plant	569,378,850	574,308,597	578,224,161	578,807,997	591,062,226
24	Distribution Plant	911,118,399	961,795,387	1,015,887,399	1,047,965,678	1,106,312,169
25	General Plant	607,861,076	644,977,958	700,539,478	774,783,044	844,741,004
		166,922,746	186,708,064	208,219,074	231,905,227	253,341,284
26	Electric Plant Purchased	-	-	-	-	-
27	Removal of Asset Retirement Costs					
28	Asset Retirement Cost - Steam	\$	\$	\$	\$	\$
29	Asset Retirement Cost - Other	(8,754,192)	(8,754,192)	(8,754,192)	(8,754,192)	(8,754,192)
30	Asset Retirement Cost - Transmission	(5,041,758)	(5,041,758)	(5,041,758)	(5,041,758)	(5,041,758)
31	Asset Retirement Cost - Distribution	(6,192)	(6,192)	(6,192)	(6,192)	(6,192)
32	Asset Retirement Cost - General	(2,768,295)	(2,768,295)	(2,768,295)	(2,768,295)	(2,768,295)
33	Total Removal of Asset Retirement Costs	<u>(19,371)</u>	<u>(19,371)</u>	<u>(19,371)</u>	<u>(19,371)</u>	<u>(19,371)</u>
		\$	\$	\$	\$	\$
		(16,589,808)	(16,589,808)	(16,589,808)	(16,589,808)	(16,589,808)
34	Total Electric Plant In Service	<u>\$ 2,932,056,453</u>	<u>\$ 3,064,943,654</u>	<u>\$ 3,227,684,182</u>	<u>\$ 3,374,618,174</u>	<u>\$ 3,571,482,025</u>
35	Plant Held For Future Use	\$	\$	\$	\$	\$
		1,010,255	1,010,255	1,010,255	1,010,255	1,010,255
36	Construction Work In Progress	38,676,022	44,639,709	74,782,635	159,813,350	182,280,699
37	Electric Plant Acquisition Adjustment	-	-	-	-	-
38	Total Electric Utility Plant	<u>\$ 2,971,742,730</u>	<u>\$ 3,110,593,617</u>	<u>\$ 3,303,477,071</u>	<u>\$ 3,535,441,778</u>	<u>\$ 3,754,772,978</u>

Note: Forecasted data beyond 2024 is not available.⁽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 September 30, 2020.

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	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019
Property Additions						
1	Production	\$ 64,393,073	\$ 47,426,854	\$ 64,419,400	\$ 42,094,094	\$ 733,803,675
2	Transmission	333,420,180	258,705,601	196,015,193	334,361,671	299,192,231
3	Distribution	107,627,828	81,287,146	94,859,713	102,494,674	117,643,015
4	General & Intangible	87,408,426	68,544,221	122,602,907	54,890,136	70,476,669
5	Total Additions	\$ 592,849,507	\$ 455,963,822	\$ 477,897,213	\$ 533,840,575	\$ 1,221,115,591
Property Retirements						
7	Production	\$ (12,844,394)	\$ (11,160,908)	\$ (24,103,012)	\$ (10,670,938)	\$ (3,221,903)
8	Transmission	(8,034,998)	(3,741,665)	(12,106,425)	(25,403,506)	(14,445,283)
9	Distribution	(10,629,338)	(8,208,260)	(10,531,067)	(20,842,163)	(6,159,842)
10	General & Intangible	(13,472,448)	(5,306,384)	(27,145,100)	(16,027,040)	(14,094,652)
11	Total Retirements	\$ (44,981,179)	\$ (28,417,217)	\$ (73,885,603)	\$ (72,943,646)	\$ (37,921,680)

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

Functional Classification		12/31/2015 ⁽¹⁾	12/31/2016 ⁽²⁾	12/31/2017 ⁽²⁾	12/31/2018 ⁽³⁾	12/31/2019 ⁽⁴⁾
13	Property Additions					
14	Production	\$ 12,480,678	\$ 10,481,665	\$ 14,237,136	\$ 11,756,724	\$ 229,040,792
15	Transmission	63,070,992	50,189,205	38,027,189	70,031,899	74,019,926
16	Distribution	37,556,338	28,717,926	33,512,976	36,623,948	43,612,495
17	General & Intangible	20,952,552	17,066,854	30,526,949	15,295,593	21,211,856
18	Total Additions	\$ 134,060,560	\$ 106,455,649	\$ 116,304,249	\$ 133,708,164	\$ 367,885,070
19	Property Retirements					
20	Production	\$ (2,489,503)	\$ (2,466,638)	\$ (5,326,933)	\$ (2,980,353)	\$ (1,005,647)
21	Transmission	(1,519,930)	(725,888)	(2,348,661)	(5,320,753)	(3,573,752)
22	Distribution	(3,709,069)	(2,899,895)	(3,720,519)	(7,447,434)	(2,283,570)
23	General & Intangible	(3,234,325)	(1,321,239)	(6,758,870)	(4,466,068)	(4,242,166)
24	Total Retirements	\$ (10,952,827)	\$ (7,413,660)	\$ (18,154,983)	\$ (20,214,608)	\$ (11,105,135)

Notes: 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 Case No. 19-00170-UT.⁽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 September 30, 2020.

Southwestern Public Service Company

Property Retirements and Property Investment Information

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

Line No.	Functional Classification	10/31/2019	11/30/2019	12/31/2019	1/31/2020	2/29/2020	3/31/2020
1	Property Additions						
2	Production	\$ 4,212,480	\$ 9,800,419	\$ 2,811,141	\$ 1,329,091	\$ 331,443	\$ 730,489
3	Transmission	12,234,402	11,143,187	42,673,623	3,307,738	16,892,293	12,957,133
4	Distribution	8,370,634	7,337,498	20,271,233	7,353,776	7,189,881	7,982,840
5	General & Intangible	3,037,313	240,896	26,565,908	3,211,591	3,943,354	5,461,153
6	Total Additions	\$ 27,854,829	\$ 28,522,000	\$ 92,321,905	\$ 15,202,196	\$ 28,356,971	\$ 27,131,615
7	Property Retirements						
8	Production	\$ -	\$ -	\$ -	\$ (3,148,489)	\$ -	\$ (11,198,195)
9	Transmission	(652,172)	(2,820,644)	(667,752)	(355,618)	(3,705,271)	(379,059)
10	Distribution	(2,565,181)	(1,031,449)	(4,937,901)	(244,345)	(1,593,603)	(884,480)
11	General & Intangible	(834,795)	(35,462)	(4,448,394)	462,769	(26,278)	-
12	Total Retirements	\$ (6,130,793)	\$ (3,887,554)	\$ (10,054,047)	\$ (3,285,684)	\$ (5,325,151)	\$ (12,461,735)

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

Functional Classification	10/31/2019 ⁽⁴⁾	11/30/2019 ⁽⁴⁾	12/31/2019 ⁽⁴⁾	1/31/2020 ⁽⁴⁾	2/29/2020 ⁽⁴⁾	3/31/2020 ⁽⁴⁾
13 Property Additions						
14 Production	\$ 1,314,834	\$ 3,058,987	\$ 877,436	\$ 414,847	\$ 103,453	\$ 228,006
15 Transmission	3,026,782	2,756,816	10,557,421	818,332	4,179,140	3,205,585
16 Distribution	3,103,153	2,720,149	7,514,930	2,726,184	2,665,425	2,959,390
17 General & Intangible	914,161	72,504	7,995,727	966,615	1,186,859	1,643,681
18 Total Additions	\$ 8,358,929	\$ 8,608,456	\$ 26,945,515	\$ 4,925,978	\$ 8,134,877	\$ 8,036,662
19 Property Retirements						
20 Production	\$ -	\$ -	\$ -	\$ (982,732)	\$ -	\$ (3,495,272)
21 Transmission	(203,561)	(697,825)	(165,201)	(87,980)	(916,681)	(93,779)
22 Distribution	(634,624)	(382,378)	(1,830,573)	(90,583)	(590,779)	(327,894)
23 General & Intangible	(309,474)	(10,673)	(1,338,864)	139,283	(7,909)	-
24 Total Retirements	\$ (1,773,284)	\$ (1,090,876)	\$ (3,334,639)	\$ (1,022,013)	\$ (1,515,369)	\$ (3,916,945)

Notes: 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 September 30, 2020.

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	4/30/2020	5/31/2020	6/30/2020	7/31/2020	8/31/2020	9/30/2020
1	Property Additions						
2	Production	\$ 1,459,637	\$ 9,033,957	\$ 593,646	\$ 13,661,631	\$ 2,673,395	\$ 2,133,850
3	Transmission	9,870,996	123,379,695	6,049,570	2,545,112	4,632,744	737,348
4	Distribution	11,676,954	8,204,490	18,469,551	14,233,415	11,527,730	7,851,852
5	General & Intangible	2,354,943	10,116,124	5,540,159	2,772,789	2,114,728	6,955,533
6	Total Additions	\$ 25,362,530	\$ 150,734,267	\$ 30,652,926	\$ 33,212,947	\$ 20,948,597	\$ 17,678,584
7	Property Retirements						
8	Production	\$ (3,945,901)	\$ (193,571)	\$ (6,600,610)	\$ (2,871,485)	\$ -	\$ -
9	Transmission	(292,584)	(507,219)	(651,081)	(1,185,392)	(535,631)	(136,625)
10	Distribution	(993,754)	(780,579)	(637,684)	(1,094,513)	(694,610)	(939,249)
11	General & Intangible	(2,729,221)	-	(315,074)	(336,332)	(140,943)	(2,960,865)
12	Total Retirements	\$ (7,961,460)	\$ (1,481,368)	\$ (8,204,449)	\$ (5,487,721)	\$ (1,371,184)	\$ (4,036,739)

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

Functional Classification	4/30/2020 ⁽⁴⁾	5/31/2020 ⁽⁴⁾	6/30/2020 ⁽⁴⁾	7/31/2020 ⁽⁴⁾	8/31/2020 ⁽⁴⁾	9/30/2020 ⁽⁴⁾
13 Property Additions						
14 Production	\$ 455,594	\$ 2,819,753	\$ 185,294	\$ 4,264,180	\$ 834,442	\$ 666,035
15 Transmission	2,442,077	30,524,041	1,496,659	629,659	1,146,137	182,419
16 Distribution	4,328,868	3,041,560	6,847,013	5,276,597	4,273,548	2,910,830
17 General & Intangible	708,784	3,044,720	1,667,461	834,546	636,485	2,093,455
18 Total Additions	\$ 7,935,322	\$ 39,430,074	\$ 10,196,425	\$ 11,004,981	\$ 6,890,612	\$ 5,852,740
19 Property Retirements						
20 Production	\$ (1,231,627)	\$ (60,419)	\$ (2,060,236)	\$ (896,271)	\$ -	\$ -
21 Transmission	(72,385)	(125,486)	(161,077)	(293,265)	(132,515)	(33,801)
22 Distribution	(368,403)	(236,402)	(405,757)	(405,757)	(257,505)	(348,197)
23 General & Intangible	(821,433)	-	(94,830)	(101,228)	(42,420)	(891,152)
24 Total Retirements	\$ (2,493,848)	\$ (475,280)	\$ (2,552,545)	\$ (1,696,521)	\$ (432,440)	\$ (1,273,150)

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 September 30, 2020.

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	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
1	Property Additions					
2	Production	\$ 884,539,298	\$ 52,593,161	\$ 56,749,820	\$ 28,794,555	\$ 129,081,542
3	Transmission	424,546,232	219,489,201	234,179,238	146,126,249	252,755,498
4	Distribution	163,224,987	112,332,831	162,752,030	214,133,889	203,933,326
5	General & Intangible	72,915,163	95,280,959	117,513,393	105,082,683	93,935,593
6	Total Additions	\$ 1,545,225,680	\$ 479,696,151	\$ 571,194,482	\$ 494,137,376	\$ 679,705,960
7	Property Retirements					
8	Production	\$ (27,958,251)	\$ -	\$ -	\$ -	\$ -
9	Transmission	(13,501,520)	(14,650,289)	(15,536,630)	(16,464,244)	(16,916,073)
10	Distribution	(13,512,649)	(12,211,480)	(12,876,982)	(13,864,747)	(15,224,437)
11	General & Intangible	(6,045,944)	-	-	-	-
12	Total Retirements	\$ (61,018,363)	\$ (26,861,769)	\$ (28,413,612)	\$ (30,328,992)	\$ (32,140,510)

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

Functional Classification	12/31/2020 ⁽⁴⁾	12/31/2021 ⁽⁴⁾	12/31/2022 ⁽⁴⁾	12/31/2023 ⁽⁴⁾	12/31/2024 ⁽⁴⁾
13 Property Additions					
14 Production	\$ 276,089,625	\$ 16,415,807	\$ 17,713,217	\$ 8,987,592	\$ 40,289,985
15 Transmission	105,032,409	54,301,458	57,935,762	36,151,521	62,531,514
16 Distribution	60,510,596	41,643,909	60,335,261	79,383,490	75,601,948
17 General & Intangible	21,945,787	28,677,377	35,368,828	31,627,470	28,272,453
18 Total Additions	\$ 463,578,416	\$ 141,038,550	\$ 171,353,069	\$ 156,150,073	\$ 206,695,900
19 Property Retirements					
20 Production	\$ (8,726,557)	\$ -	\$ -	\$ -	\$ -
21 Transmission	(3,340,265)	(3,624,470)	(3,843,750)	(4,073,241)	(4,185,023)
22 Distribution	(5,009,395)	(4,527,027)	(4,773,741)	(5,139,925)	(5,643,987)
23 General & Intangible	(1,819,690)	-	-	-	-
24 Total Retirements	\$ (18,895,908)	\$ (8,151,497)	\$ (8,617,491)	\$ (9,213,166)	\$ (9,829,010)

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

Forecasted data beyond 2024 is not available.

⁽⁴⁾ Plant Additions and Retirements allocated to New Mexico jurisdiction based on factors from this current filing's Test Year Period ending September 30, 2020.

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	2015	2016	2017	2018	2019
1	Production	\$ 155,596,242	\$ 137,127,355	\$ 136,901,885	\$ 138,411,968	\$ 132,746,480
2	Transmission ⁽¹⁾	145,593,711	173,307,469	191,521,738	195,643,991	200,383,196
3	Regional Markets	7,878,205	6,652,732	8,338,286	8,873,484	8,492,676
4	Distribution	38,255,587	31,290,851	36,119,850	38,733,282	35,668,484
5	Customer Operations	32,252,565	39,200,180	36,994,207	37,008,384	38,659,569
6	Administrative & General	107,891,773	102,508,777	105,745,815	109,599,017	112,672,285
7	Total	\$ 487,468,082	\$ 490,087,363	\$ 515,621,781	\$ 528,270,127	\$ 528,622,690

Notes:

⁽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	2015 ⁽²⁾	2016 ⁽³⁾	2017 ⁽³⁾	2018 ⁽⁴⁾	2019 ⁽⁵⁾
1	Production	\$ 31,560,631	\$ 30,770,353	\$ 30,867,563	\$ 44,191,898	\$ 42,383,032
2	Transmission ⁽¹⁾	26,084,967	28,349,586	31,379,321	46,239,840	47,359,936
3	Regional Markets	2,153,898	1,867,891	2,344,820	2,431,342	2,327,000
4	Distribution	12,742,723	10,077,165	11,632,336	14,467,265	13,322,533
5	Customer Operations	8,884,920	10,935,544	10,320,151	11,184,067	11,683,061
6	Administrative & General	25,926,870	27,904,192	28,866,270	36,014,075	37,023,946
7	Total	\$ 107,354,010	\$ 109,904,732	\$ 115,410,461	\$ 154,528,487	\$ 154,099,509

Notes:

- ⁽¹⁾ SPS does not record Transmission O&M expense by voltage level.
⁽²⁾ 2015 O&M expenses allocated to New Mexico jurisdiction based on factors from Case No. 15-00296-UT.
⁽³⁾ 2016 & 2017 O&M expenses allocated to New Mexico jurisdiction based on factors from Case No. 17-00255-UT.
⁽⁴⁾ 2018 O&M expenses allocated to New Mexico jurisdiction based on factors from Case No. 19-00170-UT.
⁽⁵⁾ 2019 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	October 2019	November 2019	December 2019	January 2020	February 2020	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020
1	Production	\$ 10,984,341	\$ 11,584,634	\$ 12,565,719	\$ 11,491,891	\$ 11,359,276	\$ 13,022,595	\$ 11,115,607	\$ 11,029,657	\$ 9,612,866	\$ 8,951,007	\$ 8,152,395	\$ 9,771,397
2	Transmission ⁽¹⁾	16,603,853	16,473,819	17,028,617	17,931,247	17,232,873	17,078,340	16,978,453	17,674,520	17,014,744	17,836,515	17,696,266	16,810,244
3	Regional Markets	721,913	685,057	731,859	721,939	697,739	760,278	702,605	754,402	715,146	755,145	744,133	722,163
4	Distribution	1,551,538	2,951,639	2,759,278	3,005,804	3,274,784	2,553,388	3,532,294	2,521,758	296,656	2,769,777	2,540,227	2,925,799
5	Customer Operations	3,416,805	2,607,963	2,903,081	2,830,769	3,063,042	4,719,423	3,202,383	1,244,155	3,067,945	3,815,667	2,905,786	2,975,632
6	Administrative & General	9,677,266	8,228,107	8,906,427	9,605,341	8,035,818	9,263,191	8,522,797	7,733,854	10,911,759	7,528,836	8,505,232	14,625,363
7	Total	\$ 42,955,716	\$ 42,531,219	\$ 44,894,981	\$ 45,586,991	\$ 43,663,532	\$ 47,397,215	\$ 44,054,139	\$ 40,958,346	\$ 41,619,116	\$ 41,656,948	\$ 40,544,039	\$ 47,830,598

Notes:

⁽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 Power

Line No.	Classification	October 2019 ⁽²⁾	November 2019 ⁽²⁾	December 2019 ⁽²⁾	January 2020 ⁽²⁾	February 2020 ⁽²⁾	March 2020 ⁽²⁾	April 2020 ⁽²⁾	May 2020 ⁽²⁾	June 2020 ⁽²⁾	July 2020 ⁽²⁾	August 2020 ⁽²⁾	September 2020 ⁽²⁾
1	Production	\$ 3,507,059	\$ 3,698,719	\$ 4,011,958	\$ 3,669,108	\$ 3,626,767	\$ 4,157,828	\$ 3,548,969	\$ 3,521,527	\$ 3,069,177	\$ 2,857,860	\$ 2,602,881	\$ 3,119,792
2	Transmission ⁽¹⁾	3,924,268	3,893,535	4,024,660	4,237,994	4,072,935	4,036,412	4,012,804	4,177,317	4,021,381	4,215,604	4,182,457	3,973,048
3	Regional Markets	197,805	187,706	200,530	197,812	191,181	208,317	192,514	206,707	195,951	206,910	203,893	197,873
4	Distribution	579,515	1,102,466	1,030,618	1,122,698	1,223,164	953,716	1,319,347	941,902	110,804	1,034,539	948,800	1,092,815
5	Customer Operations	1,032,571	788,136	877,322	855,469	925,662	1,426,227	967,772	375,988	927,144	1,153,108	878,139	899,247
6	Administrative & General	3,179,935	2,703,744	2,926,639	3,156,301	2,640,558	3,043,871	2,800,578	2,541,333	3,585,588	2,473,964	2,794,807	4,805,873
7	Total	\$ 12,421,153	\$ 12,374,306	\$ 13,071,726	\$ 13,239,381	\$ 12,680,268	\$ 13,826,370	\$ 12,841,984	\$ 11,764,774	\$ 11,910,044	\$ 11,941,986	\$ 11,610,976	\$ 14,088,648

Notes:

⁽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	2020	2021 ⁽²⁾	2022 ⁽²⁾	2023 ⁽²⁾	2024 ⁽²⁾	2025 ⁽²⁾
1	Production	\$ 126,080,632	\$ 146,597,476	\$ 141,587,029	\$ 139,855,539	\$ 141,590,397	\$ 140,443,947
2	Transmission ⁽¹⁾	206,952,300	219,024,377	203,292,886	195,295,998	193,500,977	193,395,209
3	Regional Markets	8,850,674	9,344,055	9,360,261	9,378,601	9,395,864	9,411,999
4	Distribution	29,944,217	39,225,177	41,044,732	43,211,166	43,812,063	43,277,675
5	Customer Operations	37,923,803	38,596,547	43,177,838	43,288,104	45,486,740	46,334,375
6	Administrative & General	112,800,963	100,352,128	107,865,415	104,101,394	103,846,592	98,686,851
7	Total	\$ 522,552,588	\$ 553,139,762	\$ 546,328,162	\$ 535,130,802	\$ 537,632,633	\$ 531,550,057

Notes:

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

⁽²⁾ 2020-2025 represents the Budgeted amounts from SPS's 2020 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	2020 ⁽³⁾	2021 ⁽³⁾	2022 ⁽³⁾	2023 ⁽³⁾	2024 ⁽³⁾	2025 ⁽³⁾
1	Production	\$ 40,254,774	\$ 46,805,351	\$ 45,205,625	\$ 44,652,798	\$ 45,206,700	\$ 44,840,664
2	Transmission ⁽¹⁾	48,912,523	51,765,721	48,047,632	46,157,593	45,733,345	45,708,347
3	Regional Markets	2,425,092	2,560,279	2,564,719	2,569,744	2,574,474	2,578,895
4	Distribution	11,184,462	14,650,993	15,330,615	16,139,799	16,364,240	16,164,641
5	Customer Operations	11,460,710	11,664,016	13,048,499	13,081,821	13,746,257	14,002,415
6	Administrative & General	37,066,230	32,975,561	35,444,416	34,207,564	34,123,836	32,428,353
7	Total	\$ 151,303,790	\$ 160,421,920	\$ 159,641,506	\$ 156,809,321	\$ 157,748,854	\$ 155,723,317

Notes:

⁽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	709,978,323	692,380,064	(17,598,259)	\$ 58,861,336
2	Residential Space Heating Service	39	507,512,722	501,130,667	(6,382,054)	34,946,756
3	Small General Service	6	154,630,990	151,578,571	(3,052,419)	10,963,997
4	Secondary General Service	40	715,802,470	725,501,793	9,699,323	44,356,423
5	Irrigation Service	3	75,833,502	75,816,355	(17,148)	4,944,095
6	Primary General Service	13	2,069,820,584	2,053,489,266	(16,331,318)	88,809,239
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	159,467,717	159,467,717	0	4,294,190
8	LGS-T 115 kV + ⁽¹⁾	34	2,656,612,294	2,813,231,236	156,618,942	64,589,278
9	Small Municipal & School Service	42	11,110,249	10,903,535	(206,713)	738,064
10	Large Municipal & School Service	16	116,436,233	114,065,590	(2,370,643)	6,219,792
11	Street Lighting Service	14	11,844,802	10,551,268	(1,293,534)	2,077,077
12	Area Lighting Service	28	15,251,730	15,251,730	0	2,242,180
13	Retail		7,204,301,616	7,323,367,793	119,066,177	\$ 323,042,427

⁽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.	New Mexico Customer Class	Rate No.	2015		2016		2017		2018		2019	
			Custs at Dec	Avg Custs	Custs at Dec	Avg Custs	Custs at Dec	Avg Custs	Custs at Dec	Avg Custs	Custs at Dec	Avg Custs
1	Residential Service	1	58,578	58,124	58,640	58,721	59,367	59,011	60,255	59,872	61,324	60,884
2	Residential Space Heating Service	39	29,814	29,830	29,649	29,749	29,671	29,671	29,744	29,715	29,757	29,758
3	Small General Service	6	11,281	11,224	11,481	11,424	11,575	11,537	11,765	11,666	11,884	11,855
4	Secondary General Service	40	3,368	3,280	3,449	3,416	3,523	3,490	3,752	3,640	3,947	3,858
5	Irrigation Service	3	1,020	1,021	1,020	1,019	1,012	1,015	1,010	1,012	998	1,005
6	Primary General Service	13	4,696	4,638	4,776	4,765	4,756	4,793	4,853	4,821	4,902	4,878
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	6	6	5	6	5	5	5	5	5	5
8	LGS-T 115 kV + ⁽¹⁾	34	23	22	26	25	26	28	27	27	31	30
9	Small Municipal & School Service	42	1,181	1,187	1,188	1,192	1,168	1,175	1,178	1,175	1,168	1,170
10	Large Municipal & School Service	16	532	525	550	542	561	555	562	563	569	567
11	Street Lighting Service	14	19	19	19	19	19	19	19	19	18	18
12	Area Lighting Service	28	9,345	9,387	9,216	9,292	9,126	9,172	9,065	9,088	9,049	9,082
13	Retail		119,863	119,263	120,019	120,171	120,809	120,471	122,235	121,603	123,652	123,109

⁽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.	New Mexico Customer Class	Rate No.	TY		Avg TY		Custs		Avg Custs		Custs		Avg Custs		Custs		Avg Custs		Custs		Avg Custs	
			12-Months Ended Sep 2020	12-Months Ended Sep 2020	12-Months Ended Sep 2020	12-Months Ended Sep 2020	12-Months Ended Dec 2020	12-Months Ended Dec 2020	12-Months Ended Dec 2020	12-Months Ended Dec 2020	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 2022	12-Months Ended Dec 2022	12-Months Ended Dec 2022	12-Months Ended Dec 2022
1	Residential Service	1	61,829	61,567	62,063	61,760	62,503	62,291	63,526	63,034												
2	Residential Space Heating Service	39	29,711	29,752	29,739	29,748	29,727	29,733	29,715	29,721												
3	Small General Service	6	11,888	11,881	11,905	11,887	11,928	11,899	12,126	12,028												
4	Secondary General Service	40	4,083	4,001	4,032	4,027	4,039	4,030	4,107	4,073												
5	Irrigation Service	3	1,002	998	999	998	1,001	999	1,018	1,010												
6	Primary General Service	13	4,915	4,898	4,890	4,896	4,903	4,890	4,987	4,946												
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	5	5	5	5	5	5	6	5												
8	LGS-T 115 kV + ⁽¹⁾	34	30	31	31	31	32	32	34	33												
9	Small Municipal & School Service	42	1,177	1,172	1,175	1,174	1,178	1,177	1,183	1,181												
10	Large Municipal & School Service	16	572	569	570	570	572	571	574	573												
11	Street Lighting Service	14	18	18	18	18	18	18	18	18												
12	Area Lighting Service	28	8,990	9,036	8,983	9,018	8,915	8,944	8,847	8,875												
13	Retail		124,220	123,927	124,410	124,131	124,821	124,588	126,141	125,498												

⁽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 tl

Line No.	New Mexico Customer Class	Rate No.	Custs 12-Months Ended		Avg Custs 12-Months Ended		Custs 12-Months Ended		Avg Custs 12-Months Ended		Custs 12-Months Ended		Avg Custs 12-Months Ended	
			Dec 2023	Dec 2023	Dec 2023	Dec 2023	Dec 2024	Dec 2024	Dec 2024	Dec 2024	Dec 2025	Dec 2025	Dec 2025	Dec 2025
1	Residential Service	1	64,524	64,074	65,365	64,986	66,203	65,815						
2	Residential Space Heating Service	39	29,703	29,709	29,691	29,697	29,679	29,685						
3	Small General Service	6	12,357	12,251	12,586	12,481	12,818	12,712						
4	Secondary General Service	40	4,185	4,149	4,263	4,228	4,342	4,306						
5	Irrigation Service	3	1,037	1,029	1,057	1,048	1,076	1,067						
6	Primary General Service	13	5,085	5,040	5,181	5,137	5,279	5,234						
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	6	6	6	6	6	6						
8	LGS-T 115 kV + ⁽¹⁾	34	35	35	37	36	38	38						
9	Small Municipal & School Service	42	1,187	1,185	1,190	1,189	1,193	1,192						
10	Large Municipal & School Service	16	576	575	577	577	579	578						
11	Street Lighting Service	14	18	18	18	18	18	18						
12	Area Lighting Service	28	8,777	8,806	8,709	8,737	8,640	8,669						
13	Retail		127,490	126,877	128,680	128,139	129,871	129,318						

⁽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.	New Mexico Customer Class	Rate No.	Actual					TY	
			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 Dec 2018	kWh Sales 12-Months Ended Dec 2019	kWh Sales 12-Months Ended Sept 2020	kWh Sales 12-Months Ended Sept 2020 ⁽²⁾
1	Residential Service	1	607,954,277	600,017,979	588,509,507	651,723,474	671,368,952	709,978,323	692,380,064
2	Residential Space Heating Service	39	509,147,221	481,915,127	454,310,299	494,979,143	497,069,301	507,512,722	501,130,667
3	Small General Service	6	156,033,079	149,062,566	147,145,401	157,529,571	160,328,566	154,630,990	151,578,571
4	Secondary General Service	40	695,715,318	689,374,292	698,294,085	727,910,012	743,972,197	715,802,470	725,501,793
5	Irrigation Service	3	65,933,440	73,325,481	74,342,615	78,266,455	72,574,577	75,833,502	75,816,355
6	Primary General Service	13	1,343,479,600	1,363,994,467	1,437,663,406	1,658,753,642	1,956,917,440	2,069,820,584	2,053,489,266
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	157,953,234	135,920,364	145,703,450	157,605,276	156,778,507	159,467,717	159,467,717
8	LGS-T 115 kV + ⁽¹⁾	34	1,379,715,679	1,601,268,002	1,739,535,955	2,064,246,933	2,520,222,361	2,656,612,294	2,813,231,236
9	Small Municipal & School Service	42	12,320,482	12,073,351	11,638,960	11,732,323	11,370,297	11,110,249	10,903,535
10	Large Municipal & School Service	16	117,209,246	116,591,061	115,061,701	121,024,857	121,570,232	116,436,233	114,065,590
11	Street Lighting Service	14	13,292,455	13,311,723	13,322,214	13,353,651	12,918,765	11,844,802	10,551,268
12	Area Lighting Service	28	16,127,373	15,941,662	15,830,745	15,515,298	15,310,587	15,251,730	15,251,730
13	Retail		5,074,881,404	5,252,796,075	5,441,358,338	6,152,640,635	6,940,401,782	7,204,301,616	7,323,367,793

⁽¹⁾ LGS-T is Large General Service Transmission⁽²⁾ Refer to RML-8(USB) Cost Allocation and Rate Design workpapers for detail on adjustments on actual TME (Twelve Months Ending) September 30, 2020

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.	New Mexico Customer Class	Rate No.	Forecast									
			kWh Sales	kWh Sales	kWh Sales	kWh Sales	kWh Sales	kWh Sales	kWh Sales	kWh Sales	kWh Sales	kWh Sales
			12-Months Ended Dec 2020	12-Months Ended Dec 2021	12-Months Ended Dec 2022	12-Months Ended Dec 2023	12-Months Ended Dec 2024	12-Months Ended Dec 2025	12-Months Ended Dec 2026	12-Months Ended Dec 2027	12-Months Ended Dec 2028	12-Months Ended Dec 2029
1	Residential Service	1	742,342,376	680,787,790	688,046,512	694,293,829	699,895,713	707,100,728				
2	Residential Space Heating Service	39	518,744,657	482,382,162	475,334,173	470,663,810	464,188,931	458,856,007				
3	Small General Service	6	155,271,956	165,426,803	168,906,906	172,121,079	175,577,700	177,507,696				
4	Secondary General Service	40	718,709,158	780,314,866	795,796,868	810,905,589	828,158,761	838,405,047				
5	Irrigation Service	3	74,825,813	84,330,568	85,269,817	86,628,194	87,884,994	88,792,548				
6	Primary General Service	13	2,072,032,291	2,482,183,621	2,789,376,648	2,854,856,963	2,928,871,410	2,973,594,232				
7	LGS-T 69 kV to 115 kV ⁽¹⁾	34	165,604,068	186,002,743	188,209,100	191,911,100	200,234,306	206,090,477				
8	LGS-T 115 kV + ⁽¹⁾	34	2,648,185,420	2,897,060,517	3,189,123,806	3,516,282,663	3,918,012,422	4,062,838,625				
9	Small Municipal & School Service	42	10,608,428	10,945,114	11,406,131	11,535,184	11,738,237	11,720,507				
10	Large Municipal & School Service	16	111,304,058	112,354,740	115,978,057	117,071,335	118,909,907	118,507,726				
11	Street Lighting Service	14	11,710,313	11,824,034	11,824,036	11,824,036	11,824,036	11,824,036				
12	Area Lighting Service	28	15,095,413	14,880,620	14,683,584	14,487,528	14,292,444	14,098,322				
13	Retail		7,244,433,951	7,908,493,577	8,533,955,637	8,952,581,310	9,459,588,860	9,669,335,950				

Southwestern Public Service Company

Weather Data

Roswell, NM

Line No.	Month	Year	<u>Heating Degree Days</u>		<u>Cooling Degree Days</u>		<u>Precipitation</u>	
			Actual	Normal	Actual	Normal	Actual	Normal
1	October	2019	206	133	57	55	4.83	1.16
2	November	2019	459	448	0	1	1.38	0.42
3	December	2019	604	737	0	0	0.11	0.56
4	January	2020	604	724	0	0	0.44	0.37
5	February	2020	559	525	0	1	0.57	0.35
6	March	2020	240	336	9	6	2.07	0.48
7	April	2020	111	134	76	52	0.23	0.57
8	May	2020	2	25	328	221	0.20	1.15
9	June	2020	0	0	530	459	0.39	1.23
10	July	2020	0	0	707	525	0.81	1.81
11	August	2020	0	0	624	474	0.57	1.74
12	September	2020	41	9	268	260	0.09	1.58
13	Total		2,826	3,070	2,599	2,053	11.69	11.43

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(USB) 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	October	2019	367	202	35	42	4.69	1.53
2	November	2019	576	516	0	1	0.92	0.74
3	December	2019	687	815	0	0	0.91	0.68
4	January	2020	705	810	0	0	0.04	0.71
5	February	2020	727	658	0	0	0.22	0.65
6	March	2020	344	460	7	6	1.86	1.18
7	April	2020	250	235	25	31	1.67	1.42
8	May	2020	49	72	181	149	3.76	2.32
9	June	2020	0	3	415	348	2.60	2.81
10	July	2020	0	0	562	449	3.30	2.58
11	August	2020	0	0	518	402	3.18	2.63
12	September	2020	62	30	178	202	2.34	1.96
13	Total		3,767	3,803	1,921	1,632	25.49	19.21

- 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(USB) 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	October	2019	295	149	59	64	1.11	1.53
2	November	2019	499	443	0	3	1.05	0.79
3	December	2019	620	731	0	0	0.65	0.74
4	January	2020	631	732	0	0	0.37	0.64
5	February	2020	641	568	0	0	0.51	0.78
6	March	2020	282	374	14	12	2.37	1.03
7	April	2020	172	162	57	58	0.02	1.32
8	May	2020	13	41	259	220	2.06	2.54
9	June	2020	0	1	442	420	1.85	2.62
10	July	2020	0	0	648	504	1.85	1.86
11	August	2020	0	0	571	457	0.54	1.81
12	September	2020	52	18	215	240	1.04	2.47
13	Total		3,205	3,220	2,265	1,978	13.42	18.13

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(USB) 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	October	2019	396	221	26	36	5.92	1.54
2	November	2019	607	541	0	1	0.87	0.73
3	December	2019	711	844	0	0	1.00	0.65
4	January	2020	732	838	0	0	0.25	0.74
5	February	2020	759	689	0	0	0.39	0.61
6	March	2020	372	491	6	4	1.82	1.24
7	April	2020	285	261	18	22	0.12	1.45
8	May	2020	63	84	156	126	0.43	2.25
9	June	2020	0	4	407	323	2.79	2.87
10	July	2020	0	0	535	430	2.17	2.82
11	August	2020	0	1	494	383	2.00	2.91
12	September	2020	66	34	166	190	0.45	1.79
13	Total		3,991	4,009	1,808	1,515	18.21	19.57

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(USB) 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	October	2019	35	71	30	0	0.31	0.11
2	November	2019	29	35	36	30	0.22	0.14
3	December	2019	35	27	30	38	0.00	0.12
4	January	2020	34	27	31	38	0.02	0.13
5	February	2020	32	28	33	37	0.12	0.13
6	March	2020	41	44	24	21	1.34	0.15
7	April	2020	69	70	0	1	0.00	0.07
8	May	2020	77	78	0	0	0.22	0.34
9	June	2020	86	83	0	0	0.24	0.27
10	July	2020	93	84	0	0	0.19	0.22
11	August	2020	86	83	0	0	0.00	0.51
12	September	2020	76	79	0	0	1.18	0.21
13	Total		693	709	184	166	3.83	2.41

- 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(USB) to the Direct Testimony of William A. Grant

Southwestern Public Service Company

Weather Data

Line No.	Month	Year	Roswell Peak Day Average Temperature		Roswell Peak Day Heating Degree Days		SPS Sum of Precipitation One Week before Peak Day	
			Actual	Normal	Actual	Normal	Actual	Normal
1	October	2019	37	71	0	0	0.00	0.13
2	November	2019	34	40	0	0	0.40	0.13
3	December	2019	36	32	28	0	0.00	0.11
4	January	2020	41	32	31	25	0.04	0.09
5	February	2020	38	34	30	33	0.35	0.11
6	March	2020	47	48	25	33	0.98	0.04
7	April	2020	72	70	28	31	0.00	0.06
8	May	2020	81	79	19	17	0.00	0.13
9	June	2020	86	85	0	1	0.37	0.15
10	July	2020	93	85	0	0	0.00	0.13
11	August	2020	87	84	0	0	0.02	0.28
12	September	2020	83	80	0	0	0.00	0.11
13	Total		731	740	159	140	2.16	1.47

- Notes:**
- (1) Roswell peak day average temperature is calculated using peak day daily maximum and minimum temperatures.
 - (2) Roswell peak day normal weather is calculated using a 30 year period.
 - (3) Roswell peak day Degree Days are calculated using the peak day daily average temperatures and a 65 degree base.
 - (4) Roswell peak day precipitation is calculated by summing the precipitation (in inches) one week prior to the peak day.

