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FERC FORM 1 SUPPLEMENT

ANNUAL REPORT

RECEIVED
4/29/22 MB
ARK PUBLIC SERVICE COMM
AUDIT SECTION

OF THE

NAME **SOUTHWESTERN ELECTRIC POWER COMPANY (SWEPCO)**
(Here show in full the exact corporate, firm or individual name of the respondent)

LOCATED AT **101 West Township, Fayetteville, Arkansas 72701**
(Here give the location, including street and number of the respondent's main business office within the State)

COMPANY # **21**
(Here give the APSC-assigned company number)

TO THE

ARKANSAS PUBLIC SERVICE COMMISSION

COVERING ALL OPERATIONS

FOR THE YEAR ENDING DECEMBER 31, 2021

In order to satisfy the filing requirements of the Arkansas Public Service Commission, these supplemental schedules will be filed annually with a copy of the Federal Energy Regulatory Commission Form 1. One complete copy will be filed with each, the Utilities Division and the Tax Division of the Arkansas Public Service Commission on or before March 31 immediately following the year being reported.

LETTER OF TRANSMITTAL

To: Arkansas Public Service Commission
Post Office Box 400
Little Rock, Arkansas 72203-0400

Submitted herewith is the annual report covering the operation of Southwestern Electric Power Company (Company) of 101 West Township, Fayetteville, Arkansas 72701 (Location) for the year ending December 31, 2021. This report is submitted in accordance with Section 51 of Act 324 of the 1935 Acts of Arkansas.
The following report has been carefully examined by me, and I have executed the verification given below.

Thos P. Brill
(Signature)

Vice President · Regulatory & Finance
(Title)

VERIFICATION

STATE OF Louisiana)
) ss.
COUNTY OF Caddo)

I, the undersigned, Thomas P. Brill V.P. · Regulatory & Finance of the (Company)
(Name and Title)
been prepared under my direction from the original books, papers, and records of said utility: that I have carefully examined the same, and declare the same a complete and correct statement of the business and affairs of said utility in respect to each and every matter and thing set forth, to the best of my knowledge, information, and belief; and I further say that no deductions were made before stating the gross revenues, and that accounts and figures contained in the foregoing statements embrace all of the financial transactions for the period in this report.

Thos P. Brill
(Signature)

Subscribed and sworn to before me this 28th
day of April, 2022
My Commission Expires upon my death

SHANTELL Y. PARKER
Notary Public
State of Louisiana
Bossier Parish
Notary ID # 133165
My Commission is for Life

Shantell Parker
(Signature of Notary)

GENERAL INSTRUCTIONS, DEFINITIONS, ETC.

1. Two (2) copies of this report, properly filled out and verified shall be filed with the Utility Division of the Arkansas Public Service Commission, Little Rock, Arkansas, on or before the 31st day of March following the close of the calendar year for which the report is made.

2. This form of annual report is prepared in conformity with the Uniform System of Accounts for Public Utilities prescribed by the Public Service Commission and all accounting words and phrases are to be interpreted in accordance with the said classification.

3. The word "respondent" in the following inquiries means the person, firm, association or company in whose behalf the report is made.

4. Instructions should be carefully observed, and each question should be answered fully and accurately. Where the word "none" truly and completely states the fact, it should be given to any particular inquiry.

5. If any schedule does not apply to the respondent, such fact should be shown on the schedule by the words "not applicable."

6. Except in cases where they are especially authorized, cancellations, arbitrary check marks, and the like must not be used either as partial or entire answers to inquiries.

7. Reports should be made out by means which result in a permanent record. The copy in all cases shall be made out in permanent black ink or with permanent black typewriter ribbon. Entries of a contrary or opposite character (such as decreases reported in a column providing for both increases and decreases) should be shown in red ink or enclosed in parentheses.

8. This report will be scanned in. Please bind with clips only.

9. Answers to inquiries contained in the following forms must be complete. No answer will be accepted as satisfactory which attempts by reference to any paper, document, or return of previous years or other reports, other than the present report, to make the paper or document or portion thereof thus referred to a part of the answer without setting it out. Each report must be complete within itself.