Please refer to workpapers provided in Attachment WAG-1(USB) 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	October	2019	34.3	70.9	0.40	0.12
2	November	2019	28.0	33.8	0.17	0.15
3	December	2019	35.0	24.8	0.00	0.12
4	January	2020	31.4	25.1	0.01	0.14
5	February	2020	29.6	25.7	0.07	0.14
6	March	2020	39.1	43.2	1.44	0.18
7	April	2020	68.8	69.3	0.00	0.07
8	May	2020	75.9	77.2	0.29	0.41
9	June	2020	85.6	82.7	0.20	0.31
10	July	2020	92.5	84.1	0.25	0.26
11	August	2020	86.4	83.2	0.00	0.59
12	September	2020	0.0	78.7	0.00	0.24
13	Total		606.7	698.6	2.82	2.73

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(USB) 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, 3}	Reason for Outage
2015					
1	Cunningham 1	01/01/15	01/02/15	1.60	Repairs to Cooling Tower Structure.
2	Cunningham 3	01/02/15	01/05/15	3.18	Elevated NOx ¹ ; Transition to Basket.
3	Cunningham 2	01/03/15	02/21/15	48.93	Scheduled low pressure Turbine Overhaul.
4	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.
5	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.
6	Cunningham 3	01/05/15	01/05/15	0.02	Test Run.
7	Maddox 2	01/07/15	01/08/15	0.82	Trip on #5 Bearing drain high temp.
8	Cunningham 1	01/09/15	01/31/15	22.67	Repairs to Cooling Tower Structure.
9	Tolk 2	01/11/15	01/12/15	0.18	East induce draft Fan tripped, Electrical & Techs on way to diagnose and make repairs.
10	Plant X 2	01/12/15	01/15/15	2.99	Condenser tube leak.
11	Tolk 2	01/12/15	01/12/15	0.01	Reduced load due to C Mill being hold carded and A Mill tripped.
12	Tolk 2	01/13/15	01/13/15	0.05	Discharge damper failed.
13	Maddox 2	01/15/15	01/15/15	0.08	East induce draft fan controller issues, equipment rep onsite to troubleshoot fan issues.
14	Plant X 4	01/16/15	01/16/15	0.14	Fuel supply alarm, loss of "ready to start."
15	Harrington 1	01/17/15	01/17/15	0.41	Problem with drum level transmitter.
16	Maddox 1	01/19/15	01/19/15	0.06	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.
17	Harrington 3	01/23/15	01/31/15	7.69	Unit online for 39 seconds, tripped on loss of vacuum and power relay.
18	Tolk 1	01/23/15	01/23/15	0.05	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.
19	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.
20	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.
21	Harrington 3	02/02/15	02/12/15	3.37	High vibration on the East primary air Fan, suspect ice build up on the fan motor or inlet valves.
22	Maddox 2	02/03/15	02/04/15	1.41	Derate is needed to season the new bags that were installed in 8 compartments during the mini outage.
23	Maddox 3	02/03/15	02/04/15	1.41	Line switching.
24	Jones 4	02/04/15	02/05/15	0.17	Planned Outage For line switching.
25	Cunningham 1	02/09/15	02/23/15	14.88	Not ready to start due to hi temp alarm in excitation transformer.
26	Jones 1	02/09/15	02/10/15	0.67	Unit Offline: Repairs to Cooling Tower Structure.
27	Jones 2	02/09/15	02/10/15	0.67	Boiler and cooling tower blowdown line out of service to make tie to new line.
28	Jones 4	02/10/15	02/10/15	0.21	Boiler and cooling tower blowdown line out of service while tie in is made to the new line.
29	Nichols 1	02/11/15	02/11/15	0.06	Not ready to start due to hi temp alarm in excitation transformer.
30	Nichols 2	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.
31	Tolk 2	02/13/15	02/13/15	0.11	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.
32	Jones 3	02/16/15	02/16/15	0.38	Unit was forced offline due to high vibration on the #9 bearing encountered during a Reactive Capability Verification Test.
33	Jones 4	02/16/15	02/16/15	0.68	Regulatory required quarterly calibration of gas transmitters.
34	Maddox 1	02/16/15	05/04/15	30.27	Regulatory required quarterly calibration of gas transmitters.
35	Plant X 4	02/17/15	02/21/15	1.96	Cooling tower cell replacement, can only use 2-3 cooling tower cells at a time due to construction.
					Gearbox bearing temperatures started going up and exceeded 200 degrees. Vibration also became an issue.

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, 3}	Reason for Outage
36	Tolk 2	02/17/15	02/26/15	9.67	Mini overhaul outage- Air preheater wash.
37	Cunningham 4	02/18/15	02/18/15	0.41	Offline: 115-kV Gen Breaker Low Gas.
38	Maddox 1	02/19/15	02/27/15	8.27	Planned outage for Steam jet air ejector and main gas line valve/regulator work.
39	Cunningham 2	02/21/15	03/01/15	4.25	Chemical Cleaning; Curing Phase 1-2 wks run time.
40	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.
41	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.
42	Plant X 4	02/22/15	02/23/15	0.27	Cold weather event.
43	Cunningham 3	02/23/15	02/23/15	0.15	Start up Trip: low pressure & High Pressure valves frozen (stuck).
44	Maddox 2	02/23/15	02/24/15	1.14	Tripped during startup on #5 bearing vibration.
45	Jones 3	02/24/15	02/24/15	0.07	Maintenance outage to replace thermocouples in #3 basket.
46	Maddox 2	02/24/15	02/25/15	1.35	Replaced plant main gas line valves.
47	Maddox 3	02/24/15	02/25/15	1.35	Main gas line valve replacement.
48	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.
49	Jones 3	02/25/15	02/25/15	0.08	Maintenance outage to in-service the new Red River remote isolation valves.
50	Jones 4	02/25/15	02/25/15	0.08	Maintenance outage to in-service the new Red River remote isolation valves.
51	Cunningham 3	02/27/15	02/27/15	0.15	Start up Trip: low pressure Bleed Valve Alarms then Trip.
52	Jones 1	02/27/15	02/27/15	0.06	Gas firing valve - card on the Blac drive failed.
53	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.
54	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.
55	Maddox 1	02/28/15	03/01/15	0.85	Water was left in the High Pressure heater and froze.
56	Plant X 3	02/28/15	03/13/15	13.31	Boiler waterwall tube leak.
57	Cunningham 2	03/01/15	03/05/15	4.18	Planned Extension: Boiler Repairs Within Outage Scope.
58	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.
59	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.
60	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.
61	Cunningham 1	03/03/15	03/04/15	0.62	South circulating Pump: Reset Thrust & Set Screws.
62	Tolk 1	03/03/15	05/10/15	68.90	Major Overhaul Including work: High Pressure-intermediate pressure Inspection, Boiler tube work Reheat section.
63	Cunningham 2	03/05/15	03/07/15	0.11	Planned Turbine Trip Checks Scheduled 3/7 @ 11AM.
64	Cunningham 2	03/07/15	03/07/15	0.07	Planned Turbine Trip Checks Scheduled 3/7 @ 11AM.
65	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.
66	Cunningham 1	03/09/15	03/12/15	3.07	Elevated Cooling Sytems Temperatures; Strainer was plugged/damaged; Cooler Cleaned & New Strainer.
67	Cunningham 2	03/09/15	03/10/15	1.45	Planned Extension: Cooling Tower Riser Repairs; Within Outage Scope.
68	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.
69	Plant X 4	03/11/15	03/17/15	0.86	Derate to mitigate boiler hot spots on 5th & 6th floors.
70	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.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
71	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.
72	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.
73	Plant X 2	03/13/15	03/13/15	0.35	Condenser tube leak, unable to maintain boiler chemistry. Sodium ion level over max.
74	Maddox 3	03/16/15	03/24/15	8.30	Planned outage for Borescope inspection and oil pump/motor work.
75	Plant X 4	03/17/15	03/17/15	0.86	Work on hot spots - boiler skin.
76	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.
77	Tolk 2	03/18/15	03/21/15	2.30	Leak in Boiler feed booster discharge piping.
78	Jones 2	03/19/15	03/23/15	1.76	Problem in the fluid coupling causing the inboard fan bearing to get hot.
79	Plant X 3	03/20/15	03/22/15	2.73	Boiler reheat tube leak.
80	Plant X 2	03/21/15	03/27/15	6.38	Suspect waterwall tube leak, unable to maintain drum level.
81	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.
82	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.
83	Jones 2	03/28/15	03/28/15	0.56	Waterwall tube leak C corner.
84	Plant X 4	03/28/15	04/23/15	6.03	Derating to reduce hotspots.
85	Tolk 2	03/28/15	03/28/15	0.02	West force draft fan tripped, wiring in controller.
86	Tolk 2	03/28/15	03/28/15	0.05	West force draft fan tripped, wiring in controller.
87	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.
88	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.
89	Jones 4	03/30/15	04/02/15	2.91	Borescope inspection.
90	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.
91	Plant X 2	03/31/15	03/31/15	0.39	Turbine stop valve after seat drain failure, Hole in valve body.
92	Jones 3	04/06/15	04/10/15	3.80	Borescope inspection.
93	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.
94	Maddox 2	04/08/15	04/08/15	0.36	#5 Bearing Oil Leak/Repaired.
95	Cunningham 1	04/09/15	04/09/15	0.13	Repair Main Steam Air Ejector leak Supply side, Near waterboxes.
96	Cunningham 2	04/10/15	04/10/15	0.01	Tighten packing on north boiler feed pump discharge valve.
97	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.
98	Cunningham 3	04/12/15	04/18/15	6.31	Borescope Inspection.
99	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.
100	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.
101	Jones 4	04/13/15	04/13/15	0.15	Maintenance outage to replace exhaust thermocouples.
102	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).
103	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.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
104	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.
105	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.
106	Jones 2	04/19/15	04/21/15	1.43	Waterwall tube leak "B" corner.
107	Maddox 3	04/20/15	09/30/15	163.32	Auxiliary gearbox repairs (lube oil line leak inside).
108	Tolk 2	04/22/15	04/22/15	0.01	East induce draft Fan tripped, electricians looking into cause - reset controller and checked out.
109	Cunningham 1	04/23/15	04/23/15	0.08	Repair Leak in #17 Heater Drains Line.
110	Plant X 4	04/23/15	05/10/15	17.17	X4 boiler mini outage.
111	Harrington 1	04/25/15	04/25/15	0.00	Unit had to be derated to prevent an opacity violation.
112	Harrington 2	04/25/15	04/25/15	0.23	Unit was derated to clear F Buss to replace fan breakers 1, 2, & 4.
113	Jones 3	04/25/15	04/26/15	0.07	Problem with evaporative cooler pump - locked down and would not supply evaporate water.
114	Jones 1	04/26/15	05/03/15	2.78	Problems with west boiler feed pump element.
115	Cunningham 4	04/28/15	04/28/15	0.12	Inspect Orifice Plates.
116	Cunningham 1	04/29/15	04/29/15	0.05	Boiler Feed Pump Issues.
117	Harrington 1	04/29/15	04/29/15	0.02	Unit was derated to prevent opacity violations due to a fouled electrostatic precipitator.
118	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.
119	Plant X 3	05/02/15	05/03/15	0.72	Shutdown to repair a suspected economizer header leak.
120	Harrington 1	05/03/15	05/04/15	0.11	Unit had to be derated to prevent opacity violations.
121	Harrington 1	05/04/15	05/05/15	0.89	Transformer/rectifier set EB4 tripped out and would not reset. Unit had to be taken out of service to make repairs to electrostatic precipitator transformer/rectifier set EB4.
122	Harrington 1	05/05/15	05/05/15	0.01	The unit was derated to prevent an opacity violation.
123	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.
124	Carlsbad 5	05/06/15	05/22/15	15.95	Replace PID (Proportional Integral Derivative) controller on megawatt controller.
125	Harrington 1	05/07/15	05/07/15	0.01	Unit was derated to prevent opacity violations.
126	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.
127	Tolk 1	05/10/15	05/11/15	0.13	High Pressure/intermediate pressure inspection-work on Boiler & replace reheat section.
128	Tolk 1	05/11/15	05/11/15	0.19	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
129	Tolk 1	05/11/15	05/11/15	0.44	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
130	Tolk 1	05/11/15	05/13/15	1.05	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
131	Harrington 1	05/13/15	05/13/15	0.03	Boiler pressure limiting load due to drum safety relief setting being check.
132	Tolk 1	05/13/15	05/13/15	0.16	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
133	Tolk 1	05/13/15	05/14/15	0.44	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
134	Harrington 1	05/14/15	05/14/15	0.01	Load reduction due to high opacity.
135	Tolk 1	05/14/15	05/14/15	0.25	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
136	Tolk 1	05/14/15	05/15/15	0.62	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
137	Tolk 1	05/15/15	05/15/15	0.33	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
138	Tolk 1	05/15/15	05/18/15	1.17	Major overhaul High Pressure-intermediate pressure-Boiler work & replace reheat section (Balance Shots).
139	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.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
140	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.
141	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.
142	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.
143	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.
144	Harrington 3	05/25/15	05/26/15	0.21	To replace the relief valve on the Electro Hydraulic system.
145	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.
146	Tolk 2	06/04/15	06/04/15	0.08	Center induce draft Fan speed control not controlling properly.
147	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.
148	Jones 4	06/05/15	06/06/15	0.67	Unit tripped due to loss of communications with CP (control processor) problem with server.
149	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.
150	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
151	Jones 4	06/09/15	06/13/15	3.20	Issues with high speed turning gear - leaking oil.
152	Harrington 1	06/11/15	06/11/15	0.02	Unit was derated to prevent opacity violations.
153	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.
154	Tolk 1	06/13/15	06/15/15	2.22	Inspect and clean condenser to improve back pressure issues.
155	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.
156	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.
157	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.
158	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.
159	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.
160	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.
161	Harrington 1	06/22/15	06/22/15	0.03	Unit was derated to prevent an opacity violation.
162	Tolk 2	06/23/15	06/23/15	0.04	Lost communication with C Mill air dampers, no longer transporting coal to the boiler.
163	Harrington 1	06/24/15	06/24/15	0.01	Unit was derated to prevent opacity violations.
164	Harrington 1	06/25/15	06/25/15	0.01	Unit had to be derated to prevent opacity Violations due to dirty electrostatic precipitator.
165	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.
166	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.
167	Jones 3	06/26/15	06/26/15	0.07	Maintenance outage to reboot server.
168	Jones 4	06/26/15	06/26/15	0.07	Maintenance outage to reboot server.
169	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.
170	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.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
171	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.
172	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.
173	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.
174	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.
175	Cunningham 2	07/01/15	07/10/15	3.55	South Boiler Feed Pump Inboard Packing Blown.
176	Tolk 1	07/01/15	07/01/15	0.41	Replace East primary air fan outboard motor bearing.
177	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.
178	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.
179	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.
180	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.
181	Tolk 2	07/04/15	07/04/15	0.00	Generator Bearing #9 vibration increasing. Reduce load to attempt to let vibration to settle.
182	Cunningham 2	07/05/15	07/06/15	0.64	South Boiler Feed Pump Inboard Packing Replacement.
183	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.
184	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.
185	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.
186	Harrington 1	07/08/15	07/08/15	0.09	Unit was derated to prevent opacity violations.
187	Tolk 1	07/08/15	07/10/15	2.46	Outage to find and repair a condenser tube leak.
188	Harrington 1	07/09/15	07/09/15	0.03	Unit was derated to prevent opacity violations.
189	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.
190	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.
191	Tolk 1	07/12/15	07/16/15	4.75	Condenser Tube Leak - going to pressure lines try to find leak.
192	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.
193	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.
194	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.
195	Plant X 2	07/13/15	07/13/15	0.09	Loss of drum level due to a feedwater tube leak.
196	Cunningham 2	07/14/15	07/15/15	0.10	North condensate pump inboard pump bearing running hot. Pull bearing and inspect.
197	Plant X 1	07/14/15	10/02/15	10.52	East circulating Pump shaft broken.
198	Tolk 2	07/16/15	07/16/15	0.02	Loss of West induce draft Fan.
199	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.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
200	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.
201	Jones 3	07/21/15	07/21/15	0.24	Maintenance outage to repair fiber optics cables damaged by mouse.
202	Jones 4	07/21/15	07/21/15	0.24	Maintenance outage to repair fiber optics cable damaged by mouse.
203	Maddox 2	07/22/15	07/22/15	0.13	Scheduled to clean contacts on 52G generator breaker.
204	Cunningham 2	07/23/15	07/27/15	4.04	Tripped: No Load Inst. Switch Assembly; Control Valves.
205	Plant X 2	07/24/15	12/31/15	12.48	Turbine governing issues.
206	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.
207	Maddox 1	07/27/15	07/28/15	1.09	Electro Hydraulic control system motor failure caused Maddox 1 trip.
208	Plant X 3	07/27/15	08/05/15	9.36	1 ruptured tube & 3 additional leaks in 3 different tubes.
209	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.
210	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.
211	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.
212	Jones 4	07/28/15	07/29/15	0.95	Leaking o-ring in the gas separator.
213	Maddox 2	07/28/15	07/29/15	0.98	Tripped on high vibration reading from eccentricity probe @ #5 bearing.
214	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.
215	Cunningham 2	07/30/15	08/05/15	0.31	Uncontrollable swing on the boiler when exceeding 185 MW.
216	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.
217	Jones 3	07/30/15	07/30/15	0.04	Startup failure due to lack of ignition.
218	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.
219	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.
220	Jones 3	07/31/15	07/31/15	0.04	Startup failure due to lack of ignition.
221	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.
222	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.
223	Carlsbad 5	08/03/15	08/27/15	23.79	Unit Offline: Unit unavailable due to low dc voltage for controls.
224	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.
225	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.
226	Harrington 1	08/07/15	08/07/15	0.04	Boiler tripped on "loss of flame" and caused the unit to trip.
227	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.
228	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.
229	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 degrease at 494.
230	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.

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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, 3}	Reason for Outage
231	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.
232	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.
233	Cunningham 1	08/13/15	08/14/15	1.67	Offline: Steam Leak in Steam Air Ejector - Repair.
234	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.
235	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.
236	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.
237	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.
238	Jones 3	08/15/15	08/15/15	0.21	Maintenance outage to repair disc cavity 2 & 3 actuators.
239	Plant X 2	08/15/15	08/15/15	0.00	Linkage came off Steam Seal Regulator valve.
240	Jones 2	08/16/15	08/18/15	2.12	Shutdown due to hydraulic leaks on turbine. Right hand side governor valve hydraulic cylinder.
241	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.
242	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.
243	Plant X 1	08/18/15	08/31/15	12.92	Sodium ion limits forced us to take the unit offline.
244	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.
245	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.
246	Cunningham 2	08/22/15	08/22/15	0.06	Air Pre Heater Oil Pump Tripped.
247	Jones 2	08/23/15	08/23/15	0.56	Generator breaker would not close due to faulty contacts.
248	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.
249	Cunningham 2	08/25/15	08/28/15	0.12	Unit swings at top end can be excessive. Possible gas valve issue.
250	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.
251	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.
252	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.
253	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.
254	Maddox 1	09/02/15	09/05/15	3.08	D corner skin leaks by super and reheat headers.
255	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.
256	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.
257	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.
258	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.
259	Maddox 1	09/08/15	09/08/15	0.06	Derated to 60 MW due to boiler feed pump oil issue.
260	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.
261	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.
262	Harrington 3	09/14/15	11/23/15	70.04	Unit was taken out of service to perform a major outage.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
263	Jones 3	09/14/15	09/14/15	0.21	Regulatory required quarterly calibration of gas transmitters.
264	Jones 4	09/14/15	09/14/15	0.21	Maintenance outage to rewire the power to the server.
265	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).
266	Jones 3	09/19/15	09/19/15	0.04	Maintenance outage to reboot server.
267	Jones 4	09/19/15	09/19/15	0.04	Maintenance outage to reboot the server.
268	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.
269	Plant X 4	09/29/15	10/02/15	2.70	Economizer tube leak.
270	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.
271	Tolk 1	10/01/15	10/01/15	0.01	Operator Lost Unit on High Drum Level.
272	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.
273	Maddox 1	10/04/15	10/08/15	3.87	Maddox 1 trip on North Intercept Valve malfunction.
274	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.
275	Tolk 2	10/05/15	10/05/15	0.01	West force draft fan controller A & B channels are in alarm.
276	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.
277	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.
278	Maddox 2	10/08/15	10/08/15	0.19	Loss of "ready to start." High temp in the generator windings.
279	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.
280	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.
281	Nichols 3	10/09/15	10/09/15	0.06	Forced outage to replace vacuum breaker block valve.
282	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.
283	Plant X 1	10/17/15	10/20/15	3.24	Forced outage to repair a leaking circulator line.
284	Plant X 2	10/17/15	10/20/15	3.24	Forced outage to repair circulator line leak.
285	Cunningham 1	10/19/15	10/30/15	10.97	Maintenance outage: Steam Air Ejector Maintenance.
286	Plant X 3	10/19/15	10/24/15	5.87	Boiler water wall inspection & ignitor inspections.
287	Maddox 1	10/21/15	11/06/15	16.75	Maintenance outage: Repair Super Heat Header Leak.
288	Cunningham 3	10/23/15	10/23/15	0.02	Instrument Air Compressor Leak Repaired.
289	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.
290	Plant X 1	10/23/15	10/24/15	1.23	Shut down for new gas line tie-in.
291	Plant X 2	10/23/15	10/24/15	1.23	Shut down for new gas line tie-in.
292	Jones 2	10/27/15	11/24/15	27.18	Planned outage extension to repair main steam line welds.
293	Cunningham 3	11/02/15	11/06/15	4.48	Scheduled planned outage: Borescope Inspection.
294	Plant X 3	11/03/15	11/05/15	1.97	Shut down for new gas line tie-in.
295	Plant X 4	11/03/15	11/05/15	1.97	Shut down for new gas line tie-in.
296	Jones 3	11/04/15	11/05/15	0.95	Maintenance outage to clean gas lines due to contamination from the gas compressor.
297	Jones 4	11/04/15	11/23/15	19.38	Startup failure due to contaminated gas from the compressor.
298	Cunningham 2	11/05/15	11/17/15	11.53	Cunningham 2 Main steam governor D-rod broken, nearly caused turbine overspeed.
299	Maddox 2	11/05/15	11/05/15	0.08	Unit trip. Pinnacle gas regulator valve malfunctioning, tech on site to fix.
300	Harrington 2	11/07/15	11/07/15	0.85	Unit was taken off line to make repairs to a reheater tube leak.
301	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.

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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, 3}	Reason for Outage
302	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.
303	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.
304	Tolk 2	11/16/15	11/16/15	0.18	East primary air Fan inboard motor bearing high temperature possible babbit problems.
305	Maddox 2	11/17/15	11/17/15	0.31	Startup trip on #5 bearing vibration.
306	Cunningham 2	11/18/15	11/18/15	0.08	West Main Stop Valve did not open / Valving issues Corrected.
307	Harrington 3	11/23/15	11/26/15	2.09	Unit outage had to be extended due to Hydrogen side seal oil system problems.
308	Carlsbad 5	11/24/15	11/24/15	0.02	Attempted Start 3 times/No results/Sent Tech to Reset.
309	Jones 2	11/24/15	11/25/15	0.39	Alignment issues on east boiler feed pump - bearing heating up.
310	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.
311	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.
312	Cunningham 3	11/27/15	11/28/15	1.07	Faulty continuous emission monitoring system Analyzer/ No NOx Readings.
313	Jones 4	11/27/15	11/28/15	1.00	Start up failure due to blade path temperature spread.
314	Cunningham 1	11/28/15	12/31/15	33.65	Force draft Fan Motor Electrical Short.
315	Plant X 4	11/28/15	12/10/15	12.50	Repair boiler.
316	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.
317	Maddox 3	11/30/15	11/30/15	0.02	Quick tweak on speed probe settings.
318	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.
319	Harrington 2	12/01/15	12/01/15	0.03	Unit was lost on high drum level when swapping boiler feed pumps.
320	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.
321	Maddox 2	12/04/15	12/04/15	0.06	Unit Offline: Overhaul Breaker 52-G.
322	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.
323	Carlsbad 5	12/07/15	12/07/15	0.28	Unit offline: unable to start DC Power Issues.
324	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.
325	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.
326	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.
327	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.
328	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.
329	Jones 3	12/18/15	12/18/15	0.20	Regulatory required quarterly calibration of gas transmitters.
330	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.
331	Carlsbad 5	12/22/15	12/31/15	9.61	Unit offline: Not Ready Low Oil Pressure Alarm.
332	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.
333	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.

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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) ^{2,3}	Reason for Outage
334	Jones 4	12/24/15	12/24/15	0.13	Controls issue with variable guide vane gave a "not ready for start."
335	Cunningham 3	12/27/15	12/27/15	0.13	Online Trip; Lower Explosive Limit Detection/Reset of Fire system.
336	Cunningham 3	12/27/15	12/30/15	2.79	Online Trip; Fire System Trip.
337	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.
338	Tolk 1	12/28/15	12/29/15	0.91	Suspect icing in substation.
339	Tolk 2	12/28/15	12/30/15	1.48	Suspect icing in substation.
340	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.
341	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.
342	Jones 3	12/30/15	12/30/15	0.11	Frozen instrument air line to the gas valve. Water in the instrument air line.
343	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.
344	Harrington 2	12/31/15	12/31/15	0.67	Unit was taken off line to repair a Water wall tube leak.
2016					
345	Carlsbad 5	01/01/16	02/21/16	51.00	Unit Offline: Plant Controls Issues.
346	Cunningham 1	01/01/16	01/14/16	13.56	Force draft Fan Motor Electrical Short.
347	Nichols 2	01/01/16	05/01/16	120.96	Planned Outage: High Pressure Intermediate Pressure, Valves, Generator, Boiler.
348	Plant X 2	01/01/16	02/19/16	3.89	Turbine governing issues.
349	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.
350	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.
351	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.
352	Cunningham 3	01/09/16	02/18/16	40.00	Unit Offline: Blown Generator Exciter Fuses; Correction: Gen windings broken connection.
353	Jones 3	01/11/16	01/16/16	5.04	Maintenance outage to perform a borescope and change out a thermocouple.
354	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.
355	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.
356	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.
357	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.
358	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.
359	Harrington 1	01/16/16	01/16/16	0.00	Unit was derated to prevent getting possible opacity exceedances.

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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, 3}	Reason for Outage
360	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.
361	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.
362	Jones 1	01/19/16	03/02/16	42.99	Planned outage for capital rebuild of cooling tower.
363	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.
364	Cunningham 1	01/20/16	02/26/16	36.92	Waiting for low pressure turbine boresonic decision (sent again per request).
365	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.
366	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.
367	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.
368	Cunningham 4	01/22/16	01/22/16	0.25	Tripped on bleed valve, would not start because of low inst. air.
369	Cunningham 2	01/26/16	02/04/16	9.66	Cunningham 2 Main steam governor D-rod broken, nearly caused turbine overspeed.
370	Harrington 2	01/29/16	02/02/16	3.09	The planned extension is for further inspections and repairs on the generator exciter.
371	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.
372	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.
373	Tolk 1	02/09/16	02/09/16	0.18	Operator lost unit on High drum level.
374	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.
375	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.
376	Plant X 2	02/16/16	02/20/16	3.71	Turning gear, gear box failure.
377	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.
378	Plant X 2	02/20/16	04/01/16	41.11	Outage to inspect and repair turbine control valves.
379	Carlsbad 5	02/21/16	12/31/16	0.00	No plans to repair until retirement (mothballed).
380	Tolk 2	02/21/16	02/27/16	6.20	Condenser tube leak.
381	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.
382	Quay Co 1	02/22/16	02/22/16	0.08	Emergency Diesel Generator will not start due to bad fuel pump.
383	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.
384	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.
385	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.
386	Jones 3	02/26/16	02/26/16	0.39	Contractor repaired crack in exhaust tunnel.
387	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.
388	Jones 3	02/26/16	03/01/16	3.77	Unit would not start due to issues with D stage gas control valve.
389	Jones 1	03/02/16	03/26/16	23.74	Repair cracks in boiler main steam stop valve.
390	Plant X 4	03/06/16	03/06/16	0.06	Drum trip.
391	Maddox 3	03/08/16	03/10/16	2.11	Unit Startup: Unit Trip on Fuel Trip Valve Malfunction.
392	Plant X 1	03/09/16	03/18/16	8.96	Repair Cooling Tower Return Lines.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
393	Plant X 3	03/09/16	03/24/16	14.74	Repair Cooling Tower Return Lines.
394	Cunningham 4	03/11/16	03/11/16	0.23	Turbine vibration probe inspection and repairs if needed.
395	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.
396	Tolk 2	03/19/16	03/19/16	0.66	Unit trip due to turbine drive boiler feed pump Control issue.
397	Tolk 2	03/20/16	03/20/16	0.13	Lost force draft/induce draft fans when F Bus was taken out of service.
398	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.
399	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.
400	Jones 4	03/22/16	03/22/16	0.23	Maintenance outage to perform quarterly gas transmitter calibrations.
401	Harrington 1	03/23/16	03/24/16	1.01	Unit came off line to make repairs to an external water wall tube leak.
402	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.
403	Tolk 2	03/27/16	04/03/16	6.51	Mini Overhaul - bearing inspection/repair.
404	Nichols 1	03/28/16	04/02/16	5.34	Off line per Transmission Work Request TWR#893567.
405	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.
406	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.
407	Jones 4	03/31/16	04/01/16	1.93	Investigating vibration due to possible rub in the compressor.
408	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.
409	Tolk 1	04/01/16	04/01/16	0.03	East force draft Fan tripped.
410	Tolk 2	04/03/16	04/03/16	0.03	Tripped on high drum level while swapping feed pumps.
411	Tolk 2	04/03/16	04/05/16	1.34	Turbine Driven Boiler Feed pump discharge valve issues.
412	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.
413	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.
414	Jones 3	04/07/16	04/07/16	0.22	Maintenance outage to calibrate the gas transmitter - regulatory requirement.
415	Jones 4	04/07/16	04/07/16	0.13	Server reboot.
416	Tolk 1	04/08/16	04/18/16	9.86	Spring Mini Overhaul, cooling water repairs.
417	Cunningham 3	04/10/16	04/18/16	8.09	Unit tripped on high vibration, description pending investigation.
418	Maddox 3	04/11/16	04/15/16	4.22	Borecope inspection on Compressor and Turbine.
419	Cunningham 1	04/12/16	04/20/16	1.22	Repacked South boiler feed pump valve due to heavy leakage.
420	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.
421	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.
422	Plant X 3	04/15/16	04/17/16	2.01	Start up failure due to turbine governor hand wheel problems.
423	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.
424	Tolk 1	04/18/16	04/19/16	0.35	Mini Outage cooling water repairs- East auxiliary cooling water Heat Exchanger leaking.
425	Harrington 2	04/19/16	04/24/16	4.58	Unit was removed from service to make repairs to a water wall tube leak.
426	Jones 4	04/20/16	04/22/16	2.63	Maintenance outage to perform a borescope to investigate vibration issues.
427	Cunningham 4	04/21/16	04/21/16	0.48	Repaired turbine exhaust bearing temp probe & wiring.
428	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.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
429	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.
430	Cunningham 3	04/25/16	04/26/16	0.78	Emissions monitoring analyzer failure.
431	Jones 1	04/27/16	04/28/16	0.18	Unit tripped due to issues with "B" transmitter on the Deaerator level controls.
432	Maddox 2	04/27/16	04/27/16	0.10	Unit Offline: Hardware Repairs distributed control system.
433	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.
434	Nichols 1	04/29/16	05/02/16	3.31	Off line per Repairs on Turning Gear Equipment, Motor mount hardware was damaged.
435	Nichols 2	05/01/16	05/19/16	18.72	Planned Outage: High Pressure intermediate pressure, Valves, Generator, Boiler.
436	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.
437	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.
438	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.
439	Tolk 2	05/02/16	05/02/16	0.00	Lost West induce draft Fan.
440	Cunningham 3	05/03/16	05/03/16	0.13	Replaced turning gear pressure switch. (Not ready to start)
441	Cunningham 3	05/04/16	05/04/16	0.41	Distributed control system fuse blown, not ready to start.
442	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.
443	Jones 3	05/10/16	05/12/16	2.38	Maintenance outage to test relays.
444	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.
445	Harrington 3	05/13/16	05/22/16	8.08	Planned Outage.
446	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.
447	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.
448	Jones 2	05/16/16	05/16/16	0.21	Leaking drum door casket on startup.
449	Cunningham 1	05/17/16	05/18/16	1.11	Replace bearings on linkage to force draft fan inlet vanes (wrong bearings sent).
450	Nichols 2	05/19/16	05/20/16	0.57	Planned maintenance outage to address turbine vibration issues (Balance Shots).
451	Maddox 1	05/20/16	05/20/16	0.32	Unit Offline: Main Steam Boiler Piping Hanger Inspection.
452	Nichols 2	05/20/16	05/24/16	3.63	Planned maintenance outage to address turbine vibration issues (Balance Shots).
453	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.
454	Nichols 2	05/24/16	05/25/16	1.08	Planned maintenance outage to address turbine vibration issues (Balance Shots).
455	Nichols 2	05/24/16	05/24/16	0.43	Planned maintenance outage to address turbine vibration issues (Balance Shots).
456	Cunningham 4	05/25/16	05/26/16	0.65	Gas Detector Analyzer Failure.
457	Harrington 3	05/25/16	05/25/16	0.00	We needed to do a mechanical and electrical overspeed test per Insurance requirements.
458	Harrington 3	05/25/16	05/25/16	0.28	Main power Transformer internal pressure relief valve failed and caused the outage.
459	Nichols 2	05/25/16	05/26/16	0.18	Planned maintenance outage to address turbine vibration issues (Balance Shots).
460	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.