10. In cases where the schedules provided in this report do not contain sufficient space or the information called for, or if it is otherwise necessary or desirable, additional statements or schedules may be inserted for the purpose of further explanation of accounts or schedules. They should be legibly made on paper of durable quality and should conform with this form in size of page and width of margin. This also applies to all special or unusual entries not provided for in this form. Where information called for herein is not given, state fully the reason for its omission.

11. Each respondent is required to send in connection with its report to this Commission's Utilities Division, one (1) copy of its latest annual report to stockholders.

12. Schedules supporting the revenue accounts and furnishing statistics should be so arranged as to effect a division in the operations as to those inside and outside the state.

13. Answers to all inquiries may be in even dollar figures, with cents omitted and with agreeing totals.

14. Each respondent should make its report in duplicate, retaining one copy for its files for reference, in case correspondence with regard to such report becomes necessary. For this reason, several copies of the accompanying forms are sent to each utility company concerned.

REPORT TO ARKANSAS PUBLIC SERVICE COMMISSION

Give the name, title, office address, telephone number and e-mail address of the person to whom any correspondence concerning this report should be addressed:

Name Chris Martel **Title** Regulatory Consultant

Address 428 Travis Street, Shreveport, LA 71101

Telephone Number 318-673-3063

E-Mail cnmartel@aep.com

Give the name, address, telephone number and e-mail address of the resident agent:

Name R.T. Hopwood **Telephone Number** 479-973-2500

Address 101 West Township, Fayetteville, Arkansas 72703-2823

E-Mail rthopwood@aep.com

REPORT TO ARKANSAS PUBLIC SERVICE COMMISSION

IDENTITY OF RESPONDENT

1. Give the exact name by which respondent was known in law at the close of the year. Use the initial word "The" only when it is part of the name:

   SOUTHWESTERN ELECTRIC POWER COMPANY (SWEPCO)

2. Give the location (including street and number) of (a) the main Arkansas business office of respondent at the close of the year, and (b) if respondent is a foreign corporation, the main business office if not in this state:

   (a) 101 West Township
   Fayetteville, Arkansas 72701

   (b) 428 Travis Street
   Shreveport, Louisiana 71101

3. Indicate by an **x** in the proper space (a) the type of service rendered, and (b) the type of organization under which respondent was operating at the end of the year.

   (a) (X) Electric, ( ) Gas, ( ) Water, ( ) Telephone, ( ) Other

   (b) ( ) Proprietorship, ( ) Partnership, ( ) Joint Stock Association,
   (X) Corporation, ( ) Other (describe below):

4. If respondent is not a corporation, give (a) date of organization, and (b) name of the proprietor or the names of all partners, and the extent of their respective interest at the close of the year.

   (a) NA

   (b)

5. If a corporation, indicate (a) in which state respondent is incorporated, (b) date of incorporation, and (c) designation of the general law under which respondent was incorporated, or, if under special charter, the date of passage of the act:

   (a) State of Delaware

   (b) June 29, 1912

   (c) As act providing a general corporation law appoved March 10, 1899

6. State whether or not respondent during the year conducted any part of its business within the State of Arkansas under a name or names other than that shown in response to inquiry No. 1 above, and, if so, give full particulars:

   Respondent conducted business only under name shown in inquiry No. 1 above.

7. State whether respondent is a consolidated or merged company. If so, (a) give date and authority for each consolidation or merger, (b) name all constituent and merged companies, and (c) give like particulars as required of the respondent in inquiry No. 5 above:

REPORT TO ARKANSAS PUBLIC SERVICE COMMISSION

(a) Respondent is not a consolidated or merged company

(b)

(c)

8. State whether respondent is a reorganized company. If so, give (a) name of original corporation, (b) date of reorganization, (c) reference to the laws under which it was reorganized and (d) state the occasion of the reorganization, whether because of foreclosure of mortgage or otherwise, giving full particulars.

(a) Respondent is not a reorganized company.

(b)

(c)

(d)

9. Was respondent subject to a receivership or other trust at any time during the year? No
If so, state:

(a) Name of receiver or trustee: _____

(b) Name of beneficiary or beneficiaries for whom trust was maintained:

_____

(c) Purpose of the trust: _____

(d) Give (1) date of creation of receivership or other trust, and (2) date of acquisition of respondent: (1) _____ (2) _____

10. Did the respondent act in any of the capacities listed in Paragraph (a) below during the past year? Yes If so,

(a) Indicate the applicable one by an **X** in the proper space:

(X) Guarantor, ( ) Surety, ( ) Principal--obligor to a surety contract,
( ) Principal--obligor to a guaranty contract.

(b) Insert a statement showing the character, extent, and terms of the primary agreement or obligation, including (1) names of all parties involved, (2) extent of liability of respondent, whether contingent or actual, (3) extent of liabilities of the other parties, whether contingent or actual, and (4) security taken or offered by respondent.

As part of the process to receive a renewal of a Texas Railroad Commission permit for lignite mining, SWEPCo provides guarantees of mine reclamation of $155 million. Since SWEPCo uses self-bonding, the guarantee commits SWEPCO to complete the reclamation, in the event, Sabine does not complete the work. This guarantee ends upon completion of reclamation. The mine end-of-life has been adjusted to March 2023, in order to align with the announced closure of the Pirkey Power Plant. Reclamation is expected to be complete by 2037 at an estimated cost of $104 million. Actual reclamation costs could vary due to inflation and scope changes to the mine reclamation. SWEPCo recovers these costs through its fuel clauses. As of December 31, 2021, SWEPCo has recorded $94 million of mine reclamation costs in Asset Retirement Obligations and has collected $85 million through a rider for reclamation costs. The remaining $10 million is recorded in Deferred Charges and Other Noncurrent Assets on SWEPCo's balance sheets. Sabine charges all of its costs to its only customer, SWEPCO, which recovers these costs through its fuel clauses.

DIRECTORS AND COMPENSATION

Give the name and office addresses of all directors at the close of the year, and dates of beginning and expiration of terms. Chairman (*) and Secretary (**) marked by asterisks.

Item No.	Name of Director	Office Address	Date of Term		Compensation
			Beginning	End	
	Nicholas K. Akins	1 Riverside Plaza	4/1/21	5/1/22	$0
	Lisa M. Barton	Columbus, OH 43215	4/1/21	5/1/22	$0
	Paul Chodak		4/1/21	5/1/22	$0
	David M. Feinberg		4/1/21	5/1/22	$0
	Charles R. Patton		4/1/21	5/1/22	$0
	Therace M. Risch		7/3/21	5/1/22	$0
	Julia A. Sloat		4/1/21	5/1/22	$0
	Toby L. Thomas		7/31/21	5/1/22	$0
	Malcolm A. Smoak	428 Travis Street Shreveport, LA 71101	5/2/21	5/1/22	$0

PRINCIPAL OFFICERS AND KEY MANAGEMENT PERSONNEL

Give the title of the principal officers, managers and key personnel, the names and office addresses of persons holding such positions at the close of the year, and the annual salary of each.

Item No.	Title	Name of person holding office at close of year	Office Address	Annual Salary
	Chair of the Board and Chief Executive Officer	Nicholas K. Akins	Columbus, Ohio	$1,515,808
	Executive Vice President and Chief Financial Officer	Julia A. Sloat		$602,308
	Executive Vice President and Chief Operating Officer	Lisa M. Barton		$803,077
	Executive Vice President, General Counsel and Secretary	David M. Feinberg		$696,669
	Executive Vice President, Portfolio Optimization	Charles E. Zebula		$579,219
	TOTAL			$ 4,197,081