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461	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.
462	Nichols 2	05/26/16	05/26/16	0.58	Planned maintenance outage to address turbine vibration issues (Balance Shots).
463	Nichols 2	05/26/16	05/27/16	0.27	Planned maintenance outage to address turbine vibration issues (Balance Shots).
464	Nichols 2	05/27/16	06/02/16	6.10	Planned maintenance outage to address turbine vibration issues (Balance Shots).
465	Tolk 2	05/27/16	05/27/16	0.00	Replace Linear Variable Differential Transformer position sensor on #3 governor valve on main turbine.
466	Cunningham 4	05/29/16	05/29/16	0.02	Rotor air cooler temp dump.
467	Cunningham 1	05/31/16	05/31/16	0.24	Replace bearings on linkage to force draft fan inlet vanes.
468	Cunningham 3	05/31/16	05/31/16	0.07	Repair instrument air compressor.
469	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.
470	Cunningham 2	06/02/16	06/03/16	0.63	Delayed outage to replace bushings on Governor valve control arms.
471	Cunningham 3	06/02/16	06/02/16	0.12	Instrument air compressor additional work.
472	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.
473	Harrington 2	06/02/16	06/02/16	0.17	Unit was derated to inspect and determine material needed to repair damage.
474	Nichols 2	06/02/16	06/03/16	1.01	Planned maintenance outage to address turbine vibration issues (Balance Shots).
475	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 are 3 feeders that need to be clean.
476	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 are 3 feeders that need to be clean.
477	Jones 4	06/03/16	06/03/16	0.17	Maintenance outage to investigate and repair small oil leak on the upper east trunnion.
478	Nichols 2	06/03/16	06/15/16	12.07	Planned maintenance outage to address turbine vibration issues (Balance Shots).
479	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.
480	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.
481	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.
482	Maddox 2	06/06/16	06/06/16	0.26	Unit Offline: AC Oil Pump Motor Coupling Sheared/Replaced.
483	Tolk 2	06/06/16	06/06/16	0.02	Turbine Driven Boiler Feed pump ProTec speed probe went bad.
484	Maddox 2	06/08/16	06/09/16	0.86	Flame Detector Failure.
485	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.
486	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.
487	Harrington 1	06/13/16	06/13/16	0.01	Unit was derated to prevent getting an opacity exceedance during a thunderstorm.
488	Maddox 1	06/14/16	06/14/16	0.02	Loss of Water Wells Field Feeder; Outside Contractor Mistake.
489	Harrington 3	06/16/16	06/16/16	0.25	Unit tripped due to the loss of Electro Hydraulic fluid pressure.
490	Nichols 2	06/16/16	06/23/16	7.63	Unplanned Maintenance Outage to address cooling tower water distribution header damage.
491	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.
492	Plant X 4	06/20/16	06/20/16	0.04	Operator didn't notice megawatts dropping in time to catch the unit.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
493	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.
494	Jones 2	06/22/16	06/22/16	0.11	Startup failure due to issues with automatic voltage regulator.
495	Nichols 2	06/23/16	06/24/16	0.84	Address issues with the automatic voltage control on the generator.
496	Plant X 4	06/24/16	06/24/16	0.03	DC Ground Interruption.
497	Nichols 2	06/25/16	06/25/16	0.34	Perform Overspeed Test.
498	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.
499	Cunningham 1	06/27/16	06/30/16	3.04	15 stage feedwater heater relief valve replacement.
500	Jones 2	06/28/16	06/28/16	0.16	Unit tripped due to low gas pressure - issues with the 50# gas regulators.
501	Tolk 2	06/30/16	06/30/16	0.02	East force draft Fan Tripped.
502	Tolk 2	07/01/16	07/01/16	0.01	#9 Turbine bearing vibration.
503	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.
504	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.
505	Maddox 2	07/02/16	07/02/16	0.06	Tripped During Startup; Flame Detector Issues.
506	Tolk 1	07/02/16	07/02/16	0.16	Emergency trip test on turbine failed.
507	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.
508	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.
509	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.
510	Maddox 2	07/03/16	07/04/16	0.49	Tripped During Startup; Igniter Failure.
511	Plant X 2	07/03/16	07/08/16	5.10	Suspect boiler tube leak. Still Investigating.
512	Tolk 2	07/04/16	07/04/16	0.01	#9 Turbine bearing vibration.
513	Tolk 2	07/04/16	07/04/16	0.01	#9 Turbine bearing vibration.
514	Tolk 2	07/04/16	07/04/16	0.01	#9 Turbine bearing vibration.
515	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.
516	Tolk 2	07/05/16	07/05/16	0.01	#9 Turbine bearing vibration.
517	Harrington 3	07/06/16	07/08/16	1.73	The turbine tripped from the Auto Stop Trip system.
518	Maddox 1	07/06/16	07/06/16	0.08	Unit Trip; Loss of Gas Firing Valves.
519	Plant X 1	07/07/16	07/08/16	0.60	Unable to maintain proper boiler chemistry.
520	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.
521	Maddox 2	07/10/16	07/11/16	0.74	Unit Offline: No Trip; Internal Power Transformer Failure.
522	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.
523	Maddox 2	07/12/16	07/13/16	0.58	Unit Offline.
524	Plant X 3	07/12/16	07/16/16	4.14	Unable to maintain Boiler chemistry.
525	Tolk 2	07/12/16	07/12/16	0.01	#9 Turbine bearing vibration.
526	Tolk 2	07/12/16	07/12/16	0.03	#9 Turbine bearing vibration.
527	Tolk 2	07/12/16	07/13/16	0.03	#9 Turbine bearing vibration.
528	Harrington 3	07/13/16	07/14/16	0.31	The Unit tripped due to 5X vibration probe failing to a high trip limit.
529	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.
530	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.
531	Nichols 2	07/13/16	07/18/16	4.50	Forced Outage to Address Tube Leak.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
532	Tolk 2	07/13/16	07/13/16	0.03	#9 Turbine bearing vibration.
533	Tolk 2	07/13/16	07/13/16	0.07	#9 Turbine bearing vibration.
534	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.
535	Harrington 2	07/15/16	07/16/16	0.31	The east cold reheater spray valve control valve stem broke.
536	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.
537	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.
538	Tolk 2	07/15/16	07/15/16	0.01	#9 Turbine bearing vibration.
539	Tolk 2	07/15/16	07/18/16	0.16	#9 Turbine bearing vibration.
540	Jones 4	07/18/16	07/20/16	1.57	Maintenance Outage to investigate temperature issues in the turbine.
541	Tolk 2	07/18/16	08/16/16	1.25	#9 Turbine bearing vibration.
542	Cunningham 4	07/19/16	07/22/16	2.69	Rotor to air cooler fan out.
543	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.
544	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.
545	Nichols 3	07/21/16	07/21/16	0.10	Unit Shutdown In Order to Address Boiler Drum Level Problems.
546	Plant X 2	07/22/16	07/22/16	0.19	Center Boiler feed pump failed causing loss of 2400 buss.
547	Harrington 3	07/25/16	07/28/16	2.34	Unit was removed from line due to a finishing superheater tube leak.
548	Maddox 2	07/26/16	07/26/16	0.09	Unit Offline; Flame Detectors Inspection/Replacement.
549	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.
550	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.
551	Maddox 2	07/27/16	07/27/16	0.11	This is a contributing factor for the high delta pressure.
552	Jones 1	07/28/16	07/29/16	0.81	Unit Offline; Flame Detectors Fiber Optics Replacement.
553	Cunningham 3	07/29/16	07/29/16	0.15	Maintenance outage to calibrate governor valves - valves would not go completely closed on previous attempt to come off line.
554	Nichols 1	07/29/16	08/03/16	4.71	Air to air cooler variable frequency drive, and #3 oil cooler.
555	Cunningham 3	08/02/16	08/02/16	0.13	Inspection of Boiler Reheat Header.
556	Plant X 2	08/03/16	08/03/16	0.28	Replace solenoid on main lube oil system.
557	Jones 2	08/04/16	12/31/16	149.70	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.
558	Jones 1	08/06/16	08/15/16	0.73	Unit outage due to structural issues with cooling tower caused by high wind events/storms.
559	Cunningham 2	08/08/16	08/08/16	0.01	Derate unit due to problems with #1 high pressure feedwater heater extraction block valve, had to take high pressure feedwater heater out of service.
560	Cunningham 3	08/08/16	08/08/16	0.13	Online Derate: South Boiler Feed Pump Motor bearing oil change.
561	Tolk 1	08/09/16	08/11/16	1.96	Unit Offline: Performance Test Equipment Setup.
562	Tolk 2	08/09/16	08/12/16	3.32	Generator tripped during severe rain/thunderstorm. Suspect lightning.
563	Jones 1	08/15/16	08/16/16	0.83	Generator tripped during severe rain/thunderstorm. Suspect lightning.
564	Harrington 1	08/19/16	08/21/16	2.55	Maintenance outage to repair #31 high pressure feedwater heater extraction block valve.
565	Plant X 3	08/26/16	09/02/16	7.30	Unit was removed from line to make repairs to a 250+ gallons per minute superheater tube leak.
566	Nichols 3	08/28/16	08/28/16	0.09	Boiler Tube Leak.
567	Harrington 3	08/29/16	08/31/16	0.70	Unit Trip on reverse power due to Lightning Striking substation yard.
568	Jones 4	08/29/16	08/29/16	0.03	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. Rotor air cooler did not shut off causing unit to go into an unloading situation at 27 MWs.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
569	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.
570	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.
571	Cunningham 2	09/06/16	09/08/16	2.29	Replace Reheat Valves.
572	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.
573	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.
574	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.
575	Cunningham 4	09/14/16	09/14/16	0.13	Inspection of vibration probe in exhaust tunnel.
576	Harrington 2	09/15/16	09/16/16	1.63	Unit was removed from line to make repairs to a water wall tube leak.
577	Jones 4	09/15/16	09/17/16	2.62	Maintenance outage - to repair/weld exhaust ring.
578	Plant X 4	09/15/16	09/21/16	6.84	Boiler Repairs.
579	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.
580	Harrington 2	09/19/16	09/19/16	0.17	Unit tripped on high drum level during start up.
581	Tolk 1	09/22/16	10/10/16	17.88	Rupture in the auxiliary cooling water piping at the circulating pit.
582	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.
583	Nichols 3	09/25/16	09/30/16	4.76	Maintenance outage to repair steam seal feed valve actuator.
584	Jones 3	09/30/16	10/01/16	1.18	Maintenance outage to perform quarterly gas calibration - also repaired crack in exhaust expansion joint.
585	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".
586	Jones 3	10/06/16	10/06/16	0.24	Startup failure due to blade path spread.
587	Tolk 1	10/10/16	10/13/16	3.75	Tube leak in the Condenser-Sodium levels were high.
588	Maddox 2	10/12/16	10/27/16	14.65	DC Oil Pump Loss of Control; Circuit Board Failure.
589	Maddox 3	10/12/16	10/21/16	9.76	Capital Work: Replace Auxiliary Oil Cooler.
590	Jones 4	10/14/16	10/14/16	0.04	Maintenance Outage - to inspect exhaust ring.
591	Nichols 2	10/14/16	10/15/16	1.05	Unit offline for Circulating Water Pump Inspection and Condenser Waterbox Cleaning.
592	Tolk 1	10/15/16	10/17/16	1.45	Repair F Mill air expansion joint.
593	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.
594	Plant X 1	10/23/16	10/27/16	4.71	Cooling water system pipe repairs.
595	Plant X 2	10/23/16	10/27/16	4.71	Cooling water system pipe repairs.
596	Nichols 1	10/25/16	10/25/16	0.54	Unit offline for maintenance work on main gas supply pipeline.
597	Nichols 3	10/25/16	10/25/16	0.54	Unit offline for maintenance work on main gas supplier pipeline.
598	Jones 4	10/27/16	10/28/16	1.52	Maintenance outage to investigate high vibration issues.
599	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.
600	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.
601	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.
602	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.
603	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.
604	Nichols 3	11/05/16	12/03/16	28.49	Unit in maintenance outage to repair boiler casing leaks and suspected tube leak.
605	Maddox 2	11/07/16	11/07/16	0.13	Offline: Startup Ignitor Failures.
606	Jones 4	11/08/16	11/11/16	3.34	Maintenance outage for boroscope inspection.
607	Cunningham 3	11/09/16	11/09/16	0.10	Tripped on boiler feed pump turbine and fire alarm trouble.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
608	Harrington 1	11/09/16	11/09/16	0.26	Unit was derated to make repairs to a failed fan bearing.
609	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.
610	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.
611	Cunningham 3	11/12/16	12/31/16	49.63	Major Overhaul: Hot gas path upgrade.
612	Jones 3	11/16/16	11/18/16	2.52	Maintenance outage - boroscope inspection.
613	Jones 4	11/17/16	11/17/16	0.36	Maintenance outage to repair fuel isolation valve.
614	Jones 1	11/22/16	12/03/16	11.32	Unplanned outage due to a rupture of the main steam vent line.
615	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.
616	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.
617	Cunningham 4	11/24/16	11/24/16	0.21	Sequence Failure (Igniters).
618	Cunningham 4	11/28/16	11/28/16	0.09	Fuel Meter Bad Quality Trip on Startup.
619	Tolk 2	11/28/16	12/07/16	9.81	Need BUS Outage on #2 230 KV bus to Replace TK38 and TK56.
620	Nichols 1	11/29/16	11/29/16	0.42	Unit offline for maintenance work on main gas supply pipeline.
621	Harrington 1	11/30/16	11/30/16	0.02	Operator tripped the turbine/generator on high drum level when swapping boiler feed pumps.
622	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.
623	Plant X 1	12/03/16	12/03/16	0.12	Loss of flame.
624	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.
625	Cunningham 4	12/05/16	12/17/16	12.38	Maintenance Outage; Generator Rotor Repairs.
626	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.
627	Plant X 2	12/07/16	12/09/16	2.10	Sodium ion and silica readings indicated that the condenser had a tube leak.
628	Plant X 2	12/12/16	12/16/16	3.96	Turning Gear motor burned up.
629	Plant X 4	12/13/16	12/13/16	0.33	Boiler Repairs.
630	Cunningham 1	12/20/16	12/27/16	6.03	Economizer Tube Leak Suspected.
631	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.
632	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.
633	Nichols 3	12/27/16	12/29/16	2.67	Unit in maintenance outage to repair boiler tube damage.
634	Cunningham 2	12/29/16	12/29/16	0.01	Boiler feed pump Valve Packing needed tightening.
635	Maddox 3	12/30/16	12/31/16	2.00	Loss of Communication Issues.
2017					
636	Carlsbad 5	01/01/17	12/31/17	0.00	No plans to repair until retirement (mothballed).
637	Cunningham 3	01/01/17	03/09/17	67.41	Major Overhaul: Hot gas path upgrade.
638	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.
639	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.
640	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.
641	Maddox 3	01/01/17	01/04/17	3.68	Loss of Communication Issues.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
642	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.
643	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.
644	Harrington 3	01/04/17	01/14/17	10.97	Unit was shut down to make repairs to equipment needing attention before summer run.
645	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.
646	Maddox 3	01/05/17	01/06/17	0.97	Offline: Lube Oil Heater Alarm.
647	Maddox 2	01/06/17	01/06/17	0.08	Lube oil coolers not operating in correct sequence. Logic updates completed.
648	Maddox 2	01/06/17	01/09/17	1.38	Lube oil coolers not operating in correct sequence. Logic issues resolved.
649	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.
650	Cunningham 2	01/09/17	01/11/17	2.63	Turbine control valve bushing repair.
651	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.
652	Harrington 3	01/17/17	01/20/17	1.16	Unit was derated for new bag seasoning in 5 compartments.
653	Jones 4	01/17/17	01/17/17	0.50	Maintenance outage to repair leak in turning gear.
654	Jones 1	01/18/17	01/23/17	5.46	Immediate shutdown due to air preheater locking up - pin rack coming off (broken welds).
655	Jones 4	01/18/17	01/18/17	0.01	Unload then unit trip due to rotor air cooling issues.
656	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.
657	Maddox 1	01/18/17	01/20/17	0.96	Outage Related Work; 1A (west) Boiler Feedpump Inboard Bearing Vibration Issues; Removal/Repaired Complete.
658	Cunningham 2	01/20/17	01/21/17	0.51	Boiler Feedpump Valve Packing needed tightening/replaced.
659	Cunningham 2	01/21/17	01/21/17	0.25	Boiler Feedpump Valve Packing needed replacing.
660	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.
661	Cunningham 2	01/22/17	02/02/17	10.77	Trip on Startup; Thrust Bearing Issues.
662	Harrington 2	01/22/17	01/22/17	0.13	Water wall tube leak on the lower slope.
663	Plant X 1	01/23/17	02/03/17	11.75	Cooling water system repair.
664	Plant X 2	01/23/17	01/31/17	8.60	Cooling water system repairs.
665	Plant X 3	01/23/17	02/13/17	21.67	Cooling water system repairs.
666	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.
667	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.
668	Cunningham 4	01/30/17	01/31/17	0.50	Inlet Guide Vanes Positioning Issues; After Shutdown.
669	Cunningham 1	02/01/17	02/07/17	5.58	Economizer Tube Leak .
670	Nichols 1	02/01/17	02/03/17	2.58	Unit offline for common blowdown line replacement.
671	Nichols 2	02/01/17	02/03/17	2.67	Unit Offline for Maintenance Work on Plant Blowdown Pipeline.
672	Nichols 3	02/01/17	02/03/17	2.58	Unit Offline for Maintenance Work on Blowdown Pipeline.
673	Harrington 2	02/03/17	02/04/17	0.52	Unit was derated due to a bearing in the fan drive getting hot.
674	Nichols 1	02/03/17	02/09/17	6.17	Unit offline for maintenance work on main circulating water pipeline.
675	Cunningham 2	02/04/17	02/04/17	0.08	Must Run Valves Wide Open Test; Following Thrust Bearing Repairs.
676	Tolk 1	02/05/17	02/05/17	0.00	Unit tripped on Hi-drum level.
677	Tolk 1	02/05/17	02/05/17	0.01	Unit tripped on Hi-drum level.
678	Cunningham 1	02/07/17	02/10/17	3.47	Repair economizer tube leak.
679	Tolk 2	02/07/17	02/07/17	0.08	Unit Trip on high vibration on #9 bearing while doing Generator rotor stability test.

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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, 3}	Reason for Outage
680	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.
681	Nichols 3	02/20/17	02/21/17	1.08	Unit Offline for Boiler Water Wall Repairs.
682	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.
683	Plant X 2	03/01/17	03/02/17	0.50	Starting 3 units, last unit to be called for exceeded available condensate limit.
684	Cunningham 2	03/02/17	03/04/17	0.74	South Boiler Feedpump Discharge Valve Limit Switch Not Opening Valve All The Way.
685	Cunningham 1	03/06/17	03/09/17	3.24	Boiler Feedpump Leak Repairs.
686	Cunningham 3	03/09/17	03/09/17	0.00	Test Run: 3/9/17 0957 - 1046 am.
687	Cunningham 3	03/09/17	03/10/17	1.00	Major Overhaul: Hot gas path upgrade.
688	Cunningham 3	03/10/17	03/10/17	0.01	Test Run: 3/10/17 1042 - 1144 am.
689	Cunningham 3	03/10/17	03/17/17	6.96	Major Overhaul: Hot gas path upgrade.
690	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.
691	Nichols 1	03/14/17	03/15/17	1.63	Unit Offline for Maintenance Work on the Auxiliary Circulating Water Supply Pipeline.
692	Nichols 2	03/14/17	03/15/17	1.63	Unit Offline for Maintenance Work on Auxiliary Circulating Water Supply Pipeline.
693	Maddox 1	03/16/17	03/17/17	1.00	Unit Offline: Voltage Regulator Alarm Loss of Source Power; Contactor Short to Ground Replaced.
694	Cunningham 1	03/17/17	03/20/17	2.90	Lab Sample Chiller Out of Service.
695	Cunningham 3	03/17/17	03/17/17	0.02	Test Run: 3/17/17 1143 - 1513.
696	Cunningham 3	03/17/17	03/21/17	3.69	Major Overhaul: Hot gas path upgrade.
697	Cunningham 4	03/19/17	03/24/17	4.53	Shut Down Due to Exhaust Bearing High Temperature Alarms.
698	Maddox 2	03/19/17	03/19/17	0.10	Online Trip: On High Lube Oil Temperature.
699	Cunningham 3	03/21/17	03/21/17	0.04	Test Run: 3/21/17 747 - 1437.
700	Cunningham 3	03/21/17	03/22/17	1.13	Major Overhaul: Hot gas path upgrade.
701	Cunningham 3	03/22/17	03/22/17	0.00	Test Run: 3/22/17 1751 - 1832.
702	Cunningham 3	03/22/17	03/24/17	1.55	Major Overhaul: Hot gas path upgrade.
703	Nichols 1	03/23/17	03/23/17	0.41	Unit Offline for Maintenance Work on the Main Gas Supply Pipeline.
704	Cunningham 3	03/24/17	03/24/17	0.01	Test Run: 3/24/17 749 - 1002.
705	Cunningham 3	03/24/17	03/28/17	3.91	Major Overhaul: Hot gas path upgrade.
706	Cunningham 3	03/28/17	03/28/17	0.04	Test Run: 3/28/17 752 - 1414.
707	Jones 3	03/28/17	03/28/17	0.25	Planned PM's, quarterly gas calibration.
708	Maddox 2	03/28/17	03/28/17	0.10	Capital Work; Power-up & In-service New Inverter.
709	Maddox 3	03/28/17	03/28/17	0.10	Capital Work; Power-up & In-service New Inverter.
710	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.
711	Cunningham 1	03/29/17	04/06/17	7.69	Differential Current Unit Protection Relay.
712	Tolk 1	03/31/17	04/01/17	0.33	Soot Blower Air Compressor tripped will not reload.
713	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.
714	Plant X 4	04/05/17	04/05/17	0.02	Generator controls and metering problems
715	Plant X 4	04/05/17	04/05/17	0.02	High drum level after coming online.
716	Plant X 4	04/05/17	04/07/17	1.95	Shutdown due to circulating pump failure on Plant X2 .
717	Harrington 3	04/06/17	04/06/17	0.13	The unit was derated after losing control power to the air preheater electric motor.
718	Nichols 3	04/06/17	04/07/17	0.23	Unit Tripped on Reset of Turbine Redundant Trip Device.
719	Tolk 2	04/06/17	04/08/17	1.90	Unfamiliar build up on the header/tube connection of reheat terminal tubes.
720	Tolk 2	04/08/17	04/08/17	0.01	High drum level.
721	Maddox 2	04/09/17	04/12/17	2.54	Failed to Start; Motor Contactor Issue.
722	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.
723	Tolk 2	04/09/17	04/09/17	0.06	Low Bearing Oil trip malfunction.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
724	Harrington 1	04/10/17	04/10/17	0.53	Repairs to a steam drum gasket that failed.
725	Jones 4	04/10/17	04/14/17	4.05	Planned outage - borescope inspection - performed quarter gas calibration.
726	Maddox 1	04/10/17	04/18/17	8.76	Boiler Inspection Outage.
727	Harrington 1	04/11/17	04/11/17	0.57	Inspect damage to the Main Boiler Feedpump suction caused by a water hammer.
728	Tolk 2	04/11/17	04/11/17	1.00	Deaerator Heater safety relief valve.
729	Maddox 2	04/12/17	04/12/17	0.38	Work needed on Pinnacle gas supply Regulator that supplies Maddox 1,2, &3.
730	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.
731	Maddox 3	04/12/17	04/12/17	0.38	Work needed on Pinnacle gas supply Regulator that supplies Maddox 1,2, &3.
732	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 .
733	Tolk 2	04/23/17	04/24/17	1.07	Return the West Boiler Circulating Pump to service after repairs.
734	Nichols 1	04/26/17	04/26/17	0.51	Unit Unavailable Due to Gas Line Work by Gas Supplier.
735	Nichols 3	04/26/17	04/26/17	0.30	Maintenance Derate Due to Gas Line Work by Gas Supplier.
736	Nichols 2	04/28/17	04/28/17	0.21	Unit Unavailable due to Boiler Feed Pump Failure during Boiler Pressurization.
737	Maddox 3	04/29/17	05/01/17	2.09	Offline: Lube Oil Temperature Alarm LOW.
738	Jones 3	04/30/17	05/04/17	3.87	Borescope Inspection.
739	Cunningham 2	05/03/17	05/10/17	7.19	Boiler Tube Leak.
740	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.
741	Plant X 3	05/04/17	05/05/17	1.04	Economizer tube leak.
742	Tolk 2	05/05/17	05/05/17	0.02	East Induced Draft Fan tripped.
743	Tolk 2	05/06/17	05/06/17	0.02	East Induced Draft Fan tripped.
744	Maddox 2	05/07/17	05/08/17	0.08	Start Failure; Trip on Blade Path Temperature Spread.
745	Maddox 3	05/08/17	05/10/17	2.38	Borescope Inspection; Compressor Turbine and Stack.
746	Cunningham 4	05/09/17	05/12/17	3.29	Borescope Inspection.
747	Cunningham 2	05/10/17	05/17/17	7.00	Turbine Governor Valve Actuator rebuild.
748	Cunningham 3	05/10/17	05/11/17	0.90	Offline; Overspeed Cable Reset.
749	Maddox 2	05/14/17	05/14/17	0.05	Start Failure; Loss of Flame: Reset by Instrument and controls.
750	Maddox 2	05/14/17	05/16/17	1.94	Online Trip; #4 Bearing Vibration Spike.
751	Jones 3	05/15/17	05/15/17	0.23	Maintenance outage to repair leaking oil on turning gear.
752	Maddox 3	05/17/17	05/17/17	0.08	Capital Project Stack Inspection/Measurements.
753	Nichols 3	05/18/17	05/18/17	0.31	Maintenance Outage to Work on Boiler Safety Valves.
754	Cunningham 4	05/19/17	05/21/17	1.90	Repair to Gas Fuel Transmitter.
755	Cunningham 1	05/22/17	05/23/17	1.39	Repair Gas Regulator Valve.
756	Cunningham 2	05/22/17	05/23/17	0.67	Repair gas regulator valve.
757	Quay County 1	05/23/17	05/31/17	7.97	Startup Failure due to Emergency Diesel Generator Problems.
758	Maddox 3	05/25/17	05/25/17	0.17	Generator Lube Oil Cooler Breaker Repairs.
759	Cunningham 2	05/27/17	05/31/17	3.84	Boiler Tube Leak.
760	Maddox 2	05/29/17	05/29/17	0.05	Startup Trip; Loss of Flame; Igniter Issues.
761	Plant X 3	05/29/17	06/08/17	9.82	Unable to maintain boiler drum level.
762	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.
763	Cunningham 2	06/02/17	06/02/17	0.73	Lightning Strikes; Cooling tower fans, Boiler feed pumps, heater drains pumps unavailable.
764	Maddox 2	06/02/17	06/02/17	0.25	Offline; Starting Motor Contact failure, Buss ground detector.
765	Maddox 3	06/02/17	06/02/17	0.25	Replace 13.8V Fuses.
766	Tolk 1	06/03/17	06/03/17	0.31	Offline; Control Issues related to common Maddox 2 Start Motor Grounding Issues.
767	Nichols 2	06/05/17	06/16/17	11.67	Low pressure feedwater pump low suction relay tripped and operated, causing pump to trip and eventually unit tripped.
768	Jones 2	06/06/17	06/06/17	0.16	Unit Offline for Capital Outage Work on Motor-Driven Boiler Feed Pump; Pump Element to be Replaced.
					Unplanned forced outage to replace a failed governor control valve (Moog valve).

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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, 3}	Reason for Outage
769	Cunningham 3	06/08/17	06/08/17	0.13	Offline; Gas Line Orifice Plate Inspection.
770	Cunningham 2	06/09/17	06/09/17	0.04	Change Oil in South Boiler Feedpump.
771	Maddox 2	06/09/17	06/10/17	1.07	Trip on Startup; Starting Motor Failure.
772	Maddox 2	06/10/17	06/16/17	5.73	Trip on Startup; Starting Motor Failure.
773	Maddox 3	06/10/17	06/10/17	0.19	Offline; Unit unavailable due to Maddox 2 Start Motor Ground Repairs.
774	Nichols 1	06/10/17	06/12/17	1.92	Unit Offline to Replace Drainage Sump Pumps.
775	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.
776	Tolk 2	06/11/17	06/14/17	2.80	Right hand Throttle valve will not close completely stuck open at 5%.
777	Cunningham 4	06/13/17	06/13/17	0.05	Unit tripped from full load due to false Lower Explosive Limit gas detection.
778	Plant X 3	06/13/17	06/16/17	2.88	Boiler Tube Leak.
779	Plant X 2	06/14/17	06/27/17	12.86	Boiler water wall tube leak.
780	Maddox 2	06/16/17	12/31/17	198.68	Unit Offline; DC Lube Oil Pump Repairs.
781	Jones 3	06/17/17	06/17/17	0.01	Startup failure due to blade path spread.
782	Jones 1	06/19/17	06/19/17	0.08	Forced derate due to the loss of west Forced Draft fan.
783	Jones 1	06/19/17	06/19/17	0.14	Forced derate due to the loss of west Forced Draft fan.
784	Maddox 3	06/19/17	06/19/17	0.11	Capital Project Stack Inspection/Measurements.
785	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.
786	Nichols 3	06/26/17	06/28/17	2.67	Unit Offline due to Underground Condensate Supply Line Replacement.
787	Harrington 1	06/27/17	06/28/17	0.96	Repaired a steam tube leak.
788	Maddox 3	06/27/17	06/27/17	0.17	Offline; Annual Diesel Inspection.
789	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.
790	Jones 3	06/28/17	06/28/17	0.01	Startup failure due to a blow potential transformer fuse.
791	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).
792	Plant X 4	07/01/17	07/01/17	0.04	Unit tripped on high drum level.
793	Nichols 3	07/02/17	07/03/17	1.39	Unit Offline due to Water-Wall Tube Leak.
794	Harrington 2	07/03/17	07/03/17	0.01	West baghouse deflation Variable-Frequency Drive not controlling.
795	Harrington 2	07/04/17	07/04/17	0.01	differential Pressure Transmitter not working to allow the Variable-Frequency Drive to control.
796	Cunningham 1	07/06/17	07/06/17	0.04	Repair Lube Oil Leak on South Boiler Feedpump.
797	Harrington 1	07/06/17	07/06/17	0.01	Derate - Opacity problems.
798	Harrington 2	07/06/17	07/06/17	0.02	Transmitter problems on Variable-Frequency Drive.
799	Tolk 1	07/07/17	07/07/17	0.02	East Induced Draft Fan tripped, electricians looking into fan controller problem.
800	Plant X 4	07/09/17	07/09/17	0.03	Drum level issues after going online caused loss of boiler and turbine.
801	Tolk 1	07/12/17	07/12/17	0.04	Change out thermocouple on the Turbine Driven Boiler Feedpump inboard pump bearing.
802	Cunningham 2	07/16/17	07/22/17	5.86	Boiler Tube Leak - Unable to maintain drum level.
803	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.
804	Plant X 3	07/21/17	07/21/17	0.09	Firing Valve Instrumentation Issue.
805	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.
806	Nichols 2	07/25/17	07/26/17	1.59	Unit Offline to Replace Seal on North Boiler Feed Pump Check Valve.
807	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.
808	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.
809	Cunningham 1	07/31/17	07/31/17	0.27	Replace redundant reverse power relay.
810	Jones 4	07/31/17	07/31/17	0.03	Startup failure due to rotor air cooling issues.

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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, 3}	Reason for Outage
811	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.
812	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.
813	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.
814	Jones 3	08/10/17	08/10/17	0.63	Planned outage for quarterly gas calibration.
815	Jones 4	08/11/17	08/12/17	1.63	Planned outage for quarterly gas calibration.
816	Maddox 1	08/11/17	08/15/17	4.13	#2 High Pressure Feedwater Heater Tube Leak.
817	Tolk 2	08/15/17	08/15/17	0.03	Vibration - #9 bearing at 7 mils dropping load to clear.
818	Tolk 2	08/17/17	08/17/17	0.02	#9 Bearing has reached 7 mils vibration, dropping load to help lower vibration.
819	Maddox 1	08/19/17	08/19/17	0.04	1B Boiler Feedpump Auxiliary Oil Pump Breaker Trip; Loose Connection.
820	Cunningham 2	08/24/17	08/26/17	0.41	Packing Leak on Pump Forced Personnel to De-Rate the Unit.
821	Cunningham 2	08/24/17	08/26/17	1.55	Blown Gasket on South Boiler Feed Pump Suction Line and Packing Leak on Pump.
822	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.
823	Maddox 3	09/04/17	09/05/17	0.84	Offline; Unit unavailable due to Breaker in Substation Tripped Open.
824	Harrington 3	09/05/17	09/05/17	0.61	Mud drum gasket leak.
825	Cunningham 2	09/07/17	10/04/17	9.33	Failure of motor electrical lead connections on North Boiler Feed Pump.
826	Cunningham 2	09/07/17	09/07/17	0.13	Failure of motor electrical lead connections on North Boiler Feed Pump.
827	Cunningham 2	09/08/17	09/09/17	1.14	North Boiler Feed Pump seal ring differential line rupture.
828	Plant X 4	09/08/17	09/09/17	1.33	Repair economizer leaks.
829	Tolk 1	09/14/17	09/14/17	0.01	Significant coal leak on Tolk 1 "E" feeder down corner.
830	Cunningham 3	09/15/17	09/22/17	6.76	Planned outage to install online vibration monitoring system.
831	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.
832	Harrington 2	09/16/17	09/16/17	0.31	Investigating the Generator Protective Relay operation.
833	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.
834	Tolk 1	09/16/17	09/17/17	1.46	Boiler Tube leak - Waterwall Hanger Tube.
835	Cunningham 2	09/17/17	09/17/17	0.23	Boiler Feed Pump Repairs.
836	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.
837	Tolk 1	09/20/17	09/22/17	0.51	Boiler water wall tube leak - will hold current pressure and load until weekend.
838	Harrington 2	09/22/17	09/23/17	1.04	Water Wall Tube leak found during a reserve shutdown.
839	Tolk 1	09/22/17	09/24/17	2.03	Tube Leak.
840	Jones 2	09/23/17	10/01/17	8.21	Replaced economizer expansion joint. (Leaking)
841	Nichols 3	09/28/17	10/02/17	1.39	Derate Caused by Electrical Issues on South Forced Draft Fan.
842	Cunningham 3	10/03/17	10/03/17	0.07	Flashback #7a.
843	Jones 2	10/03/17	10/03/17	0.03	Forced outage due to leak in turbine trip cabinet. (Faulty gasket in elbow)
844	Plant X 3	10/03/17	10/05/17	2.11	Lube Oil Pump Motor Failure.
845	Plant X 2	10/04/17	10/04/17	0.13	Condensate shortage.
846	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.
847	Tolk 2	10/05/17	10/05/17	0.01	Center Induced Draft fan tripped load limited until fan inspected.
848	Harrington 1	10/08/17	10/09/17	1.17	Made repairs to transformer/rectifier set WC3.
849	Maddox 3	10/10/17	10/11/17	0.57	Failed Monthly Test Start; Flame Detection Issue.
850	Plant X 2	10/12/17	10/19/17	6.84	Steam Seal Regulator Failure.
851	Plant X 4	10/16/17	10/27/17	11.64	Boiler hot spot repairs, Boiler Feedpump and Condensate pump inspection and repair.
852	Tolk 1	10/20/17	10/20/17	0.18	Tube Leak below IR53 North wall 9th floor.
853	Tolk 1	10/20/17	10/22/17	1.62	Tube Leak below IR53 North wall 9th floor.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
854	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.
855	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.
856	Harrington 1	10/22/17	10/22/17	0.01	High opacity issues.
857	Cunningham 2	10/23/17	10/30/17	3.19	Two tubes leaking directly beneath the bull nose.
858	Tolk 1	10/23/17	10/24/17	1.17	Tube Leak below IR53 North wall 9th floor.
859	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.
860	Jones 2	10/27/17	10/27/17	0.41	Unplanned forced outage due to tube leak (waterwall) A corner just below the burners.
861	Cunningham 2	10/30/17	11/10/17	11.29	Multiple tube leaks within the furnace/water wall that needed to be addressed.
862	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.
863	Cunningham 4	11/01/17	12/31/17	61.00	Unit down for stator and rotor inspection.
864	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.
865	Harrington 1	11/02/17	11/12/17	9.16	Electrostatic Precipitator cleaning and inspection, Turbine front standard work, and reheat and interceptor valves.
866	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.
867	Cunningham 3	11/10/17	12/11/17	30.90	Performing inspection on stator windings.
868	Tolk 1	11/10/17	11/12/17	2.46	Main steam safety relief valve, tube leak repairs and #5 economizer hopper pluggage.
869	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.
870	Plant X 1	11/13/17	11/29/17	16.52	Deaerator relief valve repair.
871	Tolk 1	11/13/17	11/22/17	1.82	West Main Steam Safety is lifting above 2000 PSI.
872	Maddox 1	11/14/17	11/14/17	0.12	Per TOP Lateral Fuse Out in the Well Field. Loss of Well Field.
873	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.
874	Jones 1	11/17/17	11/23/17	5.11	Additional time needed to replace circulating water pipeline.
875	Tolk 1	11/22/17	11/30/17	8.11	Repair Main steam safety relief valve.
876	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.
877	Jones 1	11/24/17	12/04/17	10.83	Outage extension due to high boiler silica - had to rinse and drain boiler.
878	Maddox 3	11/27/17	11/29/17	1.73	Unit Offline; Unit unavailable for Auxiliary 480V Transformer work.
879	Maddox 1	11/28/17	11/28/17	0.04	Feedwater Shutoff Regulator Breaker Trip; Due to Failure of Adjacent Breaker.
880	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.
881	Tolk 1	11/30/17	12/10/17	10.24	Planned Transmission work in the sub-station (Outside of Management Control EVENT).
882	Nichols 3	12/03/17	12/06/17	2.75	Unplanned Outage due to Possible Underground Circulating Water Leak.
883	Harrington 1	12/04/17	12/04/17	0.30	Water Wall tube leaks were discovered and repaired.
884	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.
885	Plant X 2	12/05/17	12/05/17	0.60	Delayed unit start up due to shortage of condensate in storage tanks.
886	Cunningham 1	12/07/17	12/15/17	8.17	Tube leak in economizer section.
887	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.
888	Jones 2	12/08/17	12/08/17	0.13	Unit offline due to issues with 50# gas regulator and pilot valves.
889	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.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
890	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.
891	Jones 4	12/10/17	12/13/17	3.03	Borecope Inspection.
892	Harrington 1	12/11/17	12/11/17	0.31	Economizer tube leak.
893	Jones 3	12/12/17	12/14/17	2.64	Borecope Inspection.
894	Nichols 1	12/15/17	12/15/17	0.40	Maintenance outage taken to replace boiler sump piping and main plant gas block valve.
895	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.
896	Harrington 2	12/17/17	12/17/17	0.03	Unit was derated due to high conductivity readings on the boiler and Feedwater systems.
897	Jones 1	12/17/17	12/18/17	0.59	Water chemistry.
898	Plant X 4	12/18/17	12/19/17	1.34	Economizer tube leak is compromising condensate makeup capability.
899	Quay County 1	12/19/17	12/19/17	0.02	Unit tripped due to problems with high blade path temperature differential readings.
900	Quay County 1	12/19/17	12/19/17	0.04	Unit tripped due to problems with high blade path temperature differential readings.
901	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.
902	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.
903	Jones 4	12/20/17	12/20/17	0.10	Maintenance outage to perform gas calibrations.
904	Jones 3	12/29/17	12/29/17	0.08	Maintenance outage to perform gas calibrations.
905	Nichols 1	12/29/17	12/31/17	2.58	Unit in outage for Deaerator Drive Steam and Air Preheater maintenance work.
2018					
906	Cunningham 1	01/01/18	01/04/18	3.29	Pinnacle low gas regulator problems.
907	Cunningham 4	01/01/18	01/24/18	23.15	Unit down for stator and rotor inspection.
908	Harrington 1	01/01/18	01/01/18	0.05	Unit was derated to prevent opacity violations.
909	Harrington 1	01/01/18	01/02/18	0.55	Unit tripped when a controls system Control Processor failed.
910	Maddox 2	01/01/18	01/12/18	11.65	Unit Offline; DC Lube Oil Pump Repairs.
911	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.
912	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.
913	Cunningham 3	01/02/18	01/02/18	0.44	Unit was taken offline due to high NOx ¹ .
914	Jones 3	01/03/18	01/03/18	0.06	Maintenance outage to replace actuator on glycol bypass valve.
915	Tolk 1	01/04/18	01/04/18	0.03	East Induced Draft Fan Controller trip.
916	Tolk 2	01/04/18	01/06/18	2.40	Tube leak.
917	Cunningham 1	01/05/18	01/09/18	3.93	Loss of excitation.
918	Cunningham 2	01/05/18	01/05/18	0.12	South Forced Draft fan tripped. Control related issue.
919	Cunningham 2	01/05/18	01/10/18	1.63	Derate related to South Forced Draft fan being unavailable.
920	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.
921	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.
922	Harrington 3	01/11/18	01/14/18	3.35	Repairs to a tube leak in the division panels.
923	Jones 1	01/11/18	01/11/18	0.03	Unit tripped on high drum level.
924	Jones 4	01/11/18	01/11/18	0.20	Maintenance outage for inspection.
925	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.
926	Harrington 2	01/12/18	01/15/18	2.68	Unit was removed from service due to condensate contamination.
927	Maddox 1	01/14/18	01/19/18	5.60	Boiler & Minor System Repairs.
928	Cunningham 3	01/15/18	01/15/18	0.11	Loss of lube oil pressure due to faulty pressure transmitter.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
929	Maddox 2	01/16/18	01/16/18	0.05	Failed Start; High Blade Path Temperature.
930	Cunningham 3	01/18/18	01/20/18	1.63	Unit tripped offline due to fire protection system being activated. Temperature > 325.
931	Maddox 2	01/18/18	01/18/18	0.17	Offline: Operations observed Thrust Bearing Oil Leak; Repaired.
932	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.
933	Maddox 2	01/19/18	01/19/18	0.22	Offline: Main Generator Fuse Clip replacement.
934	Maddox 2	01/21/18	01/22/18	0.88	Failed Start: Bleed Valve Failed to Close; Replaced.
935	Tolk 2	01/22/18	01/22/18	0.41	Transmission outage.
936	Tolk 2	01/22/18	01/23/18	0.96	Outage continuation after Transmission Planned Outage to check out Condenser Water Box pluggage.
937	Maddox 3	01/23/18	01/23/18	0.13	Exhaust Stack Inspection.
938	Tolk 2	01/24/18	01/25/18	1.22	Condenser waterbox door leak.
939	Nichols 3	01/25/18	01/26/18	1.67	Unit offline to replace hogging jet valve orifice.
940	Harrington 3	01/26/18	01/27/18	1.48	Platen panel tube leak.
941	Plant X 1	01/29/18	01/31/18	2.42	Maintenance Outage for circulating water discharge valve repair.
942	Plant X 2	01/29/18	01/31/18	2.42	Maintenance outage for Plant X1 circulating discharge valve repair.
943	Plant X 3	01/29/18	01/31/18	2.42	Maintenance outage for repair to Plant X1 circulating discharge valves.
944	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.
945	Cunningham 2	01/31/18	02/02/18	2.12	Leaking economizer drain piping.
946	Maddox 2	01/31/18	01/31/18	0.17	Offline; Ignitor found out; Replaced.
947	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.
948	Tolk 2	02/01/18	02/01/18	0.49	Transmission work
949	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.
950	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.
951	Jones 3	02/05/18	02/05/18	0.24	Direct Air Injection System maintenance.
952	Maddox 3	02/05/18	09/10/18	217.22	Scheduled/Planned Gas Turbine Overhaul.
953	Plant X 1	02/05/18	02/12/18	6.72	Condensate shortage due to Plant X4 economizer leak.
954	Tolk 2	02/05/18	05/26/18	110.07	Main Power transformer faulted, and a FIRE, fire out at 20:00.
955	Harrington 2	02/06/18	02/06/18	0.32	Unit tripped on high Turbine Thrust reading.
956	Harrington 2	02/06/18	02/07/18	0.38	Unit was removed from service to make adjustments on the Thrust readings.
957	Harrington 2	02/07/18	02/07/18	0.14	Unit tripped due to a Field Circuit Trip on the automatic voltage regulators (AVR).
958	Plant X 4	02/08/18	02/09/18	1.34	Economizer tube leak is compromising condensate makeup capability.
959	Cunningham 2	02/10/18	02/12/18	0.06	Control Valve not opening fully.
960	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.
961	Harrington 2	02/11/18	02/11/18	0.02	Unit was derated to prevent opacity exceedances because of failed bags.
962	Cunningham 2	02/12/18	02/16/18	0.84	Worn control valve actuator cam bushings.
963	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.
964	Cunningham 2	02/13/18	02/16/18	2.51	Replace E rod bushings and control valve bushings.
965	Harrington 1	02/16/18	02/16/18	0.01	Unit tripped on loss of flame.
966	Harrington 3	02/16/18	02/26/18	10.36	Unit had to come off line to repair a superheat tube leak.
967	Cunningham 2	02/21/18	02/28/18	6.85	Waterwall tube leak.
968	Jones 4	02/22/18	02/22/18	0.39	Direct Air Injection System issue.
969	Maddox 2	02/26/18	03/02/18	4.13	Substation Group Replaced potential transformer Fuses/Holders.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
970	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.
971	Maddox 2	03/02/18	03/07/18	5.11	Potential transformer 13.8 Fuse Failure; Replacement Needed.
972	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.
973	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.
974	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.
975	Cunningham 2	03/10/18	03/12/18	1.45	Boiler tube leak.
976	Cunningham 2	03/12/18	05/19/18	68.60	Turbine control valves and Boiler crown seal repairs.
977	Maddox 2	03/12/18	03/12/18	0.03	Failed Start; High Blade Path Temperature Spread.
978	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.
979	Cunningham 1	03/13/18	03/14/18	1.39	Gas supply regulating valve repair.
980	Jones 2	03/14/18	03/15/18	0.29	West main circulating bearing oil pump failure.
981	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.
982	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.
983	Maddox 2	03/19/18	03/20/18	0.36	Unit Tripped on loss of flame.
984	Cunningham 4	03/21/18	03/21/18	0.10	Overspeed Trip Valve went to failure mode due to loss of control air.
985	Cunningham 4	03/22/18	03/22/18	0.05	Turbine enclosure gas detector calibration issue.
986	Jones 3	03/22/18	03/22/18	0.17	Server Reboot and Gas Calibration.
987	Jones 4	03/22/18	03/22/18	0.33	Server reboot and gas calibration.
988	Maddox 1	03/28/18	03/29/18	0.79	Main Pinnacle Gas Valve Repairs.
989	Maddox 2	03/28/18	03/29/18	0.79	Main Pinnacle Gas Valve Repairs.
990	Quay County 1	03/29/18	03/29/18	0.07	Cause of trip is unknown.
991	Maddox 1	03/31/18	04/01/18	0.90	Reverse Osmosis System failed to start; water conservations.
992	Maddox 2	03/31/18	04/01/18	1.50	Reverse Osmosis System failed to start; water conservations.
993	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.
994	Nichols 1	04/02/18	04/04/18	2.56	The rewound North Forced Draft Fan motor is being reinstalled. Leak on liquid level transmitter on the deaerator is being repaired.
995	Harrington 2	04/03/18	04/03/18	0.75	Repaired an exterior steam leak on a blind flange on # 3 high pressure heater.
996	Cunningham 3	04/07/18	04/07/18	0.02	Field breaker did not close.
997	Cunningham 3	04/07/18	04/07/18	0.06	Stopped per supervisor for slow acceleration.
998	Cunningham 3	04/07/18	04/07/18	0.13	Blade path tripped unit.
999	Cunningham 3	04/07/18	04/07/18	0.06	Blade path tripped unit.
1000	Cunningham 3	04/07/18	04/09/18	2.12	Blade path tripped unit.
1001	Maddox 2	04/07/18	04/07/18	0.32	Online Trip; Oil cooler trouble shooting.
1002	Harrington 1	04/08/18	04/28/18	19.33	Unit was removed from service for a mini outage.
1003	Jones 4	04/08/18	04/28/18	20.46	FM 200 (Fire Suppressant) discharged, awaiting refill to ensure fire protection.
1004	Cunningham 3	04/09/18	04/13/18	3.52	Tripped on Vibration.
1005	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.
1006	Maddox 1	04/09/18	04/09/18	0.06	Press Switch Calibration for Auxiliary Lube Oil Pump.
1007	Plant X 2	04/12/18	04/15/18	2.53	Main Circulator Motor Bearing Abnormal Indication.
1008	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.
1009	Cunningham 3	04/13/18	04/13/18	0.35	Low air flow.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1010	Cunningham 3	04/13/18	04/13/18	0.13	Blade path spread high.
1011	Cunningham 3	04/13/18	04/16/18	2.74	Low air flow.
1012	Jones 3	04/13/18	04/13/18	0.11	Gas orifice plate maintenance.
1013	Maddox 2	04/13/18	04/14/18	0.71	NOx ¹ Water Injection: Low Flow Alarm.
1014	Plant X 1	04/15/18	04/18/18	2.96	No.1 Turbine Bearing Overheat.
1015	Maddox 1	04/16/18	04/17/18	1.09	High Pressure Feedwater Heater Tube Leaks & Gas Valve Repairs.
1016	Maddox 2	04/16/18	04/16/18	0.37	Main Pinnacle Gas Valve Repairs.
1017	Maddox 2	04/16/18	04/18/18	2.08	AC Lube Oil Pump Fails to Start.
1018	Plant X 2	04/16/18	04/26/18	10.53	Unable to maintain Drum level.
1019	Jones 2	04/17/18	04/17/18	0.07	Adding oil to F bus transformer.
1020	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.
1021	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.
1022	Nichols 2	04/19/18	04/20/18	1.65	Outage taken to replace Deaerator Drain Valve and #1 Feedwater Heater Air Vent Orifice.
1023	Tolk 1	04/22/18	04/22/18	0.24	B phase on generator has lower voltage coming offline to check.
1024	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.
1025	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.
1026	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.
1027	Maddox 2	04/23/18	04/23/18	0.10	Online Trip: Loss of instrument Air.
1028	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.
1029	Jones 2	04/25/18	04/26/18	0.06	City of Lubbock effluent line air relief valve failed.
1030	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.
1031	Jones 2	04/27/18	04/28/18	0.31	Limited water supply to the plant from the City of Lubbock.
1032	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.
1033	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.
1034	Plant X 3	04/28/18	04/30/18	1.98	Reverse Osmosis . make up system failure. Unable to maintain necessary condensate level.
1035	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.
1036	Maddox 2	04/29/18	04/29/18	0.04	Startup Failure;
1037	Maddox 2	04/30/18	05/01/18	1.20	Startup Failure;
1038	Jones 4	05/01/18	05/01/18	0.01	Variable guide vanes failure.
1039	Plant X 4	05/01/18	05/01/18	0.58	Repair a leak on feedwater check valve just before the boiler economizer inlet.
1040	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.
1041	Jones 1	05/02/18	05/02/18	0.18	Loss of Deaerator level, boiler feed pumps tripped and drum level tripped.
1042	Jones 1	05/03/18	05/03/18	0.08	Derate due to lose of one Boiler Feedpump because of outboard bearing getting hot.
1043	Maddox 2	05/03/18	05/03/18	0.72	Offline: Starting Motor Failure Alarm; Trouble shooting.
1044	Jones 3	05/04/18	05/04/18	0.25	Maintenance to perform a water wash.
1045	Jones 4	05/04/18	05/04/18	0.28	Computer Maintenance - water wash.
1046	Harrington 1	05/05/18	05/05/18	0.00	Unit was derated to prevent opacity violations. Electrostatic Precipitator seems to be fouled.
1047	Plant X 4	05/08/18	05/08/18	0.01	Spray water station for reheat temperature control was not functioning as designed.
1048	Plant X 3	05/11/18	05/18/18	6.55	Suspected condenser tube leak is fouling boiler chemistry.
1049	Jones 2	05/13/18	05/16/18	2.86	Waterwall tube leaks in B & D corners.
1050	Jones 4	05/13/18	05/24/18	10.75	Planned outage borescope inspection.

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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, 3}	Reason for Outage
1051	Nichols 2	05/15/18	05/16/18	1.71	Outage taken to repair an economizer tube leak. The leaky tube was repaired.
1052	Plant X 1	05/17/18	05/17/18	0.68	Plant X3 condenser tube leak, cannot isolate Plant X3 without Plant X1 offline.
1053	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.
1054	Harrington 2	05/18/18	05/23/18	5.56	Summer prep outage.
1055	Cunningham 2	05/19/18	05/19/18	0.01	Post Outage testing.
1056	Cunningham 2	05/19/18	05/19/18	0.06	Post Outage Testing Turbine overspeed trip testing.
1057	Cunningham 2	05/19/18	05/20/18	0.01	Post Outage Testing.
1058	Cunningham 2	05/20/18	05/20/18	0.39	Outage due to scope related logic modification.
1059	Cunningham 2	05/20/18	05/30/18	0.26	Coming out of outage and inspecting equipment.
1060	Plant X 1	05/21/18	05/21/18	0.27	Unable to keep ignitors in during startup.
1061	Plant X 1	05/21/18	05/22/18	1.04	Oil trip test failed.
1062	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.
1063	Plant X 3	05/21/18	05/21/18	0.12	Outage required for X929 Separation according to Transmission Work Request 909194.
1064	Maddox 2	05/23/18	05/24/18	0.82	Online Trip; Vibration Hardware Failure; #1 Bring Hardware Failure.
1065	Jones 3	05/24/18	06/01/18	7.90	Maintenance outage for borescope.
1066	Maddox 2	05/24/18	05/26/18	2.53	Ignition Failure; Low Fuel Pressure at Ignition.
1067	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.
1068	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.
1069	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.
1070	Tolk 2	05/27/18	05/27/18	0.19	BALANCE SHOT.
1071	Tolk 2	05/27/18	05/27/18	0.10	BALANCE SHOTS.
1072	Harrington 2	05/29/18	05/30/18	0.04	Unit had to be derated due to high baghouse differential pressure.
1073	Harrington 1	05/30/18	05/30/18	0.02	Unit was derated to prevent opacity exceedances.
1074	Jones 1	05/30/18	05/30/18	0.07	Leaking Electro-Hydraulic Control fluid on the right side governor control cylinder.
1075	Plant X 2	05/31/18	06/01/18	0.30	Unit limited to one Circulator Pump, unable to achieve full load.
1076	Nichols 3	06/01/18	06/08/18	6.87	Steam seal regulator bypass valve and actuator, and hogging jet block valve were replaced.
1077	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.
1078	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.
1079	Plant X 2	06/09/18	06/15/18	6.00	Unable to maintain drum level.
1080	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.
1081	Tolk 1	06/12/18	06/12/18	0.32	Generator over excitation relay trip, electricians investigating exciter and voltage regulator.
1082	Maddox 2	06/13/18	06/13/18	0.07	Inlet Guide Vane Failure.
1083	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.
1084	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.
1085	Harrington 1	06/16/18	06/16/18	0.55	Unit was removed from line to make repairs to a water wall but leak.
1086	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.
1087	Plant X 4	06/19/18	06/20/18	1.16	Fire discovered on D corner of boiler.
1088	Harrington 1	06/20/18	06/20/18	0.01	Unit tripped on Reverse Power.
1089	Harrington 1	06/20/18	06/20/18	0.01	Unit tripped on Reverse Power.
1090	Harrington 1	06/20/18	06/20/18	0.01	Unit tripped on reverse power.
1091	Jones 1	06/20/18	06/28/18	0.23	Derate because of chattering Reheat pressure relief valve.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1092	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.
1093	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.
1094	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.
1095	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.
1096	Plant X 1	06/21/18	06/21/18	0.21	Loss of boiler igniters, causing boiler trip.
1097	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.
1098	Maddox 2	06/25/18	06/28/18	3.49	CHANGE FUSE HOLDERS AND FUSES.
1099	Plant X 1	06/25/18	06/25/18	0.07	Boiler tripped due to high ignitor header pressure.
1100	Plant X 4	06/26/18	06/26/18	0.02	Boiler Feed pump trip.
1101	Plant X 4	06/26/18	06/28/18	1.88	Fire in D corner due to loss of refractory.
1102	Jones 1	06/27/18	06/27/18	0.37	Repair to a hot reheat pipe flange on the pressure relief valve.
1103	Jones 2	06/27/18	06/27/18	0.09	Generator breaker would not operate - could not get online.
1104	Jones 1	06/30/18	07/01/18	0.03	Repair to a hot reheat pipe flange on the pressure relief valve.
1105	Harrington 3	07/01/18	07/01/18	0.14	Unit tripped when changes were being made to the baghouse distributed control system.
1106	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.
1107	Jones 1	07/01/18	07/01/18	0.14	Repair to a hot reheat pipe flange on the pressure relief valve.
1108	Jones 1	07/01/18	07/01/18	0.02	Derated due to high backpressure.
1109	Jones 3	07/01/18	07/01/18	0.01	Startup failure due to blade path temperature spread.
1110	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.
1111	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.
1112	Cunningham 1	07/07/18	07/07/18	0.05	Deaerator level went high. Operations manually tripped unit for protection.
1113	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.
1114	Cunningham 2	07/08/18	07/08/18	0.11	Burner fuel pressure high.
1115	Cunningham 2	07/08/18	07/11/18	2.97	Turbine did not trip after the generator tripped.
1116	Plant X 4	07/08/18	07/08/18	0.10	Gas Firing valve malfunction caused boiler instability issues.
1117	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.
1118	Maddox 2	07/10/18	07/10/18	0.06	#5 BEARING FIRE SYSTEM TRIP.
1119	Maddox 2	07/12/18	07/13/18	0.70	Igniter failed and was replaced with a new igniter .
1120	Plant X 4	07/12/18	07/13/18	0.76	Hot spot on D corner, 4th floor.
1121	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.
1122	Maddox 2	07/14/18	07/17/18	2.73	GENERATOR BREAKER TRIP COIL FAILED
1123	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.
1124	Plant X 4	07/15/18	07/15/18	0.16	Drum level trip.
1125	Plant X 4	07/15/18	07/16/18	0.15	Drum level trip.
1126	Plant X 4	07/15/18	07/16/18	0.20	High load suspect in boiler swings causing drum level trip.
1127	Cunningham 3	07/16/18	08/01/18	5.97	Air flow and blade path temperature issue causing reduced load.
1128	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.
1129	Plant X 2	07/16/18	07/17/18	0.27	Main gas Regulator restricted flow.
1130	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.
1131	Plant X 2	07/18/18	07/18/18	0.46	Maintenance outage to repair main gas regulator.
1132	Harrington 1	07/20/18	07/20/18	0.02	Unit was derated to prevent opacity exceedances.
1133	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, 3}	Reason for Outage
1134	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.
1135	Jones 2	07/23/18	07/23/18	0.02	Turbine drain valves did not work in auto. Derate was taken to make repair.
1136	Cunningham 2	07/24/18	07/26/18	1.46	Inspect Turbine Trip Mechanism.
1137	Cunningham 4	07/26/18	07/26/18	0.02	Lightning tripped unit.
1138	Harrington 2	07/27/18	07/27/18	0.01	Unit was derated due to high baghouse differential Pressure.
1139	Nichols 3	07/27/18	07/27/18	0.57	Baghouse compartment taken out of service due to bag failures. The south circulating water piping feeding into the condenser waterbox began to leak due to severe wall thinning at the waterbox inlet flange.
1140	Cunningham 4	07/28/18	07/28/18	0.01	High Lube oil cause unit to trip.
1141	Cunningham 3	07/30/18	08/01/18	2.17	Repair inlet guide vanes for better air flow.
1142	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.
1143	Cunningham 3	08/01/18	12/31/18	152.04	Compressor damage, requires major overhaul to repair.
1144	Jones 2	08/01/18	08/02/18	0.07	Drains pump repaired.
1145	Jones 3	08/01/18	08/01/18	0.23	Startup failure due to no differential pressure signal on exciter blower.
1146	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.
1147	Cunningham 4	08/03/18	08/03/18	0.23	Inspect Inlet Guide Vanes For Loose Hardware.
1148	Plant X 3	08/04/18	08/24/18	20.33	Maintenance Outage for boiler hotspots.
1149	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.
1150	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.
1151	Jones 4	08/06/18	08/07/18	1.25	Repair Gas Separator Leak.
1152	Jones 2	08/08/18	08/11/18	3.68	Gas firing valve failure.
1153	Cunningham 1	08/09/18	08/14/18	5.75	Repair economizer tube leak.
1154	Cunningham 2	08/09/18	08/09/18	0.06	Reduce load to change out electronics on extraction valves controller.
1155	Plant X 2	08/09/18	08/25/18	16.04	Boiler waterwall tube leak.
1156	Jones 1	08/10/18	08/12/18	0.12	Leak in High Pressure Feedwater Heater #1 Seal Weld on Head.
1157	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.
1158	Plant X 1	08/12/18	08/12/18	0.14	Gas Firing valve control failed.
1159	Jones 1	08/13/18	08/19/18	0.48	Leak in High Pressure Feedwater Heater #1 Seal Weld on Head.
1160	Harrington 3	08/14/18	08/17/18	3.30	Unit was removed from service to make repairs to a water wall tube leak.
1161	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.
1162	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.
1163	Jones 2	08/15/18	08/16/18	1.35	Gas firing valve control issues.
1164	Harrington 1	08/18/18	08/23/18	4.90	Unit was removed from service to make repairs to a water wall tube failure.
1165	Jones 1	08/20/18	08/20/18	0.63	Fix leak on High Pressure Feedwater Heater #1.
1166	Jones 1	08/24/18	08/28/18	1.29	Boiler Feedpump suction strainers limiting flow.
1167	Cunningham 4	08/27/18	08/28/18	1.25	Replace inlet air filters.
1168	Harrington 3	08/27/18	08/27/18	0.24	Generator voltage regulator would not go in to service.
1169	Cunningham 4	08/28/18	08/28/18	0.12	Turning gear motor failed to start.
1170	Harrington 1	08/28/18	08/28/18	0.37	Tripped on low drum level.
1171	Jones 1	08/28/18	08/28/18	0.53	Unit will need to come offline to clean Boiler Feedpump suction strainers
1172	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.

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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, 3}	Reason for Outage
1173	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.
1174	Jones 2	08/30/18	08/31/18	1.68	Leak in main circulating water piping.
1175	Maddox 2	08/30/18	08/30/18	0.16	Replaced roof exhaustor motor.
1176	Jones 1	09/01/18	09/01/18	0.02	Turbine oil leak.
1177	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.
1178	Jones 1	09/04/18	09/05/18	0.28	Not getting enough effluent from the city. Need to derate to conserve water.
1179	Jones 2	09/05/18	09/05/18	0.18	Low flow of effluent from the city. Plant needed to increase lagoon level.
1180	Tolk 2	09/05/18	09/05/18	0.26	Loss of "A" buss leaving only one primary air fan available.
1181	Nichols 1	09/06/18	09/06/18	0.54	Leak in economizer header inlet tubes was repaired.
1182	Plant X 1	09/06/18	09/07/18	0.65	East Boiler feed pump recirculation pipe failed.
1183	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.
1184	Harrington 3	09/07/18	11/04/18	57.93	Planned Major Outage.
1185	Harrington 1	09/08/18	09/09/18	0.01	Unit Electrostatic Precipitator was fouled.
1186	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.
1187	Maddox 1	09/08/18	09/08/18	0.05	Tripped on Startup due to high drum level.
1188	Plant X 4	09/08/18	09/21/18	13.00	Planned outage for superheat and reheat valve repair.
1189	Cunningham 1	09/10/18	09/24/18	13.46	Air flow pressure switch failed.
1190	Maddox 3	09/10/18	09/10/18	0.00	TEST RUN AFTER OVERHAUL.
1191	Maddox 3	09/10/18	09/10/18	0.02	Testing.
1192	Maddox 3	09/10/18	09/11/18	0.48	TEST RUN AFTER OVERHAUL.
1193	Cunningham 4	09/12/18	09/14/18	2.26	Excitation failure, brushless exciter, two diodes need to be replaced.
1194	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.
1195	Jones 3	09/12/18	09/12/18	0.13	Compressor water wash.
1196	Jones 4	09/12/18	09/12/18	0.19	Compressor water wash.
1197	Harrington 1	09/13/18	09/15/18	2.28	Cleaning the Electrostatic Precipitator.
1198	Jones 2	09/14/18	09/14/18	0.25	Loss of control power on normal source transformer breaker.
1199	Jones 2	09/14/18	09/14/18	0.08	Normal source transformer differential 86N relay. Normal source transformer blew out oil.
1200	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.
1201	Maddox 2	09/15/18	09/15/18	0.19	Lube oil pump coupling broke. Replaced coupling.
1202	Jones 4	09/18/18	09/19/18	1.64	PM's and Gas Calibration.
1203	Cunningham 4	09/20/18	09/20/18	0.05	Oil cooler bypass stuck open.
1204	Jones 3	09/20/18	09/21/18	1.65	Preventive Maintenance & Gas Calibration.
1205	Maddox 1	09/21/18	09/21/18	0.13	Hot Reheat header seal box skin leak.
1206	Maddox 1	09/21/18	12/22/18	91.90	Hot Reheat header seal box skin leak.
1207	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.
1208	Plant X 4	09/21/18	10/07/18	17.00	Substation Outage.
1209	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.
1210	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.
1211	Jones 1	09/23/18	09/23/18	0.15	Not getting enough effluent from the city. Need to derate to conserve water.
1212	Jones 2	09/23/18	09/23/18	0.46	Lagoon level low. Chlorides high on cooling towers.
1213	Cunningham 1	09/24/18	10/05/18	11.72	Planned outage
1214	Jones 1	09/24/18	09/24/18	0.10	Lagoon level low, chlorides high on cooling towers.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1215	Jones 2	09/24/18	09/24/18	0.10	Lagoon level low. Chlorides high on cooling towers.
1216	Jones 3	09/24/18	09/29/18	5.45	Install pig launcher/receiver barrel on Red River gas line.
1217	Jones 4	09/24/18	09/29/18	5.45	Install pig launcher/receiver on Red River gas line.
1218	Jones 1	09/25/18	09/25/18	0.14	Not getting enough effluent from the city. Lagoon level low.
1219	Jones 2	09/25/18	09/25/18	0.11	Low flow of effluent from the city. Plant needed to increase lagoon level.
1220	Nichols 3	09/26/18	09/26/18	0.69	Unit brought offline for water wall tube leak.
1221	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.
1222	Plant X 3	09/30/18	09/30/18	0.50	Repair economizer tube leak.
1223	Jones 3	10/01/18	10/01/18	0.28	Install pig launcher/receiver barrel on Red River gas line.
1224	Jones 3	10/02/18	10/02/18	0.15	Install pig launcher/receiver barrel on Red River gas line.
1225	Plant X 3	10/02/18	10/03/18	0.84	Voltage regulator auto control failure.
1226	Cunningham 2	10/03/18	10/13/18	10.12	Water wall tube leak in furnace.
1227	Cunningham 4	10/03/18	10/03/18	0.15	Shut unit to add SF6 gas in L915 breaker.
1228	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.
1229	Jones 1	10/04/18	10/05/18	0.04	Forced Draft fan motor winding temperature alarm due to Engineering and Construction testing.
1230	Jones 3	10/04/18	10/04/18	0.01	Auto unload due to both collector fans failing.
1231	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.
1232	Harrington 1	10/07/18	10/07/18	0.02	Unit was derated to prevent opacity exceedances.
1233	Harrington 1	10/07/18	10/08/18	0.06	Unit was derated to prevent opacity exceedances due to the Electrostatic Precipitator being fouled.
1234	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.
1235	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.
1236	Jones 2	10/08/18	10/11/18	3.51	Removal of normal source transformer.
1237	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.
1238	Harrington 1	10/16/18	10/18/18	0.20	Unit was derated to control opacity.
1239	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.
1240	Jones 4	10/16/18	10/16/18	0.44	Static frequency converter relay would not close.
1241	Harrington 1	10/18/18	10/18/18	0.03	Unit was derated to control Opacity and prevent an opacity exceedance.
1242	Harrington 1	10/18/18	10/19/18	0.15	Unit was derated to perform an unscheduled dead rap.
1243	Harrington 1	10/19/18	10/19/18	0.02	Unit was derated to control opacity emissions. The Electrostatic Precipitator is fouled.
1244	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.
1245	Jones 1	10/19/18	10/19/18	0.05	Voltage regulator tripping issues.
1246	Tolk 2	10/19/18	10/23/18	4.00	Reheat tube leak.
1247	Harrington 1	10/20/18	10/20/18	0.02	Unit was derated to control opacity. Unit Electrostatic Precipitator is fouled.
1248	Harrington 1	10/23/18	10/23/18	0.04	Unit was derated to control opacity. The Electrostatic Precipitator is fouled.
1249	Harrington 1	10/23/18	10/23/18	0.00	Unit was derated to control opacity. The Electrostatic Precipitator is fouled.
1250	Cunningham 4	10/24/18	12/10/18	46.98	Generator Cooling fan blade Broke.
1251	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.
1252	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.
1253	Jones 4	10/27/18	10/27/18	0.04	Collector blower failure #1.

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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, 3}	Reason for Outage
1254	Plant X 4	10/27/18	10/27/18	0.04	Boiler Feed Pump Packing Failure, removed pump from service.
1255	Plant X 4	10/27/18	10/27/18	0.03	Limited to 1 Feed Pump due to packing failure.
1256	Plant X 4	10/27/18	10/28/18	0.70	Offline to repair Boiler Feed Pump packing.
1257	Harrington 1	11/01/18	11/02/18	0.04	Unit was derated to prevent opacity exceedances.
1258	Cunningham 2	11/02/18	11/26/18	24.16	Boiler buck stay repairs.
1259	Jones 3	11/04/18	11/09/18	5.73	Borescope Inspection.
1260	Harrington 3	11/05/18	11/05/18	0.03	Unit was removed from service to perform an electrical and mechanical overspeed test.
1261	Jones 1	11/07/18	11/07/18	0.22	Lagoon level low, chlorides high on cooling towers.
1262	Jones 2	11/07/18	11/07/18	0.22	Lagoon level low. Chlorides high on cooling towers.
1263	Harrington 1	11/08/18	11/09/18	0.10	Unit was derated to eliminate high opacity events and prevent an opacity violation.
1264	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.
1265	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.
1266	Harrington 1	11/09/18	11/09/18	0.10	Unit was derated to prevent high opacity events and to prevent an opacity violation.
1267	Jones 1	11/09/18	11/10/18	0.09	High Pressure heaters bypassed for leak on #1 High Pressure heater.
1268	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.
1269	Jones 1	11/10/18	11/11/18	1.26	Repair #1 High Pressure heater leak.
1270	Maddox 2	11/10/18	11/10/18	0.15	Water Injection line leaking, replaced line.
1271	Tolk 2	11/10/18	11/10/18	0.06	Unit trip on flame failure.
1272	Tolk 2	11/10/18	11/10/18	0.02	Unit trip on flame failure.
1273	Jones 4	11/11/18	11/17/18	6.38	Borescope Inspection.
1274	Plant X 3	11/12/18	11/14/18	2.50	Economizer tube leak repair.
1275	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.
1276	Tolk 2	11/13/18	11/13/18	0.02	Lost Start up breaker TC200 then lost power to C Buss.
1277	Nichols 1	11/14/18	11/14/18	0.34	Unit was in a maintenance outage to repair the voltage regulator.
1278	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.
1279	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.
1280	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.
1281	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.
1282	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.
1283	Harrington 1	11/19/18	11/20/18	0.05	Unit was derated to control opacity due to a fouled Electrostatic Precipitator.
1284	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.
1285	Tolk 1	11/19/18	11/19/18	0.02	Hot pump bearings on South main circulating.
1286	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.
1287	Maddox 2	11/22/18	12/06/18	13.99	Maddox 2 interposing relay between Distributed Control System and 52G generator breaker failed.
1288	Tolk 1	11/24/18	11/26/18	1.58	Economizer tube leak.

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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, 3}	Reason for Outage
1289	Plant X 1	11/26/18	12/09/18	14.00	Planned Outage - Replaced Boiler Analyzers, Clean lube oil cooler.
1290	Plant X 2	11/26/18	12/09/18	14.00	Planned Outage - Replaced Drum Level Indicator, Replaced Blowdown Valve, Replaced Water Analyzers.
1291	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.
1292	Cunningham 2	11/27/18	11/27/18	0.06	Post outage testing, set low speed stop, high speed stop, and perform overspeed trip.
1293	Jones 1	11/27/18	11/29/18	2.60	Installation of backflow preventer on potable water supply.
1294	Jones 2	11/27/18	11/29/18	2.55	Installation of backflow preventer on potable water supply.
1295	Maddox 3	11/27/18	11/28/18	1.03	Replacing gas valve.
1296	Jones 4	11/28/18	11/28/18	0.09	Offline due to NOx ¹ emissions.
1297	Cunningham 2	12/01/18	12/02/18	0.95	Distributed Control System computer Control Processor failure. Replaced Control Processor.
1298	Jones 1	12/03/18	12/03/18	0.21	Derate to makeup condensate due to issues with the Reverse Osmosis.
1299	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.
1300	Jones 4	12/03/18	12/03/18	0.25	Offline due to NOx1 emissions.
1301	Nichols 2	12/03/18	12/03/18	0.67	Maintenance Outage to Repair Leaking Boiler Drum Safety.
1302	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.
1303	Jones 1	12/04/18	12/04/18	0.54	Derate to makeup condensate due to issues with the Reverse Osmosis.
1304	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.
1305	Cunningham 2	12/06/18	12/14/18	7.55	Boiler Tube Rupture that causing unit to come offline.
1306	Tolk 1	12/06/18	12/06/18	0.13	"A" feeder - foreign object on belt caused feeder to trip.
1307	Harrington 1	12/07/18	12/10/18	0.47	Unit was derated to prevent opacity violations. Electrostatic Precipitator is dirty.
1308	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.
1309	Cunningham 4	12/10/18	12/11/18	0.85	Unit tripped Due to Stator Spread High: Bad Resistance Temperature Detector.
1310	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.
1311	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.
1312	Nichols 1	12/10/18	12/12/18	1.56	Unit was in a maintenance outage to repair an economizer tube leak.
1313	Tolk 1	12/11/18	12/11/18	0.13	A,B & C mills are all unavailable - overhaul.
1314	Plant X 3	12/12/18	12/12/18	0.04	Due to loss of East Forced Draft fan.
1315	Plant X 3	12/12/18	12/31/18	4.84	Derate to loss of east Forced Draft fan motor.
1316	Harrington 3	12/13/18	12/15/18	2.57	Unit was removed from service to make repairs to a water wall tube leak.
1317	Maddox 2	12/14/18	12/14/18	0.07	Trip due to blade path temperature spread.
1318	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
1319	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.
1320	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.
1321	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.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1322	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.
1323	Plant X 3	12/18/18	12/18/18	0.04	Outside of Management Control - Transmission working on X931.
1324	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.
1325	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.
1326	Quay County 1	12/20/18	12/20/18	0.13	Outage taken to replace the combustion turbine starting diesel engine radiator.
1327	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.
1328	Maddox 2	12/23/18	12/23/18	0.04	Vibration hardware tripped Maddox 2, reset and restarted Maddox 2.
1329	Harrington 1	12/24/18	12/24/18	0.06	Unit was derated due to 2 coal mills/feeders unavailable.
1330	Plant X 3	12/24/18	12/24/18	0.36	Turbine thrust position high trip.
1331	Nichols 3	12/27/18	12/27/18	0.50	Unit in outage to repair boiler safety.
1332	Harrington 1	12/29/18	12/29/18	0.49	Unit was removed from service due to inaccurate emissions data gathering.
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1333	Cunningham 3	01/01/19	05/21/19	140.53	Compressor damage, requires major overhaul to repair
1334	Cunningham 4	01/01/19	01/03/19	2.25	Main firing valve actuator failure. Replaced actuator.
1335	Harrington 1	01/01/19	01/02/19	1.51	Unit was removed from line due to inaccurate emissions data
1336	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
1337	Plant X 3	01/01/19	01/09/19	2.13	Derate do to loss of East Forced Draft fan motor
1338	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.
1339	Plant X 3	01/02/19	01/02/19	0.05	Turbine thrust position high trip
1340	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.
1341	Tolk 1	01/03/19	01/08/19	5.10	Boiler tube leak in the Reheat section
1342	Cunningham 2	01/04/19	01/23/19	19.44	Boiler water wall tube leak
1343	Harrington 1	01/04/19	01/04/19	0.43	While in a Reserved Shutdown the plant changed out a Main Boiler Feed Pump recirc check valve and a Deaerator recirculating valve that would prevent a start up.
1344	Harrington 3	01/05/19	01/05/19	0.01	Unit was derated due to high baghouse differential pressure. We had compartments 14 and 11 out at the same time to replace failed bags.
1345	Plant X 2	01/05/19	01/10/19	5.17	Boiler tube leak
1346	Jones 2	01/07/19	01/08/19	1.19	Left side governor valve actuator Electro-Hydraulic leak
1347	Harrington 1	01/08/19	01/08/19	0.40	Unit missed its scheduled start up time due to Generator Step-Up Transformer cooling pump issues
1348	Cunningham 4	01/11/19	01/11/19	0.25	Digital Control System Server Cleaning to remove dust buildup
1349	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.
1350	Harrington 1	01/13/19	01/13/19	0.02	Unit was derated to control high opacity readings.
1351	Tolk 1	01/13/19	01/18/19	5.09	Boiler reheat tube inspection (Stress corrosion cracking)
1352	Harrington 3	01/14/19	01/14/19	0.02	Unit was derated due to high baghouse differential pressure. The high DP was caused from 4 Baghouse compartments being out of service to replace failed bags.
1353	Jones 3	01/14/19	01/14/19	0.07	Replace filters in control oil system
1354	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

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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, 3}	Reason for Outage
1355	Harrington 1	01/15/19	01/25/19	9.95	Unit was removed from service to inspect the Conservator Tank and assess the Generator Step-Up Transformer oil. A gas was discovered in the oil when gathering an oil sample
1356	Plant X 2	01/15/19	06/07/19	142.52	Generator rotor collector brushes were arcing causing the voltage regulator to act erratically
1357	Harrington 2	01/16/19	01/16/19	0.01	Unit was derated due to high baghouse pressure with compartments out of service.
1358	Jones 1	01/16/19	01/17/19	0.68	Repair 7th floor backpass casing
1359	Harrington 3	01/17/19	01/23/19	5.49	Unit was removed from service to clear refract and other trash from the economizer ash removal hoppers. We also inspected the Cooling Tower circulation system.
1360	Jones 4	01/18/19	01/18/19	0.12	Outage to inspect exhaust section for loose material.
1361	Maddox 3	01/18/19	01/18/19	0.03	Blown fuse on Turning Gear Hand-Off-Automatic switch
1362	Jones 2	01/19/19	04/06/19	77.04	Spring Outage
1363	Cunningham 4	01/21/19	01/21/19	0.18	Inlet Guide Vanes actuator calibration
1364	Maddox 1	01/21/19	01/22/19	0.29	Replacing cooling tower fan motors and gearboxes, capital project
1365	Harrington 2	01/22/19	01/23/19	0.15	Missed Scheduled start up time because the 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.
1366	Cunningham 4	01/23/19	01/23/19	0.17	Main Firing Valve failure.
1367	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 Turbine Shell Diaphragm
1368	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.
1369	Cunningham 2	01/25/19	01/25/19	0.01	High burner pressure caused unit to trip.
1370	Cunningham 2	01/25/19	01/25/19	0.00	Operator green flagged switch instead of red flagging switch.
1371	Cunningham 2	01/25/19	01/25/19	0.00	Operator green flagged switch instead of red flagging switch.
1372	Cunningham 2	01/25/19	01/25/19	0.01	South Boiler Feed Pump 4160V Breaker Microswitch failed
1373	Harrington 1	01/25/19	01/25/19	0.02	Turbine tripped on high drum level.
1374	Harrington 1	01/25/19	01/25/19	0.28	Generator breaker tripped from turbine control system and would not reclose. There was a contactor in the breaker panel that had to be replaced.
1375	Cunningham 4	01/28/19	01/28/19	0.17	Replace Hydraulic System oil filters.
1376	Maddox 1	01/28/19	01/28/19	0.03	Reverse Power took unit back off line
1377	Cunningham 2	01/29/19	01/29/19	0.07	Calibrate the South Boiler Feed Pump Oil Pressure Switch, adjusted Boiler Feed Pump oil pump pressure relief setting
1378	Harrington 1	01/29/19	01/29/19	0.06	Unit was derated to control opacity due to a fouled Electrostatic Precipitator
1379	Harrington 1	01/29/19	01/29/19	0.02	Unit was derated to control opacity due to a fouled Electrostatic Precipitator
1380	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.
1381	Harrington 2	02/01/19	02/01/19	0.02	Unit was derated due to high baghouse differential pressure when compartments were removed from service to replace failed bags.
1382	Cunningham 1	02/04/19	02/08/19	4.30	Worked on High Pressure drains pump, Air Preheater Oil, Air Preheater motor, condensate pump breaker, and other electric needs.
1383	Cunningham 2	02/04/19	02/04/19	0.10	Broken pipe nipple on fuel gas system.
1384	Jones 3	02/04/19	02/06/19	2.19	Emissions Permit Compliance
1385	Tolk 1	02/05/19	02/06/19	1.32	Reheat tube replacement
1386	Maddox 3	02/06/19	02/06/19	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
1387	Maddox 3	02/06/19	02/07/19	1.05	Voltage regulator caused field breaker to trip after generator breaker opens, field breaker won't reset
1388	Cunningham 4	02/07/19	02/07/19	0.45	Replaced Uninterruptible Power Supply power source

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1389	Harrington 1	02/08/19	02/08/19	0.03	Unit was derated due to high vibration on the #1 bearing. The high vibrations was caused by the #4 Governor Valve not operating as designed
1390	Harrington 1	02/08/19	02/09/19	0.05	Unit was derated because the #4 Governor Valve was removed from service due to not operating as designed and causing a high vibration on #1 bearing
1391	Maddox 3	02/08/19	02/08/19	0.23	Voltage regulator caused field breaker to trip after generator breaker opens, field breaker won't reset
1392	Harrington 2	02/09/19	02/15/19	6.52	Unit was removed from service for a mini outage.
1393	Jones 4	02/09/19	02/09/19	0.08	Outage to inspect exhaust section for loose material.
1394	Cunningham 2	02/10/19	02/17/19	7.10	Waterwall Tube leak.
1395	Maddox 3	02/13/19	02/14/19	1.36	Replace Speed probe.
1396	Plant X 3	02/13/19	02/16/19	2.82	Generator Viscous seal inspection/repair
1397	Harrington 1	02/15/19	02/16/19	0.03	Unit was derated to prevent Opacity exceedances. Electrostatic Precipitator is fouled
1398	Tolk 2	02/15/19	02/16/19	0.04	Reducing pressure and load due to silicon dioxide contamination in the boiler. Will remain here till we are able to clean up the boiler. Suspected silica contaminintation from anodamine injection.
1399	Harrington 1	02/16/19	02/16/19	0.05	Unit was derated to prevent opacity exceedances. Electrostatic Precipitator is fouled
1400	Harrington 2	02/17/19	02/17/19	0.16	Unit missed on line schedule due to the automatic voltage regulator not operating as designed.
1401	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.
1402	Harrington 2	02/17/19	02/18/19	0.42	Unit tripped due to a dirty contact in the automatic voltage regulator not showing the automatic voltage regulator field breaker closed
1403	Harrington 2	02/18/19	02/23/19	0.45	Unit was derated to "season" the new bags put in 6 baghouse compartments.
1404	Harrington 1	02/19/19	02/19/19	0.06	Unit was derated to prevent opacity violations.
1405	Maddox 2	02/19/19	02/19/19	0.05	Bleed Valve issue.
1406	Plant X 3	02/19/19	02/28/19	9.32	Forced outage due to waterwall tube leak
1407	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.
1408	Harrington 1	02/23/19	05/22/19	88.69	Major Outage on Boiler, Electrostatic Precipitator, Turbine, and Auxiliaries
1409	Harrington 3	02/24/19	02/24/19	0.03	Unit was derated with we tripped P buss Normal Source breaker. We were in the process of using Harrington 3 for Harrington 1
1410	Plant X 4	02/24/19	02/24/19	0.02	Station Power while the Start-Up transformers were out of service
1411	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.
1412	Maddox 1	02/26/19	02/26/19	0.26	High Pressure Heater Relief lifted at Full load pressures, derate to lower boiler pressure.
1413	Maddox 2	02/26/19	02/26/19	0.26	Black Plant 5 year and 3 year test, EOP-005
1414	Maddox 2	02/26/19	02/28/19	1.83	Black Plant 5 year and 3 year test, EOP-005
1415	Maddox 3	02/26/19	02/26/19	0.26	After black plant testing M2 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.
1416	Maddox 1	02/27/19	03/01/19	0.97	5 year and 3 year black plant testing, EOP-005
1417	Nichols 1	02/27/19	02/27/19	0.59	Boiler Feed Pump lube oil pump pressure switch caused 4160 breaker to not close
1418	Plant X 4	02/27/19	02/27/19	0.80	Nichols 1 unit was in a maintenance outage to repair a economizer tube leak
1419	Tolk 1	02/27/19	02/27/19	0.06	Loss of Power on the 480 Volt Buss
					Electro-Hydraulic issues - Turbine Controls- Reheat Stop Valve stuck on test lowered pressure to see if it would open. Ended up with low Electro-Hydraulic pressure taking us offline.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1420	Maddox 2	02/28/19	03/19/19	19.00	Turning Gear Motor failed. Motor needs rewind
1421	Plant X 3	02/28/19	03/06/19	5.94	Substation outage requested for substation crew
1422	Quay Co 1	02/28/19	03/01/19	1.38	Maintenance outage taken to replace starting diesel radiator
1423	Cunningham 2	03/02/19	03/15/19	13.62	Boiler tube leak in furnace section.
1424	Tolk 2	03/07/19	03/12/19	5.72	Mini Outage - Scope of work Grit Blast Finish Superheat, Clean Auxiliary Cooling Water Heat Exchanger, Inspect Reheat
1425	Plant X 3	03/08/19	03/08/19	0.18	Excessive condensate usage, unable to make up water in the condensate tanks.
1426	Plant X 3	03/09/19	03/21/19	11.62	Unable to maintain drum level, waterwall tube leak
1427	Harrington 2	03/11/19	03/11/19	0.04	Unit was derated due to high baghouse pressure. We had compartments 12 and 14 out of service to replace failed bags.
1428	Maddox 1	03/11/19	04/22/19	6.35	During planned outage inspection (this was part of outage scope) found west condensate pump wore out. Pulled and sent off pump for refurbishing.
1429	Jones 3	03/12/19	03/13/19	1.74	Gas Calibrations
1430	Plant X 1	03/13/19	03/13/19	0.15	Start-Up Failure due to synchronization issues
1431	Jones 4	03/14/19	03/15/19	1.96	Gas Calibrations
1432	Tolk 1	03/15/19	03/15/19	0.01	A feeder problem. Relay problem on Controls
1433	Tolk 1	03/16/19	03/16/19	0.06	A mill problems. Relay problem on Controls
1434	Cunningham 2	03/17/19	04/08/19	22.44	Boiler tube leak
1435	Tolk 2	03/18/19	03/18/19	0.25	Heat Exchangers will not isolate - was discovered when maintenance installed the plate backwards
1436	Cunningham 1	03/19/19	03/22/19	0.31	Oil Lubrication problems on South Boiler Feed pump.
1437	Maddox 2	03/19/19	03/19/19	0.05	Bleed valve failed on startup.
1438	Cunningham 1	03/22/19	03/23/19	0.11	South Boiler Feedwater Pump packing blew when starting up.
1439	Plant X 1	03/22/19	03/29/19	6.73	Superheat Tube Leak
1440	Maddox 1	03/23/19	03/23/19	0.09	High back pressure. Near 4.0
1441	Cunningham 1	03/24/19	04/15/19	2.31	South Boiler Feedwater Pump Fluid Drive temperatures high.
1442	Tolk 1	03/27/19	03/30/19	3.19	Repair on reheat tubes
1443	Cunningham 4	03/29/19	04/02/19	4.10	#5 bearing thermocouple shorter causing high temperature indication
1444	Harrington 2	03/30/19	03/30/19	0.34	Unit tripped when the generator automatic voltage regulator failed and opened the field breaker.
1445	Plant X 4	03/30/19	06/07/19	70.00	Generator Inspection/Rewedge, Generator Breaker Replacement, Turbine Valve Inspection/Repairs, Boiler Inspection/Repairs, Boiler Chemical Clean, Digital Control System Upgrade, Balance of Plant Inspections/Repairs. Cooling Tower Inspection/Repairs
1446	Plant X 3	04/03/19	04/16/19	13.13	Unable to maintain drum level
1447	Plant X 1	04/05/19	04/05/19	0.60	Unable to maintain water chemistry
1448	Jones 2	04/06/19	04/11/19	5.86	Spring Outage
1449	Cunningham 2	04/08/19	04/10/19	2.16	Planned outage work
1450	Harrington 2	04/08/19	04/08/19	0.01	Unit was derated due to high baghouse differential pressure. We had a baghouse compartment out of service to replace failed bags.
1451	Plant X 1	04/08/19	04/10/19	2.18	Unable to maintain water chemistry
1452	Tolk 1	04/08/19	04/08/19	0.00	"A" Mill trip on low lube oil pressure
1453	Maddox 3	04/09/19	04/09/19	0.04	Tripped on Blade Path Spread. Removed Blade Path Thermocouple #1.
1454	Cunningham 2	04/10/19	09/17/19	54.15	Operating boiler at reduced pressure due to hydrogen embrittlement
1455	Jones 2	04/11/19	04/12/19	0.04	Spring Outage Testing
1456	Tolk 1	04/11/19	04/12/19	1.15	Repair reheat tubes
1457	Jones 2	04/12/19	04/12/19	0.89	Spring Outage
1458	Jones 2	04/12/19	04/13/19	0.19	Spring Outage Testing
1459	Jones 2	04/13/19	04/13/19	0.75	Spring Outage
1460	Jones 2	04/13/19	04/15/19	0.44	Spring Outage Testing
1461	Jones 2	04/15/19	04/15/19	0.49	Spring Outage

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1462	Jones 2	04/15/19	05/20/19	11.36	Lost Inboard Bearing on East Boiler Feed Pump Due to Lack of Oil
1463	Jones 1	04/16/19	04/19/19	3.67	Mini Outage
1464	Maddox 2	04/16/19	04/18/19	2.49	Replace roof exhausters
1465	Cunningham 1	04/18/19	04/22/19	0.47	South Boiler Feedwater Pump Fluid Drive temperature High
1466	Maddox 2	04/19/19	04/19/19	0.05	High Blade Path Temperatures
1467	Plant X 3	04/19/19	05/10/19	21.41	Unable to maintain drum level
1468	Plant X 1	04/20/19	04/29/19	9.98	Capitol Project to replace boiler blowdown sump piping that affects all Plant X Units.
1469	Maddox 1	04/22/19	04/29/19	7.00	Boiler work. Finish 1B Condensate work.
1470	Cunningham 1	04/23/19	07/26/19	9.68	South Boiler Feedwater Pump Fluid Drive issues. Feed pump not maintaining flow correctly.
1471	Harrington 3	04/23/19	05/26/19	17.00	Unit 3 West Induced Fan motor went to ground and motor burned up
1472	Tolk 1	04/23/19	04/23/19	0.38	Inspect/Repair reheat tubes
1473	Jones 1	04/26/19	04/28/19	1.67	Boiler Drain Valves Leaking By
1474	Jones 2	04/26/19	04/29/19	2.96	Hydrogen Leak
1475	Cunningham 1	04/27/19	05/07/19	10.13	Loss of Drum Level. Furnace Water Wall Tube Leak.
1476	Harrington 3	04/27/19	04/27/19	0.44	Unit transitioned from an reserve shutdown to forced outage when a Bearing Oil Pump bearing failed and had to be replaced
1477	Harrington 3	04/27/19	04/27/19	0.01	Unit tripped when swapping station power from Start up source to Normal source on B Buss
1478	Harrington 3	04/27/19	05/01/19	3.88	Unit transitioned from event 20 to this event when the turbine Bearing Oil Pump motor went to ground.
1479	Jones 4	04/28/19	05/04/19	6.93	Borescope/Gas Calibrations
1480	Maddox 1	04/29/19	04/30/19	1.26	Boiler work. Finish 1B Condensate work.
1481	Cunningham 4	04/30/19	04/30/19	0.63	De-winterization of unit.
1482	Tolk 2	04/30/19	04/30/19	0.04	East Primary Air fan motor bearing temp high
1483	Harrington 2	05/01/19	05/01/19	0.05	Unit was derated due to high baghouse differential pressure. Compartment 26 was removed from service to replace failed bags.
1484	Jones 1	05/01/19	05/01/19	0.11	Lack of city effluent flow
1485	Jones 1	05/01/19	05/02/19	0.51	Lack of city fresh due to new potable water line installation
1486	Jones 2	05/01/19	05/02/19	0.51	Lack of city fresh water due to potable water line replacement
1487	Jones 3	05/02/19	05/02/19	0.04	Must reboot T3000. No controls during 1 hr reboot
1488	Maddox 2	05/04/19	05/04/19	0.13	Hardware vibration issues. Unit tripped on high vibration.
1489	Jones 3	05/05/19	05/10/19	5.88	Borescope Inspection
1490	Cunningham 1	05/09/19	05/10/19	0.52	Gas Controller went bad.
1491	Cunningham 2	05/09/19	05/10/19	0.55	Gas Controller went bad
1492	Maddox 2	05/09/19	05/09/19	0.03	#5 bearing vibration. Unit tripped.
1493	Jones 1	05/10/19	05/10/19	0.08	Variable Frequency Drive tripped which caused West Forced Draft fan to trip
1494	Jones 2	05/11/19	05/17/19	6.51	High silica content. Condenser tube leak
1495	Plant X 3	05/11/19	05/11/19	0.07	Primary drum level transmitter not operating properly
1496	Plant X 1	05/12/19	05/17/19	5.10	Unable to maintain water chemistry
1497	Harrington 2	05/13/19	05/15/19	0.44	Unit is derated due to a steam leak on the Main Feed Pump Low Pressure steam supply. We transitioned to the High pressure supply and it can not pull full load
1498	Nichols 3	05/13/19	05/20/19	0.91	North Boiler Feed Pump Motor Burned Up
1499	Cunningham 4	05/14/19	05/14/19	0.08	Replaced flashback thermocouple.
1500	Harrington 2	05/15/19	05/18/19	2.18	Unit was removed from service to make repairs to the horizontal joint on the low pressure supply steam chest on the turbine driven boiler feed pump.
1501	Plant X 3	05/16/19	05/17/19	0.75	Unable to isolate water boxes for Plant X Unit 1,2, and 3. Plant X 3 Outage required outage to isolate Plant X 1
1502	Cunningham 4	05/18/19	05/18/19	0.02	Technician accidentally tripped unit. Thought he was on C3 that was being tested.
1503	Jones 2	05/18/19	05/19/19	0.92	Water Wall tube leak. C Corner
1504	Nichols 3	05/19/19	05/23/19	3.76	Nichols Mini Outage Prior to Summer 2019

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1505	Jones 2	05/20/19	05/21/19	1.12	Water Wall tube leak. C Corner
1506	Cunningham 3	05/21/19	05/21/19	0.01	Test Unit.
1507	Cunningham 3	05/21/19	05/23/19	1.73	Compressor damage, requires major overhaul
1508	Cunningham 4	05/21/19	05/21/19	0.12	Low fuel gas pressure
1509	Cunningham 4	05/22/19	05/22/19	0.07	Low SF6 gas pressure in generator breaker
1510	Cunningham 4	05/22/19	05/22/19	0.10	Low fuel gas pressure
1511	Harrington 1	05/22/19	05/22/19	0.08	Unit was removed from service to test and check Potential Transformers on the new Generator breaker installed for the unit.
1512	Jones 2	05/22/19	05/23/19	0.28	Clearances too tight on East Boiler Feed Pump motor inboard bearing. Had to make adjustment
1513	Nichols 1	05/22/19	05/22/19	0.28	Boiler Tripped on loss of igniter pressure
1514	Plant X 1	05/22/19	05/23/19	0.46	Gas firing valve unable to supply fuel pressure for higher load
1515	Cunningham 3	05/23/19	05/23/19	0.00	Test Unit
1516	Cunningham 3	05/23/19	05/24/19	1.14	Compressor damage, requires major overhaul
1517	Harrington 1	05/23/19	05/24/19	0.85	Unit was removed from line to make repairs to Blowdown throttling valve and Electrostatic Precipitator transformer-rectifier sets. These were original scope of work from the major.
1518	Jones 1	05/23/19	05/23/19	0.07	Lack of city effluent flow
1519	Plant X 1	05/23/19	05/23/19	0.21	Outage to repair gas firing valve
1520	Plant X 1	05/23/19	05/24/19	0.13	Unable to maintain 50# gas header pressure
1521	Cunningham 3	05/24/19	05/24/19	0.01	Test Unit
1522	Cunningham 3	05/24/19	05/29/19	4.83	Compressor damage, requires major overhaul
1523	Harrington 2	05/24/19	05/25/19	0.42	Unit 2 derated for only one Cooling Tower circ pump available
1524	Jones 1	05/24/19	05/25/19	0.34	Lack of city effluent flow
1525	Jones 2	05/24/19	05/24/19	0.01	Gas firing valve not maintaining flow at full load
1526	Jones 2	05/24/19	05/25/19	0.34	Lack of effluent flow from the city
1527	Plant X 1	05/24/19	05/24/19	0.53	Unable to maintain 50# gas header pressure
1528	Harrington 1	05/28/19	05/29/19	0.33	Unit was derated due to the reheater spray block valve needing repairs. This equipment was original scope of work from the major outage.
1529	Cunningham 3	05/29/19	05/29/19	0.03	Test Unit.
1530	Cunningham 3	05/29/19	05/30/19	0.80	Compressor damage, requires major overhaul
1531	Jones 1	05/29/19	05/29/19	0.31	Lack of city effluent flow
1532	Jones 2	05/29/19	05/29/19	0.31	Lack of effluent flow from the city
1533	Cunningham 3	05/30/19	05/30/19	0.01	Test Unit
1534	Cunningham 3	05/30/19	05/30/19	0.05	Compressor damage, requires major overhaul
1535	Cunningham 3	05/30/19	05/30/19	0.01	Test Unit.
1536	Cunningham 3	05/30/19	05/31/19	0.87	Compressor damage, requires major overhaul
1537	Harrington 1	05/30/19	06/06/19	0.27	The unit is derated due to high vibration on the East Induced Draft inboard motor bearing.
1538	Jones 1	05/30/19	05/30/19	0.28	Lack of city effluent flow
1539	Jones 2	05/30/19	05/30/19	0.28	Lack of effluent flow from the city
1540	Jones 1	05/31/19	05/31/19	0.21	Lack of city effluent flow
1541	Jones 2	05/31/19	06/04/19	3.88	Repair furnace gas leaks
1542	Tolk 1	05/31/19	05/31/19	0.04	Unit tripped on loss of flame with a feeder deviation right before, emptying a bunker
1543	Cunningham 3	06/01/19	06/01/19	0.06	Instrument Air valve continuously blowing
1544	Tolk 2	06/01/19	06/02/19	0.11	East Induced Draft fan tripped, electricians are doing Diagnostics on it
1545	Jones 3	06/02/19	06/02/19	0.16	Unit tripped on blade path spread during start up
1546	Tolk 2	06/02/19	06/02/19	0.03	East Induced Draft Fan trip
1547	Nichols 2	06/03/19	06/06/19	2.66	Nichols 2 outage for condenser maintenance
1548	Plant X 3	06/03/19	06/07/19	3.01	Maintenance Outage, to repair hot spots and fix economizer tube leak
1549	Maddox 1	06/04/19	06/04/19	0.01	Boiler Feed Pump Control issues. Mismatch indication on Digital Control System.

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1550	Cunningham 3	06/05/19	06/05/19	0.21	Rotor Air Temperature High.
1551	Jones 2	06/05/19	06/06/19	0.08	Gas firing valve control issues at full load/bad gas regulator
1552	Harrington 1	06/06/19	06/07/19	0.89	Unit was removed from service to make adjustments and test equipment from the major outage.
1553	Jones 2	06/06/19	06/06/19	0.44	Lack of effluent flow from the city
1554	Jones 1	06/07/19	06/07/19	0.23	Lack of city effluent flow
1555	Jones 2	06/07/19	06/07/19	0.44	Lack of effluent flow from the city
1556	Plant X 2	06/07/19	06/07/19	0.21	Collector ring adjustments needed
1557	Plant X 4	06/07/19	08/27/19	80.63	Generator rewind
1558	Jones 1	06/08/19	06/08/19	0.20	Lack of city effluent flow
1559	Jones 2	06/08/19	06/08/19	0.37	Lack of effluent flow from the city
1560	Nichols 1	06/08/19	06/09/19	0.36	Nichols unit 1 tripped due to B932 substation relay trip.
1561	Nichols 2	06/08/19	06/08/19	0.28	Nichols unit 1 tripped due to B932 substation relay trip.
1562	Harrington 1	06/10/19	06/10/19	0.33	Unit startup failed due to the automatic voltage regulator Voltage Control Switch tripping when trying to close.
1563	Maddox 2	06/10/19	06/10/19	0.04	Inlet Guide Vanes Closed
1564	Maddox 2	06/10/19	06/11/19	0.86	Inlet Guide Vanes closed.
1565	Jones 1	06/11/19	06/11/19	0.14	Lack of city effluent flow
1566	Jones 1	06/12/19	06/12/19	0.06	Lack of city effluent flow
1567	Jones 2	06/12/19	06/12/19	0.06	Lack of city effluent flow
1568	Jones 1	06/13/19	06/13/19	0.25	Lack of city effluent flow
1569	Jones 2	06/13/19	06/13/19	0.24	Lack of city effluent flow
1570	Maddox 1	06/13/19	06/13/19	0.03	Valve freedom testing
1571	Nichols 1	06/13/19	06/14/19	1.42	Nichols unit 1 is in a maintenance outage
1572	Nichols 2	06/13/19	06/13/19	0.67	Maintenance Outage for Superheat Steam leak repair
1573	Jones 1	06/14/19	06/14/19	0.00	Variable Frequency Drive temperatures increasing
1574	Jones 1	06/14/19	06/15/19	0.34	Lack of city effluent flow
1575	Harrington 2	06/15/19	06/17/19	1.47	The Unit is derated due to the feed pump discharge valve drive not operating to open the valve.
1576	Harrington 3	06/15/19	06/15/19	0.20	The unit failed to hit the line when scheduled to due to the generator breaker not having the ability to close. The air compressor failed that pressures up the delay tank to close the breaker switches.
1577	Jones 1	06/15/19	06/17/19	1.06	Due to leak in reheat section cannot maintain water level in condensate tanks.
1578	Jones 2	06/15/19	06/15/19	0.25	Lack of city effluent flow
1579	Plant X 2	06/15/19	06/21/19	5.98	Unable to maintain drum level due to tube leak
1580	Jones 1	06/16/19	06/16/19	0.25	Lack of city effluent flow
1581	Jones 2	06/16/19	06/16/19	0.25	Lack of city effluent flow
1582	Jones 2	06/16/19	06/16/19	0.22	Lack of city effluent flow
1583	Jones 2	06/16/19	06/16/19	0.28	Lack of city effluent flow
1584	Jones 2	06/16/19	06/17/19	0.68	Cooling tower chlorides high, not enough water from the city to blow down tower
1585	Maddox 1	06/16/19	11/24/19	5.76	Boiler Feed Pump Control issues. Not able to maintain drum level.
1586	Harrington 2	06/17/19	06/20/19	2.73	Unit was removed from service to repair the feed pump discharge valve and clear refractory out of an economizer hopper.
1587	Jones 1	06/17/19	06/17/19	0.24	Lack of city effluent flow
1588	Jones 2	06/17/19	06/17/19	0.24	Lack of city effluent flow
1589	Plant X 3	06/17/19	06/17/19	0.54	Repair Economizer Header leak
1590	Cunningham 3	06/18/19	06/18/19	0.08	Relative Accuracy Test Audit testing: zero fuel required for Relative Accuracy Test Audit
1591	Cunningham 3	06/18/19	06/18/19	0.08	Relative Accuracy Test Audit Testing: zero fuel required for Relative Accuracy Test Audit
1592	Jones 1	06/18/19	06/19/19	1.89	Reheat tube leak
1593	Plant X 1	06/18/19	06/18/19	0.07	Forced Draft fan tripped

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1594	Cunningham 3	06/19/19	06/19/19	0.07	Relative Accuracy Test Audit Testing: zero fuel required for Relative Accuracy Test Audit
1595	Cunningham 3	06/19/19	07/19/19	3.59	Derate to 95mw due Wet Compression not available
1596	Plant X 1	06/19/19	06/22/19	3.31	Boiler Tube leak
1597	Tolk 2	06/19/19	06/19/19	0.01	East Induced Draft Fan tripped due to the loss of communication with the fan controller
1598	Cunningham 3	06/20/19	06/20/19	0.11	Relative Accuracy Test Audit Testing: zero fuel required for Relative Accuracy Test Audit
1599	Harrington 2	06/20/19	06/22/19	1.31	Unit is derated because the Main Boiler Feed Pump cannot be placed in service. The discharge valve on the feed pump will not operate.
1600	Harrington 1	06/21/19	06/21/19	0.10	The unit is derated to replace the packing on the north Condensate Pump. The packing leak is affecting our dissolved oxygen levels and back pressure.
1601	Jones 1	06/22/19	06/22/19	0.35	Lack of city effluent flow
1602	Jones 2	06/22/19	06/22/19	0.17	Lack of city effluent flow
1603	Jones 1	06/23/19	06/23/19	0.34	Lack of city effluent flow
1604	Jones 2	06/23/19	06/23/19	0.34	Lack of city effluent flow
1605	Jones 1	06/24/19	06/24/19	0.27	Lack of city effluent flow
1606	Jones 2	06/24/19	06/24/19	0.16	Lack of city effluent flow
1607	Jones 2	06/25/19	06/25/19	0.11	Lack of city effluent flow
1608	Harrington 1	06/26/19	06/27/19	0.57	Unit is derated due to not having the Main Feed pump available for service. The pump needed some alignment work to decrease pump bearing vibrations
1609	Jones 1	06/27/19	06/27/19	0.27	Lack of city effluent flow
1610	Jones 1	06/27/19	06/28/19	0.22	Lack of city effluent flow
1611	Jones 2	06/27/19	06/27/19	0.27	Lack of city effluent flow
1612	Jones 2	06/27/19	06/28/19	0.22	Lack of city effluent flow
1613	Plant X 2	06/27/19	07/05/19	7.72	Unable to maintain drum level
1614	Jones 1	06/28/19	06/29/19	0.34	Lack of city effluent flow
1615	Jones 2	06/28/19	06/29/19	0.34	Lack of city effluent flow
1616	Jones 2	06/28/19	06/29/19	0.34	Lack of city effluent flow
1617	Hale Wind	06/28/19	11/25/19	1.89	3 Turbines are out of service.
1618	Harrington 1	06/29/19	07/02/19	3.12	Unit was removed due to high readings of condensate chemistry readings. We will perform a check and repair of a condenser tube leak
1619	Harrington 2	06/29/19	06/30/19	0.07	Unit was derated to reduce the Baghouse Differential Pressure. We had to remove compartment 3 from service due to failed bags. Derate was released when ambient temp cooled and Forced Draft/Induced Draft fans reduced speed.
1620	Jones 1	06/29/19	06/30/19	0.34	Lack of city effluent flow
1621	Jones 2	06/29/19	06/30/19	0.34	Lack of city effluent flow
1622	Jones 2	06/29/19	06/30/19	0.34	Lack of city effluent flow
1623	Plant X 3	06/29/19	07/03/19	4.39	Unable to maintain drum level
1624	Harrington 2	06/30/19	07/01/19	0.08	Unit was derated to reduce the baghouse Differential Pressure. We had compartment 14 and 3 out of service due to failed bags.
1625	Jones 1	06/30/19	07/01/19	0.20	Lack of city effluent flow
1626	Jones 2	06/30/19	07/01/19	0.20	Lack of city effluent flow
1627	Jones 1	07/01/19	07/02/19	0.27	Lack of city effluent flow
1628	Jones 2	07/01/19	07/02/19	0.27	Lack of city effluent flow
1629	Jones 1	07/02/19	07/03/19	0.25	Lack of city effluent flow
1630	Jones 2	07/02/19	07/03/19	0.25	Lack of city effluent flow
1631	Hale Wind	07/02/19	07/03/19	0.17	In order to isolate the tower that collapsed, we have to isolate it by taking three feeders out, 30 towers.
1632	Jones 1	07/03/19	07/04/19	0.35	Lack of city effluent flow
1633	Jones 2	07/03/19	07/04/19	0.35	Lack of city effluent flow

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1634	Harrington 2	07/04/19	07/17/19	12.08	Unit was removed from service to make repairs to a Super Heat tube leak on a division panel.
1635	Jones 1	07/04/19	07/05/19	0.03	Transmitter issue causing heater level to go high.
1636	Jones 1	07/04/19	07/05/19	0.37	Lack of city effluent flow
1637	Jones 2	07/04/19	07/05/19	0.37	Lack of city effluent flow
1638	Jones 1	07/05/19	07/06/19	0.26	Lack of city effluent flow
1639	Jones 2	07/05/19	07/06/19	0.26	Lack of city effluent flow
1640	Plant X 1	07/05/19	07/16/19	11.24	Loss of Excitation trip
1641	Jones 1	07/06/19	07/07/19	0.37	Lack of city effluent flow
1642	Jones 2	07/06/19	07/07/19	0.37	Lack of city effluent flow
1643	Tolk 2	07/06/19	07/06/19	0.02	Unit tripped on low vacuum due to drag line on condenser was opened on wrong unit.
1644	Jones 1	07/07/19	07/08/19	0.37	Lack of city effluent flow
1645	Jones 2	07/07/19	07/08/19	0.34	Lack of city effluent flow
1646	Harrington 1	07/08/19	07/15/19	2.67	Unit was derated to take the north condensate pump out of service. The pump need to be repaired to prevent air leaks into the suction of the pump.
1647	Jones 1	07/08/19	07/09/19	0.30	Lack of city effluent flow
1648	Jones 2	07/08/19	07/09/19	0.27	Lack of city effluent flow
1649	Plant X 2	07/08/19	07/11/19	2.96	Unable to maintain drum level
1650	Jones 1	07/09/19	07/10/19	0.43	Lack of city effluent flow
1651	Jones 2	07/09/19	07/10/19	0.40	Lack of city effluent flow
1652	Jones 1	07/10/19	07/10/19	0.00	Variable Frequency Drive on Forced Draft fans went into alarm so derated to get out of alarm situation.
1653	Jones 1	07/10/19	07/11/19	0.34	Lack of city effluent flow
1654	Jones 2	07/10/19	07/11/19	0.34	Lack of city effluent flow
1655	Quay Co 1	07/10/19	07/26/19	16.01	Quay county in forced outage due to automatic voltage regulator setting issues.
1656	Jones 1	07/11/19	07/12/19	0.37	Lack of city effluent flow
1657	Jones 2	07/11/19	07/12/19	0.34	Lack of city effluent flow
1658	Tolk 1	07/11/19	07/16/19	4.90	Reheat tube leak
1659	Jones 1	07/12/19	07/13/19	0.34	Lack of city effluent flow
1660	Jones 2	07/12/19	07/13/19	0.34	Lack of city effluent flow
1661	Plant X 2	07/12/19	12/31/19	38.38	Operating boiler at reduced pressure due to hydrogen embrittlement damage.
1662	Jones 1	07/13/19	07/14/19	0.34	Lack of city effluent flow
1663	Jones 2	07/13/19	07/14/19	0.34	Lack of city effluent flow
1664	Jones 1	07/14/19	07/15/19	0.34	Lack of city effluent flow
1665	Jones 2	07/14/19	07/15/19	0.34	Lack of city effluent flow
1666	Harrington 1	07/16/19	07/16/19	0.03	Opacity running high at full load
1667	Maddox 1	07/16/19	07/20/19	3.80	Repair leak on high pressure heater drain control valve between number 1 and 2 heaters
1668	Jones 3	07/17/19	07/17/19	0.30	Stack Inspection
1669	Jones 1	07/18/19	07/18/19	0.06	Lack of city effluent flow
1670	Jones 1	07/18/19	07/19/19	0.26	Lack of city effluent flow
1671	Jones 2	07/18/19	07/18/19	0.06	Lack of city effluent flow
1672	Jones 2	07/18/19	07/19/19	0.26	Lack of city effluent flow
1673	Cunningham 2	07/19/19	07/23/19	2.04	South Forced Draft fan Variable Frequency Drive tripped, will not restart
1674	Jones 1	07/19/19	07/20/19	0.34	Lack of city effluent flow
1675	Jones 2	07/19/19	07/20/19	0.34	Lack of city effluent flow
1676	Cunningham 2	07/20/19	07/27/19	6.85	boiler inspection for hydrogen damage
1677	Harrington 1	07/20/19	07/20/19	0.01	Swapping from Start up source breaker to normal source breaker on Q bus tripped turbine which opened generator breaker
1678	Jones 1	07/20/19	07/21/19	0.30	Lack of city effluent flow
1679	Jones 2	07/20/19	07/21/19	0.30	Lack of city effluent flow

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1680	Jones 1	07/21/19	07/22/19	0.25	Lack of city effluent flow
1681	Jones 2	07/21/19	07/22/19	0.25	Lack of city effluent flow
1682	Jones 1	07/22/19	07/23/19	0.25	Lack of city effluent flow
1683	Jones 2	07/22/19	07/23/19	0.12	Lack of city effluent flow
1684	Jones 1	07/23/19	07/24/19	0.34	Lack of city effluent flow
1685	Jones 2	07/23/19	07/24/19	0.34	Lack of city effluent flow
1686	Hale Wind	07/23/19	07/23/19	0.08	Landowner needs to dig up piping that was damaged during construction. This will require taking 2 feeders, 24 towers, out of service.
1687	Jones 2	07/24/19	07/25/19	0.40	Lack of city effluent flow
1688	Jones 1	07/25/19	07/25/19	0.15	Lack of city effluent flow
1689	Jones 1	07/25/19	07/26/19	0.20	Lack of city effluent flow
1690	Tolk 1	07/25/19	07/25/19	0.67	Maintenance on Unit Exciter - ground
1691	Cunningham 1	07/26/19	07/26/19	0.05	Level swinging on boiler, Deaerator, and Hotwell
1692	Cunningham 1	07/26/19	09/09/19	4.63	South Boiler Feedwater Pump Fluid Drive issues. Feed pump not maintaining flow
1693	Cunningham 4	07/26/19	07/27/19	1.46	Flashback thermocouple 8 caused unit to come off line.
1694	Harrington 2	07/26/19	07/26/19	0.00	Unit had to be derated to eliminate boiler swings. The swings were causing the boiler to go positive.
1695	Jones 1	07/26/19	07/27/19	0.16	Lack of city effluent flow
1696	Maddox 2	07/26/19	07/26/19	0.14	Inlet Guide Vanes stuck.
1697	Nichols 3	07/26/19	07/26/19	0.15	Nichols unit 3 is in force outage due to turbine speed issues
1698	Quay Co 1	07/26/19	07/29/19	2.96	Quay County is in unplanned forced outage due to automatic voltage regulator settings issues
1699	Jones 2	07/27/19	07/27/19	0.60	Repair Superheat vent valve
1700	Jones 4	07/27/19	07/29/19	2.18	Inlet Guide Vanes positioner feedback mismatch
1701	Harrington 3	07/28/19	07/29/19	1.05	Unit was removed from line to make repairs to a 2" test line that was leaking on the discharge pipping of the main feed pump
1702	Harrington 1	07/29/19	07/29/19	0.03	Unit was derated to make repairs to the north condensate pump seal water system.
1703	Jones 1	07/29/19	07/30/19	0.47	Lack of city effluent flow
1704	Jones 2	07/29/19	07/30/19	0.47	Lack of city effluent flow
1705	Jones 1	07/30/19	07/31/19	0.37	Lack of city effluent flow
1706	Jones 2	07/30/19	07/31/19	0.37	Lack of city effluent flow
1707	Jones 1	07/31/19	08/01/19	0.37	Lack of city effluent flow
1708	Jones 2	07/31/19	08/01/19	0.37	Lack of city effluent flow
1709	Jones 1	08/01/19	08/01/19	0.12	Lack of city effluent flow
1710	Jones 1	08/01/19	08/02/19	0.34	Lack of city effluent flow
1711	Jones 2	08/01/19	08/01/19	0.15	Lack of city effluent flow
1712	Jones 2	08/01/19	08/02/19	0.37	Lack of city effluent flow
1713	Plant X 1	08/01/19	08/04/19	3.00	Boiler tube leak
1714	Plant X 2	08/01/19	08/04/19	2.96	Boiler tube leak
1715	Jones 1	08/02/19	08/03/19	0.34	Lack of city effluent flow
1716	Jones 2	08/02/19	08/03/19	0.37	Lack of city effluent flow
1717	Jones 1	08/03/19	08/04/19	0.31	Lack of city effluent flow
1718	Jones 2	08/03/19	08/04/19	0.34	Lack of city effluent flow
1719	Jones 1	08/04/19	08/04/19	0.01	Gas valve limit - fully open - caused boiler to swing.
1720	Jones 1	08/04/19	08/05/19	0.34	Lack of city effluent flow
1721	Jones 2	08/04/19	08/05/19	0.37	Lack of city effluent flow
1722	Nichols 3	08/04/19	08/04/19	0.00	Nichols 3 unit is in a unplanned forced derate to 240 MWs due to air leakage on the boiler which is limiting load, and a possible boiler tube leak.
1723	Nichols 3	08/04/19	08/09/19	5.17	Nichols 3 unit is in a unplanned forced outage due to a boiler tube leak.
1724	Plant X 1	08/04/19	08/09/19	5.38	Auxiliary Cooling Water Cooler leak into Turbine Oil Tank
1725	Jones 1	08/05/19	08/06/19	0.21	Lack of city effluent flow

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1726	Jones 2	08/05/19	08/06/19	0.21	Lack of city effluent flow
1727	Harrington 2	08/06/19	08/06/19	0.01	Running out of fans boiler going positive
1728	Jones 1	08/06/19	08/07/19	0.19	Lack of city effluent flow
1729	Jones 2	08/06/19	08/07/19	0.19	Lack of city effluent flow
1730	Harrington 2	08/07/19	08/07/19	0.01	Out of fans boiler going positive
1731	Jones 1	08/07/19	08/08/19	0.25	Lack of city effluent flow
1732	Jones 2	08/07/19	08/08/19	0.07	Lack of city effluent flow
1733	Cunningham 4	08/08/19	08/09/19	0.09	Calibrate Lower Explosive Limit Gas Detectors
1734	Harrington 1	08/08/19	08/08/19	0.03	Dropped load because of Opacity - raining hard
1735	Jones 1	08/08/19	08/08/19	0.02	Excessive heat in Variable Frequency Drive housing
1736	Jones 2	08/08/19	08/09/19	0.34	Lack of city effluent flow
1737	Hale Wind	08/08/19	08/08/19	0.06	Taking 48 towers out of service. A landowner has a busted water line that was caused during construction.
1738	Harrington 2	08/09/19	08/09/19	0.01	Running out of fans boiler going positive
1739	Jones 1	08/09/19	08/09/19	0.01	Lost an AC unit on Variable Frequency Drive housing causing high temps
1740	Jones 1	08/09/19	08/09/19	0.08	Main Power Transformer high oil temp
1741	Jones 1	08/09/19	08/10/19	0.27	Lack of city effluent flow
1742	Harrington 2	08/10/19	08/10/19	0.01	Running out of fans boiler going positive
1743	Jones 1	08/10/19	08/10/19	0.05	Excessive heat in Variable Frequency Drive housing
1744	Jones 1	08/10/19	08/11/19	0.32	Lack of city effluent flow
1745	Cunningham 3	08/11/19	08/13/19	2.27	Unit tripped on vibration indication at full load.
1746	Harrington 2	08/11/19	08/11/19	0.01	Running out of fans boiler going positive
1747	Jones 1	08/11/19	08/11/19	0.05	Excessive heat in Variable Frequency Drive housing
1748	Jones 1	08/11/19	08/12/19	0.34	Lack of city effluent flow
1749	Jones 2	08/11/19	08/12/19	0.34	Lack of city effluent flow
1750	Plant X 3	08/11/19	08/15/19	4.20	Unable to maintain drum level, waterwall tube leak due to hydrogen damage and embrittlement
1751	Jones 1	08/12/19	08/13/19	0.34	Lack of city effluent flow
1752	Jones 2	08/12/19	08/13/19	0.28	Lack of city effluent flow
1753	Plant X 1	08/12/19	08/12/19	0.22	2400 volt breaker issue
1754	Cunningham 3	08/13/19	08/13/19	0.02	Combustor probe issue caused unit to trip.
1755	Cunningham 3	08/13/19	08/13/19	0.10	Combustor probe issue caused startup failure.
1756	Harrington 2	08/13/19	08/13/19	0.01	Unit was derated to prevent the boiler from going positive. The boiler is swinging and causing us to limit on Induced Draft fans.
1757	Jones 1	08/13/19	08/14/19	0.31	Lack of city effluent flow
1758	Nichols 3	08/13/19	08/13/19	0.02	Nichols unit 3 tripped due to changing a light bulb in a relay.
1759	Hale Wind	08/13/19	08/13/19	0.06	Have to take three feeders out of service which will effect 29 turbines. Landowner needs his underground pipe repaired, it was damaged during construction.
1760	Jones 1	08/14/19	08/15/19	0.16	Lack of city effluent flow
1761	Jones 2	08/14/19	08/15/19	0.16	Lack of city effluent flow
1762	Jones 3	08/14/19	08/30/19	16.57	Repair stack liner
1763	Jones 4	08/14/19	08/15/19	0.71	Rotor Air Cooler Repair
1764	Cunningham 1	08/15/19	08/21/19	6.68	Unit brought off line due to boiler tube leak.
1765	Harrington 1	08/16/19	08/18/19	1.86	Unit was removed from service to make repairs to a waterwall tube leak.
1766	Jones 1	08/16/19	08/17/19	0.34	Lack of city effluent flow
1767	Jones 2	08/16/19	08/17/19	0.28	Lack of city effluent flow
1768	Maddox 2	08/16/19	08/25/19	9.01	#1 bearing has oil leak
1769	Jones 1	08/17/19	08/18/19	0.33	Lack of city effluent flow
1770	Jones 2	08/17/19	08/18/19	0.33	Lack of city effluent flow
1771	Harrington 2	08/18/19	08/18/19	0.43	Unit went from and reserve shutdown to a forced outage when it was discovered that the water treating facility ruptured a condensate supply line out of the demineralizer. We had no condensate make up to our condensate tanks.

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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, 3}	Reason for Outage
1772	Harrington 3	08/18/19	08/18/19	0.33	Unit was derated due to loss of condensate supply from Nichols water treating facility. This was a preservation measure. The unit derate was lifted when we got partial make up established.
1773	Jones 1	08/18/19	08/19/19	0.31	Lack of city effluent flow
1774	Jones 2	08/18/19	08/19/19	0.34	Lack of city effluent flow
1775	Nichols 1	08/18/19	08/18/19	0.14	Nichols 1 unplanned derate due to electrodeionization inlet water line failure
1776	Nichols 2	08/18/19	08/18/19	0.18	Nichols 2 in unplanned forced outage for main inlet line to electrodeionization failure
1777	Nichols 3	08/18/19	08/18/19	0.18	Nichols 3 in unplanned forced outage for main inlet line to electrodeionization failure
1778	Cunningham 2	08/19/19	08/19/19	0.13	Leak on copper line to controls above main gas firing valve on 3 1/2 level.
1779	Jones 1	08/19/19	08/19/19	0.01	Lack of city effluent flow
1780	Jones 2	08/19/19	08/19/19	0.02	Lack of city effluent flow
1781	Jones 1	08/20/19	08/21/19	0.37	Lack of city effluent flow
1782	Jones 2	08/20/19	08/21/19	0.37	Lack of city effluent flow
1783	Jones 1	08/21/19	08/22/19	0.37	Lack of city effluent flow
1784	Jones 2	08/21/19	08/22/19	0.37	Lack of city effluent flow
1785	Tolk 2	08/21/19	08/23/19	1.13	Lower drum leak
1786	Jones 1	08/22/19	08/23/19	0.37	Lack of city effluent flow
1787	Jones 2	08/22/19	08/23/19	0.37	Lack of city effluent flow
1788	Nichols 1	08/22/19	08/29/19	6.54	Nichols 1 unplanned forced outage due to boiler tube leak in reheat section
1789	Plant X 3	08/22/19	08/24/19	1.49	Unable to maintain drum level, waterwall tube leak due to hydrogen damage and embrittlement
1790	Jones 1	08/23/19	08/24/19	0.31	Lack of city effluent flow
1791	Jones 2	08/23/19	08/24/19	0.31	Lack of city effluent flow
1792	Hale Wind	08/23/19	08/30/19	7.96	Transmission Line Failure.
1793	Jones 1	08/24/19	08/25/19	0.61	Lack of city effluent flow
1794	Jones 2	08/24/19	08/25/19	0.20	Lack of city effluent flow
1795	Plant X 1	08/24/19	08/29/19	5.26	Forced Draft Fan tripped
1796	Jones 1	08/25/19	08/26/19	0.16	Lack of city effluent flow
1797	Jones 2	08/25/19	08/26/19	0.16	Lack of city effluent flow
1798	Maddox 1	08/25/19	08/28/19	2.75	#1 High Pressure Heater tube leak.
1799	Cunningham 3	08/26/19	08/26/19	0.03	Lube Oil Temperature tripped unit at 151.9 degrees.
1800	Cunningham 3	08/26/19	08/26/19	0.10	Unit failed to start after lube oil tripped unit.
1801	Harrington 2	08/26/19	08/30/19	4.19	Unit was removed from service due to a condenser tube leak.
1802	Harrington 3	08/26/19	08/28/19	0.71	Unit is derated due to 2 Mills being unavailable.
1803	Jones 1	08/26/19	08/26/19	0.01	Loss of Variable Frequency Drive Air Conditioner
1804	Jones 2	08/26/19	08/26/19	0.04	Lack of city effluent flow
1805	Plant X 2	08/26/19	08/30/19	3.88	Boiler tube leak, unable to maintain drum level.
1806	Cunningham 2	08/27/19	08/27/19	0.19	Sensing line ruptured.
1807	Jones 1	08/27/19	08/28/19	0.09	Lack of city effluent flow
1808	Jones 2	08/27/19	08/27/19	0.04	Lack of city effluent flow
1809	Jones 1	08/28/19	08/29/19	0.73	Lack of city effluent flow
1810	Maddox 1	08/28/19	09/10/19	13.19	Major Oil Leak on Electro-Hydraulic
1811	Jones 1	08/29/19	08/30/19	0.27	Lack of city effluent flow
1812	Jones 2	08/29/19	08/30/19	0.27	Lack of city effluent flow
1813	Jones 1	08/30/19	08/31/19	0.34	Lack of city effluent flow
1814	Jones 2	08/30/19	08/31/19	0.37	Lack of city effluent flow
1815	Jones 1	08/31/19	09/01/19	0.34	Lack of city effluent flow
1816	Jones 2	08/31/19	09/01/19	0.37	Lack of city effluent flow
1817	Jones 1	09/01/19	09/02/19	0.22	Lack of city effluent flow
1818	Jones 2	09/01/19	09/02/19	0.20	Lack of city effluent flow

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1819	Nichols 3	09/01/19	11/03/19	62.99	Nichols unit 3 is in major overhaul.
1820	Tolk 1	09/01/19	09/01/19	0.01	Lost 6 cooling tower fans to lightning - electricians out to repair vibration probes
1821	Harrington 3	09/02/19	09/10/19	8.06	Unit was removed from service for a planned mini outage. Scope is 4 compartment rebag, Circulating line inspection, front standard, Reheat valve.
1822	Jones 1	09/02/19	09/03/19	0.24	Lack of city effluent flow
1823	Jones 2	09/02/19	09/03/19	0.28	Lack of city effluent flow
1824	Cunningham 3	09/03/19	09/04/19	0.75	Replace Gas Firing Valve
1825	Harrington 1	09/03/19	09/03/19	0.03	Unit was derated do to experiencing high opacity readings.
1826	Maddox 3	09/03/19	09/17/19	14.33	Hydro Vacuuming around U940. Building fence around the air disconnects.
1827	Nichols 1	09/03/19	09/03/19	0.01	Nichols 1 unit was in a unplanned forced outage due to a blocked gas valve that was operated attempting to block Nichols 3 unit gas
1828	Nichols 2	09/03/19	09/03/19	0.02	Nichols 2 unit was in a unplanned forced outage due to a blocked gas valve that was operated attempting to block Nichols 3 unit gas
1829	Plant X 4	09/03/19	09/18/19	7.83	Loss of West Forced draft fan
1830	Cunningham 1	09/04/19	09/06/19	1.94	Replace Gas Burner hose. Cooling Tower suction line.
1831	Jones 1	09/04/19	09/04/19	0.31	Lack of city effluent flow
1832	Jones 2	09/04/19	09/04/19	0.31	Lack of city effluent flow
1833	Jones 4	09/04/19	09/15/19	11.11	Repair exhaust stack
1834	Jones 1	09/05/19	09/05/19	0.31	Lack of city effluent flow
1835	Jones 2	09/05/19	09/05/19	0.31	Lack of city effluent flow
1836	Harrington 1	09/06/19	09/06/19	0.04	Unit was derated to prevent opacity violations. The chemical feed that aids in controlling opacity was not operating as designed.
1837	Jones 1	09/06/19	09/06/19	0.25	Lack of city effluent flow
1838	Jones 2	09/06/19	09/06/19	0.25	Lack of city effluent flow
1839	Jones 1	09/07/19	09/07/19	0.26	Lack of city effluent flow
1840	Jones 2	09/07/19	09/07/19	0.26	Lack of city effluent flow
1841	Tolk 1	09/07/19	09/07/19	0.03	Coal leak excessive on E mill transition pipe, will need to take off E mill to repair and C mill is still out for overhaul, maintenance called out
1842	Jones 1	09/08/19	09/08/19	0.37	Lack of city effluent flow
1843	Jones 2	09/08/19	09/08/19	0.37	Lack of city effluent flow
1844	Plant X 2	09/08/19	09/11/19	3.02	Unable to maintain drum level due to waterwall tube leak due to hydrogen damage and embrittlement
1845	Plant X 3	09/08/19	09/20/19	11.95	Unable to maintain drum level, waterwall tube leak due to hydrogen damage and embrittlement
1846	Nichols 1	09/09/19	09/09/19	0.63	Nichols unit 1 maintenance outage to repair line
1847	Cunningham 3	09/12/19	09/12/19	0.01	Unit failed to start.
1848	Cunningham 3	09/12/19	09/18/19	6.13	Unit failed to start due to ignitor issues.
1849	Harrington 3	09/12/19	09/12/19	0.06	Unit was derated to make an inspection to A Coal Mill. We also have E mill out of service for a full overhaul.
1850	Nichols 1	09/15/19	12/31/19	108.00	Nichols unit 1 is in major overhaul. Turbine inspection (High Pressure, Intermediate Pressure ,Low Pressure, Generator)
1851	Jones 2	09/16/19	09/21/19	5.74	Boiler and circ line repairs
1852	Maddox 2	09/16/19	09/17/19	1.33	Replace U940 Breaker
1853	Plant X 1	09/16/19	10/01/19	14.22	Start up transformer low voltage issues during change of unit online/offline status.
1854	Cunningham 2	09/17/19	12/03/19	76.88	Tube leaks. Loss of Drum level and pressure.
1855	Harrington 1	09/17/19	09/18/19	0.75	Unit was removed from service to make repairs to the #1 High Pressure Feedwater Heater running and startup vents.
1856	Maddox 3	09/17/19	10/22/19	34.93	Remove and replace u940 and put up fence
1857	Plant X 4	09/18/19	09/19/19	1.75	Replace X4 west forced draft fan motor
1858	Cunningham 4	09/19/19	09/19/19	0.11	Unit tripped.

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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, 3}	Reason for Outage
1859	Cunningham 4	09/19/19	09/24/19	4.83	Thermocouple failure.
1860	Jones 1	09/19/19	09/19/19	0.06	Lack of city effluent flow
1861	Harrington 2	09/20/19	09/20/19	0.12	Unit tripped on high drum level. Operator had a Drum Level deviation between level transmitters. When determining which transmitter was causing the problem he chose the wrong transmitter and overrode the redundant transmitter. The next high level tripped the turbine.
1862	Harrington 1	09/22/19	09/22/19	0.02	Unit was derated to prevent opacity violations.
1863	Harrington 2	09/22/19	09/22/19	0.04	Unit was derated to take baghouse compartments out of service to replace failed bags.
1864	Harrington 2	09/23/19	09/23/19	0.03	Unit was derated to replace failed bags.
1865	Jones 2	09/23/19	11/14/19	52.79	#1 Bearing vibration and temperature problems
1866	Cunningham 1	09/24/19	10/16/19	22.55	Furnace Waterwall tube leak.
1867	Jones 3	09/25/19	09/25/19	0.09	Blade Path Spread
1868	Plant X 3	09/25/19	09/30/19	5.37	Unable to maintain drum level, waterwall tube leak due to hydrogen damage and embrittlement
1869	Cunningham 3	09/26/19	09/26/19	0.09	Repair fix for relay settings
1870	Cunningham 4	09/26/19	09/26/19	0.04	Repair fix for relays
1871	Plant X 2	09/29/19	12/31/19	93.04	Substation outage work requires unit to be offline
1872	Plant X 3	09/30/19	11/30/19	60.04	Substation outage requires unit be offline
1873	Cunningham 3	10/01/19	10/02/19	0.50	Rotor Air Cooler tripped.
1874	Plant X 1	10/01/19	12/31/19	92.04	Start up transformer low voltage issues during change of unit online/offline status
1875	Plant X 4	10/02/19	10/02/19	0.10	Unable to maintain Deaerator level, loss of condensate pump variable drive prime
1876	Harrington 2	10/03/19	10/03/19	0.01	High Drum level trip
1877	Harrington 1	10/04/19	10/04/19	0.37	West Dry Vent on Steam drum has a split in valve causing steam leak.
1878	Harrington 3	10/04/19	10/04/19	0.10	D mill's feeder plugged we are down to 3 mill operation
1879	Harrington 3	10/04/19	10/04/19	0.02	Feeder Plugged alarm not letting feeder to run
1880	Maddox 1	10/04/19	10/17/19	12.98	Boiler Tube Leaks
1881	Tolk 1	10/04/19	10/04/19	0.35	Generator "A" phase has possible ground, maintenance inspection - "Failed resistor on the Potential Transformer & Current Transformer caused a false grounding indication."
1882	Harrington 3	10/05/19	10/05/19	0.05	Unit was derated due to loss of a mill. B mill is out of service and in need of extensive repairs. C mill tripped on loss of coal due to wet coal plugging.
1883	Jones 3	10/05/19	10/06/19	0.58	NOx analyzer failed
1884	Harrington 2	10/06/19	10/06/19	0.02	Boiler tripped wet coal in feeders
1885	Harrington 2	10/06/19	10/06/19	0.12	Wet coal in Feeders down to 3 mill operation
1886	Cunningham 4	10/11/19	10/11/19	0.11	NOX reaching limits. Shutdown unit.
1887	Harrington 3	10/15/19	10/15/19	0.13	Unit was removed from line to make repairs to an Electro-Hydraulic leak on right Throttle Valves
1888	Harrington 1	10/16/19	10/17/19	0.11	Unit is derated to prevent opacity exceedances. Transformer-rectifier set ED4 is out of service.
1889	Harrington 2	10/16/19	10/18/19	1.81	The unit was removed from service to cut a section of water wall tube out of service for an inspection to determine actions for the 2020 planned outage
1890	Hale Wind	10/16/19	10/16/19	0.02	Tower 184 Switchgear repair from construction.
1891	Maddox 2	10/17/19	10/19/19	1.77	Blade Path Temperature problems
1892	Cunningham 1	10/18/19	10/18/19	0.05	Gas Sensing Line problem.
1893	Cunningham 1	10/18/19	10/26/19	7.91	Air Preheater breaker problems
1894	Cunningham 4	10/19/19	10/28/19	8.35	Combustion Inspection
1895	Harrington 1	10/21/19	10/21/19	0.15	Derate request by Transmission System Operations
1896	Nichols 2	10/21/19	11/01/19	11.74	Maintenance outage to repair windbox
1897	Harrington 1	10/25/19	10/25/19	0.46	Unit failed a start up due to drum level issues. There was some connections refitted on the transmitter tubing and an Fieldbus Module replaced to resolve the issues

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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, 3}	Reason for Outage
1898	Cunningham 1	10/28/19	11/01/19	1.38	Unit drum pressure lowered to 1000# and 30 mw gross due to possible tube leak to conserve water.
1899	Jones 1	10/29/19	10/30/19	0.75	City effluent water supply booster pump installation
1900	Cunningham 4	10/31/19	11/03/19	2.46	Basket #10. Support housing Air Leak.
1901	Harrington 1	10/31/19	10/31/19	0.03	Unit dropped load the cool the back end of boiler temperatures down after performance testing to prevent Opacity issues
1902	Jones 3	10/31/19	10/31/19	0.12	Loss Red River line pressure to plant. (Issue with supplier's valve)
1903	Jones 4	10/31/19	10/31/19	0.08	Loss Red River line pressure to plant. (Issue with supplier's valve)
1904	Cunningham 1	11/01/19	11/05/19	2.59	Fixed load and pressure due to potential tube leaks
1905	Jones 3	11/02/19	11/02/19	0.03	"Turb/Gen XHI vibration" went high
1906	Jones 4	11/03/19	11/08/19	5.91	Borescope Inspection
1907	Nichols 3	11/04/19	11/04/19	0.39	Unit tripped due to failure in the automatic voltage regulator sending signal to lockout relay.
1908	Cunningham 1	11/05/19	11/25/19	19.78	Boiler Tube Leak: Furnace Waterwall
1909	Harrington 3	11/06/19	11/07/19	1.16	Unit was tripped when the breaker E4H was tripped. The breaker was accidently manually tripped by an electrician while trouble shooting the diesel generator breaker and relays
1910	Nichols 3	11/06/19	11/06/19	0.27	Nichols Unit 3 Immediate outage due to loss of boiler pilot air
1911	Harrington 3	11/07/19	11/08/19	0.38	The startup failure was caused when the unit could not continue the startup due to the startup feedwater valve actuator failed
1912	Harrington 1	11/08/19	11/08/19	0.10	Unit needs to decrease load due to Opacity, cannot blow retracts and having to shut off rappers to stay out of six minute alarm
1913	Harrington 1	11/09/19	11/09/19	0.01	Unit needs to decrease load due to Opacity, cannot blow retracts and having to shut off rappers to stay out of six minute alarm
1914	Jones 3	11/10/19	11/17/19	7.00	Borescope Inspection
1915	Cunningham 4	11/11/19	11/11/19	0.22	Loss of Turning Gear
1916	Harrington 1	11/12/19	11/13/19	0.07	Unit was derated to prevent an opacity violation.
1917	Harrington 3	11/12/19	11/12/19	0.01	Unit was derated due to the Reheater desuperheater valve not opening.
1918	Jones 4	11/12/19	11/12/19	0.12	Red River Suppliers Gas Block Valves Did Not Open and Lost Line Pressure
1919	Nichols 3	11/14/19	11/16/19	2.65	Nichols Unit 3 is in planned outage
1920	Jones 2	11/16/19	11/19/19	3.08	Boiler Tube Leak
1921	Harrington 2	11/17/19	11/18/19	0.81	Unit tripped off line when the automatic voltage regulator manually tripped the unit generator.
1922	Jones 3	11/17/19	11/20/19	3.73	Borescope Inspection.
1923	Harrington 2	11/18/19	11/18/19	0.01	Unit was tripped on a start up when the operator was removing the feedwater from the startup feedwater valve to the #3 heater. Unit was lost on high drum level
1924	Harrington 3	11/18/19	11/23/19	1.45	Unit is derated because D Mill is out of service to replace the Cone. B mill is also out of service to replace the bowl
1925	Jones 1	11/18/19	11/19/19	0.50	#1 High Pressure heater torsion ring head leak
1926	Tolk 2	11/19/19	11/22/19	2.72	Maintenance outage to repair center high pressure booster pump and cooling tower pH probe
1927	Cunningham 3	11/21/19	11/21/19	0.05	Ignitor issues
1928	Cunningham 1	11/25/19	12/31/19	15.05	Reduced pressure due to Furnace Waterwall tube issues
1929	Maddox 1	11/25/19	12/05/19	9.75	Boiler Recirculation Valves. Balance of Plant
1930	Hale Wind	11/25/19	01/22/20	0.49	Turbines out of service.
1931	Jones 1	11/27/19	11/27/19	0.01	#2A Drains Valve Diaphragm Blown
1932	Jones 2	11/28/19	11/29/19	0.61	High Chlorides on the Cooling Tower
1933	Jones 1	11/29/19	11/29/19	0.03	Investigate Hydrogen Cooler Leak
1934	Jones 2	11/29/19	11/29/19	0.03	Investigate Hydrogen Cooler Leak
1935	Plant X 3	11/30/19	12/31/19	32.00	Discovery work on boiler
1936	Cunningham 4	12/02/19	12/02/19	0.41	Gas Turbine turning gear electrical issues.
1937	Cunningham 2	12/03/19	12/15/19	3.98	Load limit to 125mw gross. Drum pressure limit 1340# due to Boiler tube issues.
1938	Cunningham 3	12/04/19	12/04/19	0.19	Work on Thermocouples and Calibrate Gas Detectors

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Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{2, 3}	Reason for Outage
1939	Harrington 3	12/04/19	12/04/19	0.04	Derate 3 mill operation due to feeder bearing failure on the 4th mill
1940	Maddox 2	12/04/19	12/12/19	7.78	Generator Resistance Temperature Detector Invalid.
1941	Maddox 1	12/05/19	12/18/19	13.67	Planned outage extension.
1942	Cunningham 3	12/08/19	12/08/19	0.39	Turning gear wouldn't properly engage
1943	Cunningham 3	12/08/19	12/08/19	0.28	Allow time for Unit to be on gear
1944	Jones 2	12/09/19	12/12/19	3.19	Boiler Tube Leak
1945	Maddox 3	12/09/19	12/09/19	0.45	Lube Oil Temperature too cool to start unit.
1946	Harrington 3	12/10/19	12/13/19	0.69	Unit was derated due to only having 3 coal mills available. C mill needed to have the liners in the exhauster area replaced and B mill was unavailable
1947	Nichols 2	12/11/19	12/11/19	0.13	Nichols 2 Overspeed test
1948	Jones 3	12/12/19	12/14/19	1.71	Red River Gas Safety Valve Issues
1949	Jones 4	12/12/19	12/14/19	1.71	Red River Gas Relief Valve Issues
1950	Maddox 2	12/12/19	12/12/19	0.03	Unit tripped on 86G Lockout
1951	Maddox 2	12/12/19	12/31/19	19.42	86G relay locked out. Unit tripped.
1952	Harrington 2	12/14/19	12/14/19	0.22	Unit was tripped when the Automatic Voltage Regulator failed.
1953	Cunningham 2	12/15/19	12/31/19	16.85	Tube Leaks.
1954	Jones 1	12/15/19	12/16/19	0.26	Lack of city effluent flow
1955	Jones 2	12/15/19	12/16/19	0.24	Due to water make up for lagoon
1956	Plant X 4	12/15/19	12/15/19	0.08	East Boiler Feed pump tripped due to faulty wire, lost vacuum do to loss of cooling tower fans.
1957	Plant X 4	12/15/19	12/16/19	1.01	Upon further investigations we had a faulted and grounded cable between 4X15 4160V Breaker and the 4160/480v transformer
1958	Hale Wind	12/15/19	12/18/19	0.35	Twenty six turbines were off line due to a failure in the underground cable/feeder.
1959	Harrington 3	12/16/19	12/16/19	0.10	Unit is derated to inspect A mill.
1960	Harrington 2	12/17/19	12/17/19	0.03	Unit was derated because A mill hot air gate would not operate. We also had E mill out of service to make coal leak repairs.
1961	Plant X 4	12/17/19	12/31/19	5.30	Damaged wire to East Boiler Feed Pump, which will not allow us to operate the Boiler Feed Pump
1962	Plant X 4	12/17/19	12/18/19	1.28	Inspect Main Transformer
1963	Cunningham 4	12/18/19	12/18/19	0.15	Ignition Failed
1964	Cunningham 4	12/18/19	12/18/19	0.05	Ignition failed
1965	Cunningham 4	12/18/19	12/18/19	0.13	Ignition failed
1966	Harrington 1	12/18/19	12/18/19	0.02	Unit was derated due to high opacity readings. The chemical injection system to the Electrostatic Precipitator failed for ~4.5 hours.
1967	Harrington 2	12/18/19	12/19/19	0.76	Unit was removed from line to make repairs on a main steam sample line coming off of the mixing chamber.
1968	Harrington 3	12/18/19	12/18/19	0.10	Unit was derated to inspect E Mill. B Mill is unavailable.
1969	Nichols 3	12/19/19	12/19/19	0.08	Over speed test and calibrate Main Steam Stop Valve
1970	Plant X 4	12/20/19	12/20/19	0.07	Unit taken offline to repair High Pressure feedwater heater safety relief valves.
1971	Jones 1	12/21/19	12/22/19	0.47	Derate to make up lagoon level
1972	Jones 2	12/21/19	12/22/19	0.47	Due to water make up for lagoon
1973	Plant X 4	12/23/19	12/31/19	8.73	Outage to repair wiring on the 4160 volt breaker bus.
1974	Harrington 3	12/24/19	12/31/19	2.02	Unit is derated due to lack of mills in service needed for full load. A Mill experienced a mill explosion and B mill is out of service for bowl replacement
1975	Jones 1	12/26/19	12/26/19	0.50	Derate to make up lagoon level
1976	Jones 2	12/26/19	12/26/19	0.50	Due to water make up for lagoon
1977	Jones 1	12/29/19	12/29/19	0.36	Derate to make up lagoon level
1978	Jones 2	12/29/19	12/29/19	0.36	Due to water make up for lagoon
1979	Cunningham 4	12/30/19	12/31/19	0.94	Computer System frozen. Unit is offline. No trip or shutdown

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, 3}	Reason for Outage
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¹ NOx-Nitrogen dioxide and nitric oxide are referred to together as oxides of nitrogen (NOx)

² The outage duration in days may not precisely correspond to the start date and completion date due to the fact that outages may not require 24 hours each day.

³ For Hale Wind, each instance is reflected in equivalent full outage days.

Southwestern Public Service Company

Power Plant Maintenance Information

(b)(i) Total Maintenance by Operating Unit for Test Year Period (October 1, 2019 - September 30, 2020) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{1, 2}	Reason for Outage
1	Cunningham 1	1/1/20	1/18/20	7.11	Reduced pressure due to Furnace Waterwall tube issues (carryover from 2019)
2	Cunningham 1	1/1/20	12/31/20	Derated	Reduced pressure to 1000 psi and load to 45mw gross
3	Cunningham 2	1/1/20	1/7/20	6.57	Tube Leak/s carryover from 2019
4	Cunningham 2	1/1/20	6/5/20	52.99	Load limited to 125mw gross. 1340 lbs. Boiler pressure. Boiler Tube Problems.
5	Harrington 3	1/1/20	1/19/20	4.86	Unit is derated due to lack of mills in service needed for full load. A Mill experienced a mill explosion and B mill is out of service for bowl replacement
6	Maddox 2	1/1/20	1/3/20	2.66	86G relay locked out. Unit won't go online.
7	Nichols 1	1/1/20	2/7/20	37.46	Nichols Unit 1 is in major overhaul. Turbine inspection (High Pressure, Intermediate Pressure, Low Pressure, Generator)
8	Plant X 1	1/1/20	1/22/20	21.49	Start up transformer low voltage issues during change of unit online/offline status
9	Plant X 2	1/1/20	1/21/20	20.47	Substation outage work requires unit to be offline
10	Plant X 2	1/1/20	12/31/20	Derated	Operating boiler at reduced pressure due to hydrogen embrittlement damage.
11	Plant X 3	1/1/20	3/3/20	62.00	Continued event from last year.
12	Hale Wind	1/2/20	1/3/20	0.13	2 Feeders out of service. 20 turbines.
13	Hale Wind	1/2/20	1/3/20	0.05	Partial feeder out of service for repair. Six turbines affected.
14	Cunningham 4	1/3/20	1/3/20	0.25	Repair Oil Accumulation on Oil Tank
15	Harrington 2	1/5/20	1/6/20	0.65	Unit was removed from service to make repairs to the #4 Feedwater Heater Extraction heater side non return valve. The valve experienced a failed gasket.
16	Maddox 2	1/6/20	1/6/20	0.15	Adjust Inlet Guide Vanes
17	Tolk 1	1/6/20	1/6/20	0.33	Maintenance outage to get boiler tube samples, Tolk management cancelled this outage waiting until spring mini to take samples.
18	Maddox 1	1/7/20	1/7/20	0.05	1B Boiler Feed Pump: Adjust Lube Oil Pump
19	Maddox 1	1/7/20	1/7/20	0.13	1B Boiler Feed Pump: Repair Inlet Oil Line
20	Cunningham 4	1/8/20	1/11/20	3.64	Thrust Bearing Thermocouple leaking oil
21	Harrington 3	1/8/20	1/9/20	1.62	Unit was removed from service to make repairs to a water wall tube leak on the 5th floor #3 corner
22	Hale Wind	1/9/20	1/9/20	0.01	Open breaker that will take three feeders out while T91 is taken off of the feeder. At the end of this derate, approximately an hour, we will close the breaker and T91 and T141 will be disconnected and tested while the others will be placed in run.
23	Hale Wind	1/9/20	1/9/20	0.01	Open breaker which will take three feeders offline so we can tie T97 and T141 back into feeder. At the end of this derate the park will again have the potential for 474 MW's.
24	Harrington 3	1/11/20	1/14/20	3.32	Unit was removed from service to make repairs to the high pressure heater drains pump discharge line. The line failed at an elbow at the Deaerator Heater.
25	Tolk 2	1/13/20	1/16/20	2.84	Submerged scraper conveyor derailed - clean out/inspection/repairs
26	Cunningham 3	1/14/20	1/14/20	0.25	Repair Ignitor
27	Jones 2	1/14/20	1/18/20	3.45	Boiler Tube Leak
28	Cunningham 4	1/15/20	1/18/20	3.50	Torque Oil leak around thrust bearing probe.
29	Harrington 1	1/16/20	1/16/20	0.01	Unit was derated due to high opacity readings. Unsure of any issues
30	Harrington 1	1/17/20	1/17/20	0.01	Unit was derated due to high opacity readings. Unsure of any problems
31	Cunningham 1	1/18/20	2/29/20	42.35	Planned 10 week outage
32	Harrington 1	1/18/20	1/18/20	0.03	Boiler tripped on loss off fuel (nat. gas) pressure when starting up the unit. All three units were in a startup that contributed to this event. As a result the turbine/generator ended up tripping.
33	Jones 3	1/18/20	1/22/20	4.28	Turning gear issues
34	Hale Wind	1/18/20	1/25/20	7.40	Transmission Line failure.

Southwestern Public Service Company

Power Plant Maintenance Information

(b)(i) Total Maintenance by Operating Unit for Test Year Period (October 1, 2019 - September 30, 2020) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{1, 2}	Reason for Outage
35	Maddox 1	1/19/20	1/24/20	5.09	Boiler Skin Leak
36	Jones 1	1/20/20	1/20/20	0.21	Derate to make up lagoon level
37	Jones 2	1/20/20	1/20/20	0.23	Due to water make up for lagoon
38	Jones 2	1/20/20	1/21/20	1.20	Boiler Water Chemistry Problems
39	Maddox 2	1/21/20	1/21/20	0.27	Lube Oil Cooler Logic Controls Change
40	Harrington 1	1/22/20	1/22/20	0.02	When transferring feedwater from the startup valve to the #3 heater the drum level went low and tripped the boiler. The unit tripped on reverse power.
41	Harrington 1	1/22/20	1/24/20	2.17	Unit was shut down to make repairs to the Main Feed pump recirc line safety and manual block valve.
42	Harrington 3	1/22/20	1/23/20	0.15	The unit was derated due to A Mill hot air damper not controlling mill discharge temperature.
43	Jones 2	1/22/20	1/23/20	0.38	Boiler Water Chemistry Problems
44	Maddox 2	1/22/20	1/22/20	0.09	Lube Oil Cooler Logic Controls Change
45	Jones 2	1/24/20	1/24/20	0.07	Boiler Feed Pump Fluid Drive Bearings Getting Hot
46	Hale Wind	1/24/20	1/26/20	0.19	Restarting farm after outage.
47	Jones 1	1/25/20	1/25/20	0.24	Derate to make up lagoon level
48	Jones 2	1/25/20	1/25/20	0.24	Derate to make up lagoon level
49	Cunningham 4	1/26/20	1/28/20	1.67	Hydraulic skid in alarm. Not Ready to start.
50	Harrington 1	1/26/20	1/26/20	0.01	Operator tripped the unit during a start up
51	Jones 1	1/27/20	1/27/20	0.27	Derate to make up lagoon level
52	Jones 2	1/27/20	1/27/20	0.06	Derate to make up lagoon level
53	Jones 1	1/30/20	1/30/20	0.10	Loss of West Forced Draft Fan
54	Harrington 3	2/1/20	2/1/20	0.09	Unit was derated because A coal mill hot air damper is not operating as designed. B coal mill is also out of service.
55	Jones 1	2/1/20	2/1/20	0.38	Derate to make up lagoon level
56	Jones 2	2/1/20	2/1/20	0.38	Derate to make up lagoon level
57	Maddox 2	2/1/20	2/5/20	4.30	Bearing #5 Thermocouple
58	Plant X 1	2/3/20	2/7/20	4.67	Turbine inspection
59	Hale Wind	2/4/20	2/14/20	3.69	Failure of cap bank caused damage to a breaker feeding the main power transformer.
60	Harrington 1	2/5/20	2/5/20	0.04	When transferring feedwater flow from the Start-Up Valve to the #3 High Pressure Heater flow was stopped to the drum because the heater outlet showed open and was actually closed. This resulted in a low drum level trip with contributed to the reverse power trip of the turbine/generator.
61	Plant X 2	2/6/20	2/7/20	1.14	Condenser tube leak on X1. Unit required to be offline to repair Plant X1 condenser tube leak as both units share a common circulating return line.
62	Maddox 1	2/7/20	2/28/20	3.15	Boiler Skin Leak, 2nd Level
63	Nichols 1	2/7/20	2/7/20	0.00	Planned derate to 105
64	Nichols 1	2/7/20	2/13/20	5.84	Nichols 1 planned outage
65	Tolk 1	2/8/20	2/9/20	1.19	Tube leak on lower water wall
66	Harrington 1	2/10/20	2/13/20	2.26	Unit is derated due to the main feed pump not being available. The feed pump recirc line safety valve failed
67	Maddox 1	2/13/20	2/13/20	0.32	T1-C FBM Modular Burnt Up. Unit tripped.
68	Nichols 1	2/13/20	2/14/20	0.02	Planned derate to 105
69	Plant X 1	2/13/20	6/18/20	126.67	Unable to maintain proper condensate chemistry
70	Plant X 2	2/13/20	2/25/20	11.54	Unable to maintain acceptable water chemistry
71	Hale Wind	2/13/20	2/26/20	0.77	At a minimum there will be 5 turbines out of service on a daily basis due to required services by Vestas.
72	Nichols 1	2/14/20	2/14/20	0.07	Nichols 1 is in planned outage for "No Load" setting on turbine control valves.
73	Nichols 1	2/14/20	2/24/20	9.78	Nichols 1 in planned outage-balance issues
74	Jones 1	2/16/20	2/16/20	0.37	Derate to make up lagoon level
75	Jones 2	2/16/20	2/16/20	0.37	Derate to make up lagoon level
76	Jones 1	2/17/20	2/18/20	0.34	Derate to make up lagoon level
77	Jones 2	2/17/20	2/18/20	0.34	Derate to make up lagoon level
78	Cunningham 3	2/18/20	2/22/20	3.53	Generator Air Filters bad

Southwestern Public Service Company

Power Plant Maintenance Information

(b)(i) Total Maintenance by Operating Unit for Test Year Period (October 1, 2019 - September 30, 2020) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{1, 2}	Reason for Outage
79	Harrington 1	2/19/20	2/19/20	0.35	The unit was derated because we were unable to get the #3 High Pressure Heater inlet valve open. This caused us to have to operate on the startup feedwater valve.
80	Jones 1	2/19/20	2/19/20	0.21	Derate to make up lagoon level
81	Jones 2	2/19/20	2/19/20	0.21	Derate to make up lagoon level
82	Nichols 2	2/21/20	2/21/20	0.31	Nichols 2 is in unplanned forced outage to work on wind box furnace transmitter.
83	Nichols 2	2/21/20	2/22/20	0.19	Nichols 2 unit is in a unplanned forced outage due to 45lb gas regulator issues that need to be repaired.
84	Harrington 2	2/22/20	5/8/20	76.58	Major Outage
85	Cunningham 2	2/23/20	3/6/20	12.54	Boiler Tube Leak, East side, Furnace Waterwall
86	Jones 1	2/23/20	2/23/20	0.29	Derate to make up lagoon level
87	Jones 2	2/23/20	2/23/20	0.29	Derate to make up lagoon level
88	Jones 1	2/24/20	2/24/20	0.60	Repair hot spot on bottom boiler door on West side
89	Nichols 1	2/24/20	2/25/20	0.02	Planned derate to 105
90	Nichols 1	2/25/20	3/6/20	10.05	Nichols 1 is in planned outage for vibration issues.
91	Jones 3	2/26/20	2/28/20	2.57	Gas calibrations
92	Hale Wind	2/26/20	4/28/20	2.34	Required derate for service on turbines.
93	Nichols 3	2/27/20	2/28/20	1.92	Nichols Unit 3 will come offline to repair boiler tube leak
94	Cunningham 3	2/28/20	2/28/20	0.16	L915 Low Gas Pressure
95	Cunningham 4	2/28/20	2/28/20	0.19	L915 Gas Pressure Low
96	Cunningham 4	3/1/20	3/1/20	0.03	Unit Tripped, flashback
97	Cunningham 4	3/1/20	3/1/20	0.25	Flashback Temps 4A and 4B
98	Jones 2	3/1/20	3/1/20	0.39	Intercept valve not opening
99	Jones 4	3/1/20	3/30/20	29.32	Repair the silencers in the stack
100	Maddox 2	3/1/20	3/2/20	1.23	Unit Tripped
101	Tolk 1	3/1/20	4/7/20	37.59	Boiler Outage - tube replacement work
102	Plant X 3	3/3/20	12/31/20	0.00	Discovery work on boiler
103	Cunningham 4	3/4/20	7/2/20	120.67	86-1, 86-2 caused unit to trip
104	Tolk 2	3/5/20	3/8/20	3.18	Superheat tube leak
105	Nichols 1	3/6/20	3/6/20	0.00	Planned derate to 105
106	Nichols 1	3/6/20	3/17/20	10.88	Nichols 1 is in planned outage for vibration issues.
107	Cunningham 3	3/7/20	3/13/20	5.93	Arc Flash installation for breakers
108	Plant X 2	3/9/20	3/13/20	4.60	Repair steam leak on turbine steam driven emergency oil pump
109	Nichols 3	3/10/20	3/14/20	4.14	Nichols 3 is in a maintenance outage for boiler tube repair
110	Harrington 1	3/11/20	3/12/20	0.71	The unit was derated because of excessive water discovered in the lube oil system.
111	Harrington 1	3/12/20	3/21/20	8.46	The unit was removed from service because the Main Feed pump would not isolate on line to make repairs to the break down bushings on the pump.
112	Jones 2	3/12/20	3/12/20	0.02	Vacuum Low, got Vacuum Pretrip Alarm
113	Cunningham 2	3/13/20	5/17/20	65.26	Outage: Boiler Tube Replacement
114	Jones 1	3/13/20	3/13/20	0.07	Came off to investigate the #4 bearing temperature being erratic
115	Jones 1	3/15/20	3/15/20	0.28	Derate to make up lagoon level
116	Jones 2	3/15/20	3/15/20	0.28	Derate to make up lagoon level
117	Jones 2	3/16/20	3/17/20	0.04	Condenser plugging and high back pressure
118	Jones 1	3/17/20	3/17/20	0.27	Derate to make up lagoon level
119	Jones 2	3/17/20	3/17/20	0.27	Derate to make up lagoon level
120	Jones 2	3/17/20	3/18/20	0.04	Condenser plugging and high back pressure
121	Nichols 1	3/17/20	3/18/20	0.02	Planned derate to 105
122	Jones 1	3/18/20	3/18/20	0.28	Derate to make up lagoon level
123	Jones 2	3/18/20	3/18/20	0.05	Condenser plugging and high back pressure
124	Jones 2	3/18/20	3/18/20	0.28	Derate to make up lagoon level
125	Maddox 3	3/18/20	3/18/20	0.27	Auxiliary Gear Oil Leak
126	Nichols 1	3/18/20	3/19/20	0.83	Nichols 1 is in planned outage for vibration issues.
127	Plant X 4	3/18/20	3/18/20	0.02	De-rated due to loss of one-half of the fans on the Main Power Transformer
128	Nichols 1	3/19/20	3/20/20	0.03	Planned derate to 105
129	Jones 1	3/20/20	3/20/20	0.66	Circulating water line leak
130	Nichols 1	3/20/20	3/24/20	3.58	Nichols 1 is in a planned outage extension.

Southwestern Public Service Company

Power Plant Maintenance Information

(b)(i) Total Maintenance by Operating Unit for Test Year Period (October 1, 2019 - September 30, 2020) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{1,2}	Reason for Outage
131	Jones 2	3/21/20	3/28/20	7.00	Clean the condenser
132	Plant X 4	3/21/20	3/24/20	0.16	Normal Source transformer out of service for Inspection, Start-Up transformer hi amp alarms under full load
133	Harrington 1	3/24/20	3/24/20	0.26	Unit missed on line and min load times due to issues with hot well level. Having issues with the make up valving or piping from the storage tanks.
134	Harrington 1	3/24/20	3/25/20	0.29	Unit is derated due to the Main Boiler Feed pump is not available. The Gland seal water system is not operational.
135	Nichols 1	3/24/20	3/28/20	0.07	Planned derate to 105
136	Plant X 4	3/24/20	4/1/20	0.21	Normal source transformer out of service. Start-up transformer alarms with high amps at loads above 185 MW net
137	Nichols 1	3/28/20	3/31/20	3.50	Nichols 1 is in an outage extension for vibration issues
138	Plant X 4	3/28/20	3/28/20	0.40	Reheat valves shut do to hydraulic oil flow issue
139	Plant X 4	3/28/20	4/1/20	4.34	Turbine oil trip issue
140	Harrington 1	3/29/20	3/29/20	0.10	Unit was derated because the Main Boiler Feed Pump was not available. The Feed pump has gland seal water temperature issues.
141	Harrington 3	3/29/20	3/29/20	0.10	The unit was derated due to C mill not being available. An electronic board failed.
142	Jones 1	3/30/20	3/31/20	0.35	Derate to make up lagoon level
143	Jones 2	3/30/20	3/31/20	0.35	Derate to make up lagoon level
144	Jones 4	3/30/20	3/30/20	0.01	Test Run after installing the silencers in the stack
145	Tolk 2	3/30/20	4/1/20	1.88	Repair tube leak in reheat section of boiler
146	Jones 2	3/31/20	4/3/20	3.03	Hot spot on boiler camera port
147	Nichols 1	3/31/20	4/2/20	0.04	Planned derate to 105
148	Plant X 4	4/1/20	4/4/20	2.37	Inspect and repair boiler hot spots.
149	Nichols 1	4/2/20	4/3/20	0.03	Planned derate to 105
150	Maddox 2	4/5/20	4/9/20	3.88	Vibration issues
151	Plant X 4	4/7/20	4/9/20	1.78	Inspect reheat steam safety valve
152	Jones 1	4/8/20	4/8/20	0.21	Derate to make up lagoon level
153	Jones 1	4/8/20	4/9/20	0.17	Derate to make up lagoon level
154	Jones 2	4/8/20	4/8/20	0.21	Derate to make up lagoon level
155	Jones 2	4/8/20	4/9/20	0.17	Derate to make up lagoon level
156	Harrington 3	4/9/20	5/29/20	13.20	C Coal Mill pillow block failed. Unit is derated due to not having the necessary coal mills to operate at full load. B mills is out of service to replace a failed bowl.
157	Maddox 2	4/9/20	4/30/20	21.04	Gas Turbine Stack Work
158	Jones 4	4/12/20	4/13/20	0.33	Replacing Oil Filters
159	Plant X 2	4/12/20	4/30/20	18.67	Inspect boiler safety valves per boiler code
160	Plant X 4	4/15/20	4/29/20	0.37	Normal source transformer out of service. Start-up transformer alarms with high amps at loads above 185 MW net
161	Jones 2	4/16/20	4/18/20	1.02	Waterwall tube leak on B corner
162	Nichols 3	4/16/20	4/19/20	3.28	Nichols Unit 3 is in forced outage to repair boiler tube leak.
163	Tolk 1	4/17/20	4/19/20	1.60	Tube leak - Wall
164	Tolk 2	4/17/20	4/17/20	0.25	Replace bearing: Main Turbine AC Bearing Oil Pump
165	Jones 1	4/19/20	4/21/20	0.97	Derate to make up lagoon level
166	Jones 2	4/19/20	4/20/20	0.35	Derate to make up lagoon level
167	Jones 2	4/20/20	4/21/20	0.24	Derate to make up lagoon level
168	Jones 1	4/22/20	4/22/20	0.37	Derate to make up lagoon level
169	Jones 2	4/22/20	4/22/20	0.37	Derate to make up lagoon level
170	Tolk 1	4/22/20	4/27/20	5.55	Tube leak on 11-12 floor, wall tube
171	Jones 1	4/23/20	4/23/20	0.29	Derate to make up lagoon level
172	Jones 1	4/23/20	4/24/20	0.35	Derate to make up lagoon level
173	Jones 2	4/23/20	4/23/20	0.29	Derate to make up lagoon level
174	Jones 2	4/23/20	4/24/20	0.35	Derate to make up lagoon level
175	Harrington 1	4/25/20	4/25/20	0.03	Turbine tripped on high drum level. Drum level went high when operator was swapping from the startup valve and the #3 heater valve.
176	Jones 1	4/26/20	4/26/20	0.26	Derate to make up lagoon level
177	Jones 2	4/26/20	4/26/20	0.26	Derate to make up lagoon level
178	Jones 1	4/29/20	4/29/20	0.26	Weld leak on continuous blowdown line

Southwestern Public Service Company

Power Plant Maintenance Information

(b)(i) Total Maintenance by Operating Unit for Test Year Period (October 1, 2019 - September 30, 2020) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{1, 2}	Reason for Outage
179	Jones 1	4/29/20	5/1/20	0.37	Gas supply issues with Power Tex gas line maintenance
180	Jones 2	4/29/20	5/1/20	0.37	Gas supply issues with Power Tex gas line maintenance
181	Jones 3	4/29/20	5/2/20	2.44	Gas supply issues with Power Tex gas line maintenance
182	Nichols 1	4/29/20	4/29/20	0.01	Nichols unit 1 has emission testing
183	Nichols 3	4/29/20	4/29/20	0.02	Nichols Unit 3 tripped due to high drum level
184	Plant X 4	4/29/20	5/5/20	0.63	Unable to maintain feedwater supply to boiler for maximum load
185	Jones 1	5/2/20	5/2/20	0.01	High backpressure on unit
186	Jones 2	5/2/20	5/3/20	1.43	Waterwall tube leak on B corner
187	Plant X 2	5/2/20	5/2/20	0.24	Leak on Circulating Water Line
188	Maddox 2	5/5/20	5/8/20	3.50	Transformer and Generator Relay work
189	Maddox 3	5/5/20	5/8/20	3.45	Change differential relays
190	Plant X 4	5/5/20	5/31/20	0.68	Normal source transformer out of service. Start-up transformer alarms with high amps at loads above 185 MW ne
191	Harrington 1	5/6/20	5/16/20	9.20	Unit was removed from service to prevent a Particulate Matter exceedance
192	Plant X 4	5/6/20	5/6/20	0.10	During an inspection of the main power transformer fans, the fans tripped due to an electrical issue on the fans.
193	Harrington 2	5/8/20	5/18/20	2.50	Unit was derated to allow the seasoning of new bags in 7 compartments
194	Cunningham 3	5/10/20	5/16/20	6.09	Generator Bellows Inspection and Repairs
195	Jones 4	5/11/20	5/11/20	0.99	Gas Calibration
196	Harrington 2	5/12/20	5/12/20	0.49	Unit was removed from service to make a balance move on the Low Pressure turbine and exciter.
197	Jones 4	5/12/20	5/12/20	0.17	Gas Calibration
198	Maddox 2	5/12/20	5/15/20	2.98	5 bearing temperature high on startup
199	Harrington 2	5/13/20	5/13/20	0.10	Unit was derated when the West Induced Draft Fan Lube Oil pressure trip malfunctioned.
200	Jones 3	5/13/20	5/13/20	0.71	Gas Calibration
201	Tolk 2	5/15/20	5/22/20	6.81	Inspection of lower loops of reheat tubes and heat exchanger cleaning
202	Cunningham 2	5/17/20	6/9/20	22.52	Outage Extension: Boiler Tube Replacement
203	Harrington 1	5/18/20	5/25/20	6.05	Unit was removed from service after particulate matter testing because the unit is environmentally out of compliance.
204	Harrington 2	5/18/20	5/20/20	0.32	Unit is derated due to the #2 and #3 High Pressure heaters not available for service. #1 Heater is not available due to #2 being out of service.
205	Jones 1	5/18/20	5/18/20	0.03	High backpressure on unit
206	Jones 1	5/19/20	5/19/20	0.03	High backpressure on unit
207	Harrington 2	5/20/20	5/21/20	1.42	Unit was removed from service to make repairs to the #2 and #3 High Pressure heater valves.
208	Maddox 2	5/20/20	5/20/20	0.11	Disc Cavity Thermocouple Replacement
209	Maddox 1	5/21/20	5/29/20	8.03	Boiler Inspection
210	Harrington 2	5/22/20	5/27/20	0.87	Unit is derated because the new Drum and Reheat safeties were lifting at pressures higher than 2050 drum pressure. Original scope of work from the major outage.
211	Jones 1	5/24/20	5/24/20	0.03	High backpressure on unit
212	Harrington 1	5/25/20	6/1/20	7.69	Planned Mini outage to clean the Electrostatic Precipitator
213	Tolk 1	5/25/20	5/28/20	3.22	Water wall tube leak water standing on 12th floor buck stay on 4 corner
214	Jones 1	5/26/20	5/26/20	0.02	High backpressure on unit
215	Jones 1	5/29/20	5/29/20	0.05	High backpressure on unit
216	Jones 1	5/30/20	6/7/20	8.54	Clean Condenser and Boiler Repairs
217	Maddox 1	5/30/20	5/30/20	0.14	North Turbine Throttle Valve Stuck
218	Maddox 1	5/30/20	6/1/20	0.84	Cooling Tower East Side Cooling Plugged
219	Plant X 4	5/31/20	6/9/20	8.97	To repair Main Power Transformer
220	Harrington 2	6/1/20	6/1/20	0.04	Manual Trip turbine on startup - Superheat Steam Temperature dropped 300 degrees
221	Maddox 1	6/1/20	6/16/20	7.40	Back Pressure High due to Cooling Tower East side
222	Maddox 2	6/2/20	6/2/20	0.15	AC Lube Oil Motor, Inspect

Southwestern Public Service Company

Power Plant Maintenance Information

(b)(i) Total Maintenance by Operating Unit for Test Year Period (October 1, 2019 - September 30, 2020) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{1, 2}	Reason for Outage
223	Nichols 1	6/2/20	6/3/20	1.58	Repair Feedwater check valves and condenser maintenance. Prepare the unit for summer run.
224	Harrington 2	6/3/20	6/4/20	0.38	Unit was derated due to the loss of the Center Main Circ Pump. The pin for the retaining nut on the thrust bearing sleeve failed. We also have the south pump out of service for a broken shaft.
225	Jones 3	6/4/20	6/4/20	0.01	Took Evap. Cooling off due to running out water
226	Maddox 2	6/6/20	6/6/20	0.04	Blade Path Temperature
227	Maddox 1	6/10/20	6/18/20	7.66	Electro-Hydraulic System
228	Nichols 1	6/10/20	6/10/20	0.06	Boiler Electronic Valve Testing safety valves
229	Plant X 4	6/10/20	6/11/20	0.16	Reheat Safety Malfunctioned, to get it to close back we had to derate the unit.
230	Nichols 2	6/15/20	6/18/20	3.65	Outage to replace condenser outlet expansion joints and prepare for summer
231	Cunningham 3	6/17/20	6/17/20	0.16	Vacuum leak
232	Jones 2	6/18/20	6/19/20	1.62	Waterwall tube leak on B corner
233	Cunningham 2	6/19/20	8/4/20	15.79	North Boiler Feed Pump Outboard Packing
234	Harrington 1	6/19/20	6/19/20	0.04	Unit was derated due to 2 coal mill/feeders being out of service for repairs. B mill feeder had a speed card fail, and C mill motor failed.
235	Maddox 1	6/20/20	6/20/20	0.11	Hydrogen Cooling System
236	Harrington 2	6/22/20	6/22/20	0.07	Unit was derated due to the West Forced Draft fan tripping. The fan had a oil temp switch that was not calibrated correctly.
237	Jones 2	6/22/20	6/24/20	1.71	Loss of West auxiliary circulating pump motor.
238	Nichols 2	6/22/20	7/2/20	9.70	Forced outage due to tube leak in reheat section
239	Harrington 3	6/24/20	6/25/20	0.70	Unit was removed from service to make repairs to an external water wall tube leak.
240	Plant X 1	6/24/20	6/24/20	0.04	Lost boiler due to high furnace pressure, issues with Forced Draft fan control
241	Cunningham 2	6/25/20	6/28/20	2.23	Inspect North Boiler Feed Pump/Repack South Boiler Feed Pump
242	Jones 3	6/25/20	6/25/20	0.21	Stack Inspection
243	Cunningham 3	6/26/20	6/26/20	0.04	Move Cunningham 4 Starting Motor
244	Cunningham 2	6/28/20	6/29/20	1.25	South Boiler Feed Pump Repack Packing
245	Jones 1	7/1/20	7/1/20	0.01	Gas firing valve not able to maintain firing rate at full load
246	Jones 1	7/2/20	7/2/20	0.01	50# Gas header not maintaining pressure at full load
247	Jones 1	7/3/20	7/4/20	0.01	50# Gas header not maintaining pressure at full load
248	Maddox 2	7/3/20	7/7/20	1.23	Condensate Tanks Low
249	Jones 1	7/4/20	7/5/20	0.01	50# Gas header not maintaining pressure at full load
250	Harrington 2	7/5/20	7/5/20	0.05	Unit was derated due high baghouse Differential Pressure. The unit had 2 Baghouse compartments out of service due to failed bags
251	Harrington 2	7/5/20	7/9/20	3.90	Unit was removed from service to make repairs to a water wall tube leak on the floor slope.
252	Jones 1	7/5/20	7/6/20	0.01	50# Gas header not maintaining pressure at full load
253	Nichols 1	7/5/20	7/6/20	0.16	Turbine high thrust alarm came in at a trip level
254	Jones 1	7/6/20	7/6/20	0.14	Make up condensate to storage tanks
255	Jones 1	7/6/20	7/6/20	0.00	Limit Torque Active Alarm on the East Forced Draft Fan Variable Frequency Drive
256	Jones 2	7/6/20	7/6/20	0.14	Make up condensate to storage tanks
257	Nichols 3	7/6/20	7/10/20	3.89	Boiler tube leak unable to maintain hotwell
258	Tolk 1	7/6/20	7/6/20	0.11	PPS failed (Power system stabilizer)
259	Tolk 1	7/6/20	7/6/20	0.15	50# Gas regulator leak
260	Jones 1	7/7/20	7/7/20	0.19	Make up condensate to storage tanks
261	Jones 2	7/7/20	7/7/20	0.19	Make up condensate to storage tanks
262	Plant X 4	7/9/20	9/3/20	55.56	Switchyard circuit breaker-external fault, causing damage to Plant X4 Generator Step-Up Transformer.
263	Jones 3	7/11/20	7/17/20	5.86	Unit tripped on Blade Path spread
264	Nichols 3	7/11/20	7/11/20	0.01	1st row burners controls failed
265	Maddox 3	7/14/20	7/16/20	1.94	Unit tripped on high oil temperature

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Power Plant Maintenance Information

(b)(i) Total Maintenance by Operating Unit for Test Year Period (October 1, 2019 - September 30, 2020) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{1, 2}	Reason for Outage
266	Jones 1	7/15/20	7/15/20	0.00	West Forced Draft Fan motor windings temperature high
267	Maddox 2	7/15/20	7/21/20	5.66	52G failed to open
268	Tolk 1	7/16/20	7/16/20	0.04	Unit trip on high drum level excursion
269	Tolk 1	7/16/20	7/18/20	1.47	Unit offline due to abnormally high water chemistry issues suspect condenser tube leak
270	Harrington 1	7/17/20	7/18/20	0.62	Unit was removed from service to replace a manhole cover gasket on the Deaerator Heater upper tank.
271	Jones 3	7/17/20	7/17/20	0.02	Tuning by Siemens after replacing one Pilot fuel nozzle
272	Jones 3	7/17/20	7/17/20	0.05	While removing the Lock-Out/Tag-Out(LOTO) on the Static Excitation Equipment and Static Frequency Converter and unlocking the breaker the unit tripped.
273	Nichols 3	7/17/20	7/19/20	1.71	While cycling, steam drum north door gasket failed
274	Cunningham 2	7/18/20	7/29/20	11.04	Water Supply not keeping up. Boiler Tube Leak Suspected
275	Jones 2	7/18/20	7/21/20	3.61	Waterwall tube leak on B corner
276	Harrington 1	7/20/20	7/20/20	0.61	Unit experienced a Startup Failure due to the Startup Boiler Feed pump Motor failure.
277	Plant X 2	7/20/20	7/22/20	2.61	Unable to maintain feedwater level
278	Maddox 2	7/23/20	7/23/20	0.05	Flame Failed to Light
279	Jones 1	7/26/20	7/27/20	0.52	Water treatment ultra-filtration (module B) had a pipe rupture
280	Jones 2	7/26/20	7/27/20	0.52	Water treatment ultra-filtration (module B) had a pipe rupture
281	Harrington 1	7/27/20	7/27/20	0.05	Unit was derated due to high opacity readings and to prevent opacity exceedances.
282	Harrington 1	7/27/20	7/28/20	0.04	Unit experienced an MFT-Flame Failure Trip. Unit was derated to remove the furnace from coal to gas when Electrostatic Precipitator issues were taking place.
283	Nichols 3	7/27/20	7/29/20	0.32	#1 Control valve stem broke
284	Harrington 1	7/28/20	7/28/20	0.01	Unit was derated to prevent opacity issues while the East Electrostatic Precipitator rappers were inoperable.
285	Harrington 1	7/28/20	7/28/20	0.02	Unit tripped on high drum level when transitioning feedwater flow from the Startup feedwater valve to the #3 heater. The unit was controlling the drum level with the main feed pump because the Start-Up feed pump is not available.
286	Harrington 1	7/28/20	7/28/20	0.01	Unit tripped on high drum level when transitioning feedwater flow from the Start-Up feedwater valve to the #3 heater. The unit was starting up with the main feed pump because the SU feed pump was unavailable.
287	Jones 1	7/28/20	7/28/20	0.00	East Forced Draft Fan alarm showing "Forced Limit Reached"
288	Maddox 2	7/28/20	7/30/20	0.41	Injection Water Source
289	Harrington 2	7/29/20	7/30/20	0.21	Unit was derated to replace failed bags in 3 Baghouse compartments. West Induced Draft tripped causing the East Induced Draft to ramp up causing bag damage due to high Baghouse Differential Pressure.
290	Harrington 3	7/29/20	7/29/20	0.10	Unit was derated to take an Induced Draft fan out of service to make repairs to a coupling guard and fix a pressure transmitter oil leak.
291	Jones 2	7/29/20	7/29/20	0.03	East Boiler Feed Pump Oil Leak
292	Nichols 2	7/29/20	7/29/20	0.01	Derate to hold boiler pressure to Electronic Valve Testing boiler Superheat outlet pressure relief valve.
293	Nichols 3	7/29/20	7/31/20	2.69	#1 Control valve stem broke
294	Plant X 1	7/29/20	8/4/20	0.73	Operating lower unit mw due to boiler tuning issues
295	Cunningham 2	7/30/20	8/3/20	3.95	Boiler Furnace: A Corner
296	Cunningham 3	7/31/20	7/31/20	0.17	Inspect Gas Metering
297	Jones 2	7/31/20	7/31/20	0.18	Replace the moog valve to the Left Side Governor Valve
298	Maddox 1	7/31/20	8/6/20	3.14	Primary Inlet Section Tube Leak
299	Jones 1	8/2/20	8/2/20	0.09	Silicon dioxide running high on circulating water causing us to have high blowdown rates and low lagoon levels.
300	Jones 2	8/2/20	8/2/20	0.09	Silicon dioxide running high on circulating water causing us to have high blowdown rates and low lagoon levels.
301	Plant X 1	8/2/20	8/7/20	5.15	Turbine bearing vibration issues on #1 bearing
302	Plant X 2	8/2/20	8/4/20	2.64	Unable to maintain feedwater level

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Power Plant Maintenance Information

(b)(i) Total Maintenance by Operating Unit for Test Year Period (October 1, 2019 - September 30, 2020) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{1, 2}	Reason for Outage
303	Cunningham 2	8/4/20	8/6/20	2.10	Boiler Furnace: Skin
304	Cunningham 2	8/6/20	8/7/20	1.28	Water Supply Makeup not Keeping up. Suspect Boiler Tube Leak
305	Cunningham 1	8/7/20	8/11/20	3.42	Boiler Tube Leak Suspected
306	Cunningham 4	8/7/20	8/7/20	0.13	Unit tripped on Loss of Lube Oil Pressure
307	Maddox 2	8/7/20	8/11/20	3.65	Generator breaker failed to open on shut down.
308	Harrington 3	8/9/20	8/9/20	0.01	Unit was removed from service to transfer turbine valve control from the pilot valve to the governor valves.
309	Plant X 2	8/9/20	8/9/20	0.28	West Forced Draft fan breaker failed. Maximum of 3 failed starts in a 24 hour period met.
310	Jones 2	8/10/20	8/12/20	0.05	Reached maximum condensate flow on the transmitter causing Deaerator level control issues
311	Plant X 1	8/10/20	8/10/20	0.31	Low pressure water seals appear to be leaking from the turbine.
312	Nichols 3	8/11/20	8/11/20	0.07	Generator Step-Up Transformer lost 3 banks of cooling fans and pumps to a contactor failure.
313	Plant X 1	8/11/20	8/12/20	1.05	Forced Draft fan trip
314	Tolk 2	8/12/20	8/15/20	2.97	Circulating water system leak on cooling tow header.
315	Cunningham 3	8/13/20	8/21/20	1.19	Wet Compression Unavailable Due to Reverse Osmosis
316	Cunningham 4	8/13/20	8/21/20	1.00	Wet Compression Unavailable Due to Reverse Osmosis
317	Harrington 1	8/14/20	8/14/20	0.00	Unit was derated to prevent opacity exceedances. Weather Storm contributed to this event.
318	Cunningham 3	8/15/20	8/15/20	0.14	Unit tripped to Lower Explosive Limit reaching limit
319	Cunningham 3	8/16/20	8/17/20	0.60	Repair Gas Leaks
320	Maddox 1	8/16/20	8/17/20	0.23	Condensate and Boiler Feed Pump 4160V Breakers
321	Plant X 1	8/16/20	8/24/20	7.66	Boiler tube leak
322	Cunningham 4	8/18/20	8/24/20	6.46	Unit Tripped on Gas Low
323	Harrington 1	8/18/20	8/18/20	0.03	Unit was derated to prevent opacity exceedances.
324	Maddox 1	8/18/20	8/19/20	0.10	Main Transformer Cooling Fans and Oil Pump
325	Maddox 1	8/19/20	8/19/20	0.00	East Condensate Pump 4160V Breaker, Loss of Power
326	Cunningham 2	8/21/20	9/1/20	3.77	Boiler Furnace Door Leaks, Fan Room
327	Cunningham 2	8/22/20	8/28/20	5.25	Boiler Furnace Door Repair
328	Maddox 1	8/22/20	8/26/20	1.86	1A Boiler Feed Pump Variable Frequency Drive
329	Tolk 2	8/22/20	8/22/20	0.03	Flame failure trip
330	Harrington 2	8/24/20	8/24/20	0.04	Unit tripped after the Main Boiler Feed Pump tripped on high vibration. The 3X vibration probe was out of service due to high false readings because of a probe wiring issue. The 3X probe was inadvertently placed back in service causing the trip.
331	Hale Wind	8/24/20	8/28/20	4.67	Outage needed to improve transmission line where it has failed twice at the TUCO substation.
332	Jones 1	8/27/20	8/30/20	2.83	Repair crack in the Cooling Tower Distribution Header in the hot water deck
333	Harrington 1	8/29/20	8/30/20	0.07	Unit was derated to prevent opacity exceedances. Opacity increased when a heavy rain storm blew thru.
334	Tolk 2	8/29/20	8/29/20	0.17	Measurements for new non-segmented buss installation for synchronous condenser
335	Hale Wind	8/29/20	9/1/20	0.14	Following a planned outage, Hale Wind has 15 turbines down due to various alarms after trying to start back up.
336	Harrington 1	8/30/20	9/17/20	4.67	Unit was derated due to storm damage to 8 cooling tower fans.
337	Harrington 2	8/30/20	9/4/20	4.40	Unit was removed from service to make repairs to a re-heater tube leak.
338	Nichols 1	8/30/20	8/30/20	0.16	Unit tripped due Transmission Operations storm restoration switching in the substation.
339	Maddox 3	9/1/20	9/18/20	17.23	Check Cooling Pump and Calibrate
340	Tolk 2	9/1/20	9/4/20	2.81	Reheat tube leak repairs
341	Jones 3	9/3/20	9/3/20	0.24	Unit failed the start on blade path spread
342	Jones 1	9/4/20	9/4/20	0.07	Loss of Main Power Transformer Cooling pumps and fans
343	Jones 3	9/4/20	9/4/20	0.15	Unit had failed start for blade path spread
344	Cunningham 3	9/5/20	9/5/20	0.05	Breaker 3a100 Tripped

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(b)(i) Total Maintenance by Operating Unit for Test Year Period (October 1, 2019 - September 30, 2020) by Month*

Line No.	Unit Name	Actual Start Date	Actual Completion Date	Outage Duration (Days) ^{1, 2}	Reason for Outage
345	Cunningham 4	9/5/20	9/5/20	0.06	Breaker 3a100 tripped
346	Tolk 2	9/5/20	9/18/20	12.80	Forced offline for a tube leak in the division panel
347	Cunningham 2	9/8/20	9/15/20	2.56	Boiler Furnace Door Hot Spot
348	Cunningham 4	9/8/20	9/8/20	0.35	Lube Oil Cooler Belts Loose
349	Jones 2	9/8/20	9/12/20	4.00	Waterwall tube leak on B corner/clean condenser
350	Plant X 2	9/8/20	9/11/20	3.02	Air Preheater bearing replacement
351	Harrington 2	9/9/20	9/9/20	0.13	Unit had a start up failure due to the turbine differential expansion readings not being with in the set limits.
352	Cunningham 2	9/10/20	9/15/20	4.76	Boiler Furnace Rear Water Wall Tube Leak
353	Maddox 2	9/10/20	9/10/20	0.13	Bleed Valves Won't Open
354	Nichols 1	9/14/20	9/17/20	3.12	Turbine #2 bearing oil seal leak
355	Tolk 1	9/14/20	12/3/20	80.00	Boiler Inspection, Capital: Synchronous Condenser Conversion ADDED: Swapping back over from Synchronous Condenser to couple back to Turbine
356	Maddox 2	9/16/20	9/16/20	0.26	Change Generator Air Filters
357	Cunningham 2	9/17/20	11/5/20	16.88	South Boiler Feed Pump Packing Leak
358	Harrington 2	9/17/20	9/17/20	0.21	Turbine tripped when the turbine thrust reached the 30 mil trip point.
359	Maddox 1	9/21/20	10/31/20	40.71	Boiler and Balance of Plant
360	Tolk 2	9/21/20	9/24/20	2.62	Division panel tube leak
361	Plant X 4	9/22/20	9/25/20	3.32	Boiler tube leak repairs
362	Maddox 2	9/22/20	9/24/20	2.50	5 Bearing Oil Drain Temperature High, Unit Tripped
363	Jones 4	9/22/20	9/22/20	0.70	Gas Chromatograph Calibration
364	Cunningham 3	9/22/20	9/23/20	0.41	Fix Gas Leak and Balance Shot
365	Cunningham 3	9/24/20	9/25/20	0.59	Balance shot to correct vibration issues
366	Cunningham 3	9/25/20	10/24/20	29.37	Field Breaker failed to close
367	Cunningham 3	9/25/20	9/25/20	0.06	Startup Failure: 24DT Volt/HZ Inv Time
368	Nichols 3	9/29/20	10/9/20	10.22	Field ground alarm came in while online.
369	Jones 3	9/29/20	9/29/20	0.67	Gas Calibration
370	Tolk 2	9/29/20	9/29/20	0.08	Center bushing on TK32 generator breaker, has low oil level. Once bushing is filled with oil, unit can come back online.
371	Nichols 1	9/30/20	10/1/20	1.17	Turbine governor drives fault

*Note: October 1, 2019 through December 31, 2019 information provided on prior pages.

¹ The outage duration in days may not precisely correspond to the start date and completion date due to the fact that outages may not require 24 hours each day.

² For Hale Wind, each instance is reflected in equivalent full outage days.

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Power Plant Maintenance Information

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

Line No.	Unit Name	Planned Outage Month
2020		
1	Harrington 3	October
2	Plant X 2	October
3	Plant X 1	October
4	Jones 4	October
5	Plant X 4	October
6	Jones 3	October
7	Nichols 1	October
8	Tolk 2	November
9	Cunningham 4	November
10	Cunningham 3	November
2021		
11	Tolk 1	January
12	Jones 1	January
13	Jones 2	February
14	Maddox 2	February
15	Jones 4	February
16	Cunningham 1	March
17	Plant X 4	March
18	Nichols 2	March
19	Jones 3	March
20	Harrington 1	April
21	Harrington 2	April
22	Tolk 1	April
23	Tolk 2	May
24	Jones 4	May
25	Cunningham 2	May
26	Jones 3	May
27	Maddox 1	May
28	Nichols 3	May
29	Jones 3	September
30	Tolk 1	September
31	Cunningham 2	September
32	Harrington 3	September
33	Jones 4	September
34	Tolk 2	September
35	Jones 4	November
36	Quay County 1	November
37	Jones 3	November
2022		
38	Jones 4	January
39	Tolk 1	February
40	Jones 4	March
41	Jones 3	March

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Power Plant Maintenance Information

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

Line No.	Unit Name	Planned Outage Month
42	Jones 2	March
43	Harrington 2	April
44	Plant X 4	April
45	Nichols 3	May
46	Plant X 4	May
47	Harrington 3	May
48	Nichols 2	May
49	Jones 4	May
50	Jones 3	May
51	Tolk 2	May
52	Jones 4	September
53	Jones 3	September
54	Plant X 3	September
55	Harrington 1	September
56	Nichols 3	September
57	Jones 4	November
58	Jones 3	November
59	Jones 4	December
2023		
60	Jones 4	January
61	Jones 3	February
62	Jones 1	March
63	Plant X 4	April
64	Harrington 3	April
65	Tolk 1	April
66	Harrington 1	April
67	Tolk 2	May
68	Nichols 3	May
69	Jones 4	May
70	Jones 3	May
71	Jones 4	September
72	Jones 3	September
73	Plant X 3	September
74	Harrington 2	September
75	Jones 4	November
76	Jones 3	November
77	Cunningham 4	November
2024		
78	Cunningham 4	January
79	Plant X 4	February
80	Harrington 1	April
81	Tolk 2	April
82	Harrington 2	May
83	Tolk 1	May

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Power Plant Maintenance Information

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

Line No.	Unit Name	Planned Outage Month
84	Nichols 3	May
85	Harrington 3	September
86	Quay County 1	October
87	Plant X 3	November
2025		
88	Harrington 1	March
89	Tolk 2	April
90	Harrington 2	April
91	Tolk 1	May
92	Nichols 3	May
93	Harrington 3	May
94	Maddox 2	September
95	Maddox 1	November
96	Cunningham 3	November

Southwestern Public Service Company

Customer Service Interruption Information

Line No.	Total Company			New Mexico Jurisdiction		
	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location
1	Transmission			Transmission		
2	2015			2015		
3	1/20/15 10:43 AM *	45	Levelland, TX	2/22/15 11:59 AM *	106	Carlsbad, NM
4	1/22/15 3:22 AM *	342	Plainview, TX	6/15/15 12:10 PM *	141	Carlsbad, NM
5	1/24/15 8:39 AM *	64	Levelland, TX	7/5/15 10:45 AM *	18	Carlsbad, NM
6	2/22/15 11:59 AM *	106	Carlsbad, NM	8/16/15 8:13 AM	124	Carlsbad, NM
7	2/25/15 12:25 PM	21	Lubbock, TX	10/8/15 7:46 PM *	391	Hobbs, NM
8	2/26/15 7:42 AM *	61	Levelland, TX, Lubbock, TX	10/20/15 12:32 PM *	132	Hobbs, NM
9	3/1/15 2:12 PM *	158	Lubbock, TX			
10	3/2/15 8:05 AM	73	Lubbock, TX			
11	3/4/15 10:24 AM *	201	Plainview, TX			
12	3/4/15 10:25 AM *	125	Plainview, TX			
13	4/18/15 5:33 PM *	101	Pampa, TX			
14	5/2/15 9:55 AM *	85	Dumas, TX			
15	5/3/15 7:59 PM *	63	Levelland, TX, Lubbock, TX			
16	5/19/15 8:33 AM *	316	Lubbock, TX			
17	5/27/15 3:24 PM *	103	Lubbock, TX			
18	6/13/15 7:25 PM *	271	Seminole, TX			
19	6/15/15 12:10 PM *	141	Carlsbad, NM			
20	6/18/15 6:03 PM *	46	Lubbock, TX			
21	7/5/15 10:45 AM *	18	Carlsbad, NM			
22	7/13/15 11:40 AM *	91	Plainview, TX			
23	7/20/15 6:16 PM	70	Seminole, TX			
24	8/9/15 10:15 AM	198	Amarillo, TX			
25	8/9/15 2:16 PM	169	Amarillo, TX			
26	8/16/15 8:13 AM	124	Carlsbad, NM			
27	8/21/15 9:08 PM *	1,540	Seminole, TX/Levelland TX			
28	8/22/15 2:29 AM *	1,212	Seminole, TX			
29	10/8/15 7:46 PM *	391	Hobbs, NM			
30	10/20/15 12:32 PM *	132	Hobbs, NM			
31	10/22/15 12:37 AM *	196	Canyon, TX			
32	11/16/15 6:50 PM *	244	Pampa, TX			
33	11/16/15 6:51 PM *	457	Pampa, TX			
34	11/26/15 3:28 PM *	35	Levelland, TX, Lubbock, TX			
35	11/27/15 5:28 AM *	772	Levelland, TX			
36	11/27/15 7:59 AM *	773	Levelland, TX, Plainview, TX			
37	11/27/15 8:42 AM *	359	Plainview, TX			
38	11/27/15 11:19 AM *	131	Levelland, TX, Lubbock, TX			
39	11/27/15 11:20 AM *	84	Levelland, TX			
40	12/9/15 1:40 AM *	85	Levelland, TX			
41	12/13/15 5:59 PM *	107	Perryton, TX			
42	12/26/15 6:46 PM *	134	Pampa, TX			
43	12/26/15 7:48 PM *	484	Levelland, TX			
44	12/26/15 7:55 PM *	477	Levelland, TX			
45	12/27/15 8:07 PM *	148	Pampa, TX			
46	2016			2016		
47	3/10/16 10:41 PM *	216	Pampa, TX	5/17/16 9:53 PM *	97	Carlsbad, NM
48	4/20/16 3:31 PM *	91	Borger, TX	6/21/16 12:08 AM *	64	Carlsbad, NM
49	4/26/16 4:08 PM *	29	Lubbock, TX	11/21/16 3:53 PM *	54	Roswell, NM
50	5/17/16 9:53 PM *	97	Carlsbad, NM	12/23/16 12:52 AM	84	Hobbs, NM
51	6/9/16 9:05 PM *	158	Hereford, TX			
52	6/11/16 7:49 PM *	139	Levelland, TX, Lubbock, TX			
53	6/11/16 8:20 PM *	541	Levelland, TX			
54	6/15/16 6:46 PM *	35	Levelland, TX, Lubbock, TX			
55	6/15/16 9:30 PM *	17	Levelland, TX			
56	6/21/16 12:08 AM *	64	Carlsbad, NM			
57	7/3/16 9:44 PM	62	Hereford, TX/Amarillo, TX/Canyon/TX			
58	7/6/16 7:23 PM *	73	Plainview, TX			
59	7/14/16 4:32 PM *	74	Lubbock, TX			
60	9/16/16 12:32 AM *	204	Lubbock, TX			
61	11/21/16 3:53 PM *	54	Roswell, NM			
62	12/23/16 12:52 AM	84	Hobbs, NM			
63	12/31/16 1:08 AM *	67	Borger, TX/Amarillo, TX			

Southwestern Public Service Company

Customer Service Interruption Information

Line No.	Total Company			New Mexico Jurisdiction		
	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location
64	2017			2017		
65	1/15/17 2:54 PM *	81	Amarillo, TX	2/23/17 1:11 PM *	623	Carlsbad, NM
66	1/15/17 3:34 PM *	1,936	Perryton, TX	3/23/17 7:05 PM *	254	Carlsbad, NM
67	1/15/17 9:06 PM *	138	Borger, TX	6/23/17 2:59 PM	18	Hobbs, NM
68	1/16/17 9:09 AM *	61	Borger, TX/Pampa, TX	8/15/17 5:30 PM *	38	Carlsbad, NM
69	1/16/17 11:00 AM *	145	Pampa, TX			
70	1/16/17 11:16 AM *	4,309	Pampa, TX			
71	1/16/17 11:56 AM *	25	Perryton, TX			
72	1/18/17 3:41 PM *	51	Pampa, TX			
73	1/20/17 1:51 PM *	44	Plainview, TX			
74	1/21/17 1:32 PM	81	Seminole, TX			
75	1/26/17 4:47 PM *	31	Pampa, TX			
76	2/23/17 1:11 PM *	623	Carlsbad, NM			
77	2/28/17 3:21 PM *	70	Amarillo, TX			
78	2/28/17 3:48 PM *	53	Levelland, TX			
79	3/23/17 7:05 PM *	254	Carlsbad, NM			
80	5/3/17 9:24 PM *	188	Plainview, TX			
81	5/3/17 10:18 PM *	159	Plainview, TX			
82	6/15/17 4:41 PM *	63	Levelland, TX			
83	6/21/17 10:36 PM	407	Dumas, TX/Borger, TX			
84	6/23/17 2:59 PM	18	Hobbs, NM			
85	7/1/17 1:42 AM *	48	Levelland, TX			
86	7/4/17 9:20 PM *	138	Plainview, TX			
87	7/26/17 2:34 PM	83	Amarillo, TX			
88	7/30/17 6:14 PM *	79	Levelland, TX			
89	8/15/17 5:30 PM *	38	Carlsbad, NM			
90	8/24/17 8:55 PM	22	Dumas, TX/Amarillo, TX			
91	9/6/17 1:05 AM *	190	Levelland, TX			
92	9/19/17 1:18 PM *	335	Perryton, TX			
93	9/19/17 5:27 PM *	82	Perryton, TX			
94	9/19/17 6:04 PM *	56	Perryton, TX			
95	10/6/17 9:27 PM	472	Amarillo, TX/Borger, TX			
96	10/8/17 1:33 AM *	85	Pampa, TX			
97	12/22/17 7:28 AM *	69	Lubbock, TX			
98	2018			2018		
99	3/23/18 3:39 PM *	193	Perryton, TX	6/3/18 9:01 PM *	41	Carlsbad, NM
100	4/30/18 1:36 AM	51	Plainview, TX			
101	5/30/18 8:53 PM *	57	Perryton, TX			
102	6/3/18 9:01 PM *	41	Carlsbad, NM			
103	6/22/18 9:22 PM *	240	Borger, TX			
104	6/22/18 9:34 PM	264	Pampa, TX			
105	6/24/18 11:50 PM *	678	Amarillo, TX			
106	6/25/18 12:52 AM *	183	Amarillo, TX			
107	7/13/18 4:01 PM *	68	Lubbock, TX			
108	7/29/18 10:42 AM	438	Pampa, TX			
109	8/17/18 11:40 PM	91	Seminole, TX			
110	9/1/18 5:45 PM	111	Seminole, TX			
111	11/3/18 7:00 AM *	104	Borger, TX			
112	2019			2019		
113	3/9/19 2:31 AM *	189	Plainview, TX	3/12/19 6:07 PM *	804	Carlsbad, NM/Roswell, NM
114	3/12/19 6:07 PM *	804	Carlsbad, NM/Roswell, NM	4/10/19 9:51 AM *	182	Carlsbad, NM
115	3/13/19 1:23 AM *	146	Levelland, TX	6/2/19 6:17 PM	89	Carlsbad, NM
116	3/13/19 1:58 PM *	299	Pampa, TX	6/10/19 10:11 AM *	17	Carlsbad, NM
117	3/29/19 9:21 PM *	65	Plainview, TX	11/26/19 1:10 PM * B	588	Carlsbad, NM
118	4/10/19 9:51 AM *	182	Carlsbad, NM	11/26/19 2:11 PM * B	527	Carlsbad, NM
119	5/23/19 6:31 PM *	52	Perryton, TX			
120	5/25/19 7:10 PM *	70	Plainview, TX			
121	6/2/19 6:17 PM	89	Carlsbad, NM			
122	6/10/19 10:11 AM *	17	Carlsbad, NM			
123	8/23/19 3:44 AM	128	Lubbock, TX			
124	10/13/19 11:30 PM B	349	Levelland, TX/Lubbock, TX/Plainview, TX			
125	11/5/19 2:46 PM B	75	Levelland, TX/Plainview, TX			
126	11/21/19 2:43 AM * B	20	Lubbock, TX			
127	11/26/19 1:10 PM * B	588	Carlsbad, NM			
128	11/26/19 2:11 PM * B	527	Carlsbad, NM			
129	11/28/19 4:03 AM B	132	Seminole, TX			
130	11/29/19 9:44 AM B	170	Seminole, TX			

Southwestern Public Service Company

Customer Service Interruption Information

Line No.	Total Company			New Mexico Jurisdiction		
	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location
131	2020			2020		
132	1/2/20 3:43 AM * B	587	Carlsbad, NM	1/2/20 3:43 AM * B	587	Carlsbad, NM
133	1/24/20 3:30 PM * B	90	Plainview, TX	2/16/20 11:47 AM * B	134	Carlsbad, NM
134	2/16/20 11:47 AM * B	134	Carlsbad, NM	3/8/20 8:03 AM * B	119	Clovis, NM
135	3/8/20 8:03 AM * B	119	Clovis, NM	3/8/20 10:49 AM * B	23	Clovis, NM
136	3/8/20 10:49 AM * B	23	Clovis, NM			
137	6/10/20 2:35 AM B	57	Pampa, TX			
138	8/10/20 3:46 AM B	60	Amarillo, TX/Canyon, TX			
139	8/12/20 6:34 PM B	422	Levelland, TX/Seminole, TX			
140	8/29/20 8:28 PM B	559	Amarillo, TX/Borger, TX			
141	Distribution			Distribution		
142	2015			2015		
143	3/22/15 12:13 PM	46	Amarillo, TX	3/25/15 10:46 AM	139	Hobbs, NM
144	3/22/15 8:51 PM	45	Borger, TX	6/13/15 12:25 PM *	227	Carlsbad, NM
145	3/25/15 10:46 AM	139	Hobbs, NM	7/20/15 3:43 PM *	266	Hobbs, NM/Carlsbad, NM
146	6/13/15 12:25 PM *	227	Carlsbad, NM	8/26/15 2:34 PM *	73	Hobbs, NM
147	7/2/15 4:10 AM *	141	Van Buren, TX	9/5/15 1:38 AM *	171	Hobbs, NM
148	7/2/15 6:49 AM *	26	Amarillo, TX	10/6/15 12:09 PM *	524	Carlsbad, NM
149	7/15/15 2:19 PM *	152	Borger, TX	11/8/15 12:27 PM *	180	Carlsbad, NM
150	7/20/15 3:43 PM *	266	Hobbs, NM/Carlsbad, NM	11/16/15 3:30 PM *	96	Carlsbad, NM
151	7/23/15 11:27 AM *	103	Borger, TX	11/26/15 9:16 PM *	384	Clovis, NM
152	7/28/15 10:44 PM *	155	Borger, TX	12/2/15 6:46 AM *	199	Carlsbad, NM
153	8/21/15 10:57 PM *	279	Seminole, TX			
154	8/26/15 2:34 PM *	73	Hobbs, NM			
155	8/29/15 2:46 AM *	174	Borger, TX			
156	9/5/15 1:38 AM *	171	Hobbs, NM			
157	9/13/15 3:54 AM *	60	Plainview, TX			
158	10/6/15 12:09 PM *	524	Carlsbad, NM			
159	11/8/15 12:27 PM *	180	Carlsbad, NM			
160	11/16/15 3:30 PM *	96	Carlsbad, NM			
161	11/17/15 6:23 PM *	39	Hereford, TX			
162	11/26/15 9:16 PM *	384	Clovis, NM			
163	11/30/15 4:45 AM *	451	Levelland, TX			
164	11/30/15 5:26 AM *	416	Levelland, TX			
165	12/2/15 6:46 AM *	199	Carlsbad, NM			
166	2016			2016		
167	1/12/16 12:11 PM *	91	Hobbs, NM/Carlsbad, NM	1/12/16 12:11 PM *	91	Hobbs, NM/Carlsbad, NM
168	2/28/16 8:10 AM *	566	Carlsbad, NM	2/28/16 8:10 AM *	566	Carlsbad, NM
169	3/1/16 3:13 AM *	67	Carlsbad, NM	3/1/16 3:13 AM *	67	Carlsbad, NM
170	3/8/16 3:54 PM *	156	Clovis, NM	3/8/16 3:54 PM *	156	Clovis, NM
171	3/12/16 8:48 PM *	84	Amarillo, TX	8/8/16 3:21 PM *	62	Hobbs, NM
172	4/1/16 1:18 PM *	40	Canyon, TX	8/17/16 3:39 PM *	293	Hobbs, NM
173	4/8/16 11:03 AM *	48	Borger, TX	9/16/16 3:36 PM *	144	Hobbs, NM
174	5/16/16 9:07 AM *	50	Borger, TX	12/19/16 5:58 AM *	1,148	Hobbs, NM
175	5/28/16 8:03 PM *	37	Amarillo, TX			
176	6/11/16 10:48 PM *	196	Levelland, TX			
177	6/15/16 8:32 AM *	46	Plainview, TX			
178	7/14/16 10:39 PM *	195	Levelland, TX			
179	8/8/16 3:21 PM *	62	Hobbs, NM			
180	8/17/16 3:39 PM *	293	Hobbs, NM			
181	9/6/16 5:45 PM *	120	Hereford, TX			
182	9/15/16 9:06 AM *	125	Plainview, TX			
183	9/16/16 3:36 PM *	144	Hobbs, NM			
184	9/22/16 3:54 PM *	351	Lubbock, TX			
185	12/19/16 5:58 AM *	1,148	Hobbs, NM			
186	2017			2017		
187	2/28/17 2:29 PM *	26	Lubbock, TX	3/23/17 3:45 PM *	187	Carlsbad, NM
188	3/23/17 3:45 PM *	187	Carlsbad, NM	3/24/17 6:26 AM *	91	Carlsbad, NM
189	3/24/17 6:26 AM *	91	Carlsbad, NM			

Southwestern Public Service Company

Customer Service Interruption Information

Line No.	Total Company			New Mexico Jurisdiction		
	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location	Occurrence (Central Prevailing Time)	Duration (Minutes)	Geographical Location
190	2018			2018		
191	1/16/18 7:04 PM *	1,365	Pampa, TX	1/24/18 10:02 AM *	59	Carlsbad, NM
192	1/24/18 10:02 AM *	59	Carlsbad, NM			
193	2/20/18 8:33 AM *	239	Seminole, TX			
194	5/7/18 8:10 PM *	197	Perryton, TX			
195	5/7/18 10:03 PM *	51	Perryton, TX			
196	5/7/18 10:19 PM *	31	Perryton, TX			
197	5/24/18 9:25 PM	38	Borger/Pampa, TX			
198	6/20/18 4:26 PM *	151	Seminole, TX			
199	6/22/18 10:07 PM *	236	Pampa, TX			
200	6/27/18 12:12 PM *	143	Pampa, TX			
201	2019			2019		
202	3/13/19 12:13 PM	306	Roswell, NM	3/13/19 12:13 PM	306	Roswell, NM
203	3/28/19 3:48 AM *	108	Plainview, TX	6/3/19 7:01 AM *	147	Carlsbad, NM
204	6/1/19 11:06 PM *	216	Plainview, TX	6/14/19 5:03 PM	76	Carlsbad, NM
205	6/3/19 7:01 AM *	147	Carlsbad, NM	6/19/19 12:37 PM	77	Carlsbad, NM
206	6/14/19 5:03 PM	76	Carlsbad, NM	6/21/19 12:39 AM	94	Carlsbad, NM/Hobbs, NM
207	6/18/19 10:14 PM *	353	Pampa, TX	10/26/19 8:47 AM * B	65	Carlsbad, NM
208	6/19/19 9:19 AM *	244	Levelland, TX	11/27/19 12:52 AM B	79	Carlsbad, NM
209	6/19/19 12:37 PM	77	Carlsbad, NM			
210	6/21/19 12:39 AM	94	Carlsbad, NM/Hobbs, NM			
211	7/26/19 4:56 AM	284	Seminole, TX			
212	10/26/19 8:47 AM * B	65	Carlsbad, NM			
213	11/27/19 12:52 AM B	79	Carlsbad, NM			
214	2020			2020		
215	4/12/20 11:44 AM * B	177	Lubbock, TX	7/9/20 3:51 PM * B	115	Carlsbad, NM
216	4/18/20 7:11 AM * B	187	Lubbock, TX	7/9/20 4:24 PM B	99	Carlsbad, NM
217	5/15/20 7:21 PM * B	112	Lubbock, TX	8/19/20 8:29 PM * B	650	Carlsbad, NM
218	5/23/20 7:12 PM * B	121	Levelland, TX	8/19/20 8:30 PM * B	645	Carlsbad, NM
219	7/9/20 3:51 PM * B	115	Carlsbad, NM			
220	7/9/20 4:24 PM B	99	Carlsbad, NM			
221	7/14/20 3:32 PM B	118	Amarillo, TX/Borger, TX/Pampa, TX			
222	7/27/20 4:14 PM B	83	Borger, TX			
223	8/12/20 5:55 PM * B	111	Borger, TX			
224	8/19/20 8:29 PM * B	650	Carlsbad, NM			
225	8/19/20 8:30 PM * B	645	Carlsbad, NM			

* 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 is 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⁾
1	(c) Four Years Prior to the Test Year Period						
2	2015 Year End	124.2	1.23	100.7	132.9	1.26	105.6
3	2016 Year End	101.8	1.10	92.7	118.3	1.17	101.5
4	2017 Year End	118.3	1.11	107.0	90.3	0.94	96.1
5	2018 Year End	116.3	1.07	108.9	106.2	1.03	102.7
6	2019 Year End	121.0	1.10	110.5	136.6	1.20	114.0
7	(d) Twelve Months of Test Year Period						
8	October 2019	13.9	0.13	110.9	17.1	0.21	79.8
9	November 2019	9.4	0.12	81.0	6.1	0.06	99.9
10	December 2019	3.7	0.03	108.5	1.3	0.01	103.5
11	January 2020	4.0	0.04	93.7	2.7	0.03	86.0
12	February 2020	2.8	0.04	78.0	2.9	0.03	87.0
13	March 2020	5.2	0.05	96.1	6.2	0.08	80.5
14	April 2020	5.0	0.07	73.0	4.0	0.05	81.2
15	May 2020	8.9	0.10	93.1	7.9	0.10	82.7
16	June 2020	19.0	0.15	125.8	16.6	0.10	160.5
17	July 2020	19.7	0.17	116.7	23.0	0.16	146.6
18	August 2020	14.3	0.12	123.3	14.5	0.09	165.2
19	September 2020	5.2	0.06	86.2	7.8	0.07	108.7
20	Test Year Period - Twelve Months Ended 9/30/2020 ⁽⁴⁾	111.1	1.07	104.0	110.1	0.99	110.7
21	(e) Five Years Beyond the Base Period						
22	Forecast 2020 YE ⁽⁵⁾	108.1	1.02	106.0	113.7	0.97	116.7
23	2021 ⁽⁶⁾	-	-	-	-	-	-
24	2022 ⁽⁶⁾	-	-	-	-	-	-
25	2023 ⁽⁶⁾	-	-	-	-	-	-
26	2024 ⁽⁶⁾	-	-	-	-	-	-
27	2025 ⁽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⁾ 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⁾ 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⁾ 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 2020 forecast is based on using the current year-to-date September results added to the previous 5 year average October 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), (d), (f) Total System

Line No.		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	Installed Capacity (MW)	4,529	4,487	4,487	4,485	4,472	4,335	4,333	4,333	4,070	3,959	3,959
2	Thermal Firm Purchases (MW)	1,228	1,172	1,177	1,183	787	792	792	787	787	563	563
3	Renewable Firm Purchases (MW)	120	163	286	303	453	478	478	478	478	478	465
4	Net Capacity (MW)	5,877	5,822	5,950	5,971	5,712	5,605	5,603	5,598	5,335	5,000	4,987
5	Capacity Unavailable (MW)	534	483	75	48	565	562	0	0	0	0	0
6	Total Net Capacity with Renewables (MW)	5,343	5,339	5,875	5,923	5,147	5,043	5,603	5,598	5,335	5,000	4,987
7	Total Net Capacity without Renewables (MW)	5,223	5,176	5,589	5,620	4,694	4,565	5,125	5,120	4,857	4,522	4,522
8	Peak Demand (MW)	4,694	4,836	4,374	4,648	4,261	4,118	4,158	4,168	4,266	4,349	4,413
9	Capacity Sales (MW)	0	0	0	0	-400	-531	0	0	0	0	0
10	SPS Reserve Margin with Renewables (%)	13.83%	10.40%	34.32%	27.43%	11.41%	9.57%	34.75%	34.31%	25.06%	14.97%	13.01%
11	SPS Reserve Margin without Renewables (%)	11.27%	7.03%	27.78%	20.91%	0.77%	-2.04%	23.26%	22.84%	13.85%	3.98%	2.47%

(e) Twelve months of the Test Year Period

	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20
12 Installed Capacity (MW)	4,374	4,374	4,374	4,374	4,374	4,374	4,374	4,374	4,335	4,335	4,335	4,335
13 Thermal Firm Purchases (MW)	833	833	833	833	833	833	833	833	792	792	792	792
14 Renewable Firm Purchases (MW)	453	453	453	453	453	453	478	478	478	478	478	478
15 Net Capacity (MW)	5,660	5,660	5,660	5,660	5,660	5,660	5,685	5,685	5,605	5,605	5,605	5,605
16 Capacity Unavailable (MW)	1,502	1,749	1,062	1,290	899	2,358	1,242	1,455	435	477	562	256
17 Total Net Capacity with Renewables (MW)	4,158	3,911	4,598	4,370	4,761	3,302	4,443	4,230	5,170	5,128	5,043	5,349
18 Total Net Capacity without Renewables (MW)	3,705	3,458	4,145	3,917	4,308	2,849	3,965	3,752	4,692	4,650	4,565	4,871
19 Peak Demand (MW)	3,430	3,413	3,458	3,406	3,412	3,093	3,053	3,367	3,746	4,023	4,118	3,829
20 Capacity Sales (MW)	-400	-400	-400	-400	-400	-400	-414	-414	-531	-531	-531	-531
21 SPS Reserve Margin with Renewables (%)	9.56%	2.87%	21.40%	16.56%	27.81%	-6.18%	31.97%	13.34%	23.84%	14.27%	9.57%	25.83%
22 SPS Reserve Margin without Renewables (%)	-3.64%	-10.40%	8.30%	3.26%	14.54%	-20.82%	16.31%	-0.86%	11.08%	2.39%	-2.04%	13.35%

For Informational Purposes

23	Unserved Contractual Obligation (MW)	0	0	0	0	0	0	0	0	172	172	0
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(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 12/31/2015	Year Ended 12/31/2016	Year Ended 12/31/2017	Year Ended 12/31/2018	Year Ended 12/31/2019
1	Cost of Fuel (\$)					
2	Coal Cost	\$ 222,489,616	\$ 198,989,690	\$ 178,575,514	\$ 143,141,708	\$ 115,567,805
3	Gas Cost	147,590,411	136,458,707	121,077,493	160,755,274	93,080,509
4	Oil Cost	176,631	200,682	151,035	623,649	88,807
5	Cost of Fuel by Type					
6	Coal (\$ /MMBtu)	\$ 1.77	\$ 1.77	\$ 1.75	\$ 1.59	\$ 1.70
7	Gas (\$ /MMBtu)	3.12	2.81	3.39	2.24	1.14
8	Oil (\$ /MMBtu)	22.72	16.00	15.96	15.03	14.18
9	Generation by Type (MWh)					
10	Coal	12,125,104	10,711,953	9,776,148	8,535,946	6,476,992
11	Gas	3,950,471	4,300,907	3,079,842	6,419,303	7,186,857
12	Oil	394	337	196	169	231
13	Total Fuel					
14	Total Fuel Cost (\$)	\$ 370,256,659	\$ 335,649,079	\$ 299,804,042	\$ 304,520,631	\$ 208,737,121
15	Cost (\$ /MMBtu)	\$ 2.14	\$ 2.08	\$ 2.18	\$ 1.88	\$ 1.40
16	Generation (MWh)	16,075,969	15,013,197	12,856,185	14,955,418	13,664,080

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 2019	November 2019	December 2019	January 2020	February 2020	March 2020
1	Cost of Fuel (\$)						
2	Coal Cost	\$ 7,859,909	\$ 11,251,568	\$ 9,896,605	\$ 4,668,741	\$ 5,827,148	\$ 4,007,860
3	Gas Cost	7,935,530	7,360,304	9,382,459	8,835,428	7,261,525	4,581,200
4	Oil Cost	(1,713)	20,352	481	368	37,220	-
5	Cost of Fuel by Type						
6	Coal (\$ /MMBtu)	\$ 1.70	\$ 1.71	\$ 1.77	\$ 1.30	\$ 2.18	\$ 1.68
7	Gas (\$ /MMBtu)	1.53	1.46	1.52	1.16	0.92	0.64
8	Oil (\$ /MMBtu)	(10.28)	21.31	18.79	10.23	18.79	-
9	Generation by Type (MWh)						
10	Coal	426,401	618,525	513,995	315,649	298,928	212,196
11	Gas	470,227	432,528	525,550	667,436	694,699	626,306
12	Oil	17	22	-	76	44	-
13	Total Fuel						
14	Total Fuel Cost (\$)	\$ 15,793,726	\$ 18,632,224	\$ 19,279,545	\$ 13,504,537	\$ 13,125,893	\$ 8,589,060
15	Cost (\$ /MMBtu)	\$ 1.61	\$ 1.60	\$ 1.64	\$ 1.20	\$ 1.24	\$ 0.90
16	Generation (MWh)	896,645	1,051,075	1,039,545	983,161	993,671	838,502

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 2020	May 2020	June 2020	July 2020	August 2020	September 2020	Total Test Year Period
1	<u>Cost of Fuel (\$)</u>							
2	Coal Cost	\$ 3,745,469	\$ 7,238,463	\$ 7,329,487	\$ 14,686,282	\$ 15,108,357	\$ 7,829,793	\$ 99,449,682
3	Gas Cost	4,426,193	7,751,864	10,666,579	16,175,104	14,571,318	11,891,503	110,839,005
4	Oil Cost	-	7,424	7,096	253	253	172	71,907
5	<u>Cost of Fuel by Type</u>							
6	Coal (\$ /MMBtu)	\$ 1.72	\$ 1.74	\$ 1.70	\$ 1.71	\$ 1.69	\$ 1.64	\$ 1.64
7	Gas (\$ /MMBtu)	0.70	1.81	1.73	1.58	1.60	1.78	2.10
8	Oil (\$ /MMBtu)	-	18.79	18.79	18.79	18.79	18.79	17.67
9	<u>Generation by Type (MWh)</u>							
10	Coal	187,194	403,751	388,100	793,677	849,459	430,665	5,438,540
11	Gas	548,398	363,315	519,908	872,434	779,221	590,390	7,090,412
12	Oil	-	21	20	-	-	21	220
13	<u>Total Fuel</u>							
14	Total Fuel Cost (\$)	\$ 8,171,662	\$ 14,997,751	\$ 18,003,162	\$ 30,861,639	\$ 29,679,928	\$ 19,721,467	\$ 210,360,595
15	Cost (\$ /MMBtu)	\$ 0.96	\$ 1.78	\$ 1.72	\$ 1.64	\$ 1.64	\$ 1.72	\$ 1.50
16	Generation (MWh)	735,592	767,087	908,028	1,666,111	1,628,680	1,021,076	12,529,172

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

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