ELECTRIC OPERATING REVENUES (Account 400) - ARKANSAS ONLY

1. Report below operating revenue for each prescribed account, and manufactured gas revenues in total.
2. Report number of customers, columns (g) and (h), on the basis of meters, in addition to the number of flat rate accounts, except that where separate meter readings are added for billing purposes, one customer should be counted for each group of meters added. The average number of customers means the average of twelve figures at the close of each month.
3. If previous year (columns (d), (f), and (h)), are not derived from previously reported figures, explain any inconsistencies in a footnote.
4. Commercial and Industrial Sales, Account 442, may be classified according to the basis of classification (Small or Commercial, and Large or Industrial) regularly used by the respondent if such basis of classification is not generally greater than 1000Kw of demand. (See Account 442 of the Uniform System of Accounts. Explain basis of classification in a footnote.)
5. Include unmetered sales. Provide details of such sales in a footnote.
6. This Commission requires a reporting by Kwh rather than Mwh.

Line No.	Acct. No.	Title of Account	OPERATING REVENUES		KILOWATT HOURS SOLD		AVG. NO. OF CUSTOMERS PER MONTH	
			Amount for Year	Amount for Previous Year	Amount for Year	Amount for Previous Year	Number for Year	Number for Previous Year
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1		Sales of Electricity						
2	440	Residential Sales	$ 183,183,343.89	$ 114,004,391.53	1,163,090,263	1,113,912,221	104,853	102,627
3	442	Commercial & Industrial Sales						
4		Small (or Commercial) (See Instr. 4)	$ 160,972,310	$ 96,784,165	1,268,850,565	1,201,808,006	18,417	18,009
5		Large (or Industrial) (See Instr. 4)	$ 121,575,019	$ 72,301,998	1,080,543,014	1,116,463,653	628	640
6	444	Public Street & Highway Lighting	$ 2,382,615	$ 1,794,252	10,291,301	11,158,655	226	197
7	445	Other Sales to Public Authorities						
8	446	Sales to Railroads and Railways						
9	448	Interdepartmental Sales						
10		TOTAL Sales to Ultimate Consumers	$ 468,113,289	$ 284,884,806	3,522,775,143	3,443,342,535	124,124	121,474
11	447	Sales for Resale	$ 164,500,278	$ 78,461,018	1,941,021,215	1,852,284,500	3	3
12		TOTAL Sales of Electricity	$ 632,613,567	$ 363,345,824	5,463,796,358	5,295,627,035	124,127	121,477
13	449.1	(Less) Provision for Rate Refund	$ (2,990,755)	$ (5,559,428)				
14		TOTAL Rev. Net of Prov. for Refunds	$ 629,622,811	$ 357,786,396	5,463,796,358	5,295,627,035	124,127	121,477
15		Other Operating Revenues						
16	450	Forfeited Discounts	$ 1,254,477	$ 1,354,199				
17	451	Miscellaneous Service Revenues	$ 247,506	$ 200,961				
18	453	Sales of Water and Water Power						
19	454	Rent from Electric Property	$ 1,747,278	$ 1,349,266				
20	455	Interdepartmental Rents						
21	456	Other Electric Revenues	$ 32,429,175	$ 28,780,990				
22								
23								
24								
25								
26								
27		Total Other Operating Revenues	$ 35,678,437	$ 31,685,416				
28		Total Electric Operating Revenues	$ 665,301,248	$ 389,471,812				

Gross Assessable Revenues

Line 28 Total From this Schedule	$ 665,301,248.07
Add Back Line 13 Amt. (Acct. 449.1, Provision For Rate Refunds)	$ 2,990,755.41
Less: Credit For Rate Refunds Paid This Reporting Year	
Less: Sales For Resale	$ (164,500,278.12)
Total Gross Assessable Revenues	$ 503,791,725.36

REPORT TO ARKANSAS PUBLIC SERVICE COMMISSION	YEAR 2021

FOOTNOTES

Line 4 - Supp. E - 1 - Basis for classification of Commercial Sales-

Commercial Sales include service to customers engaged in selling, warehousing, distributing commodities, rendering professional service, performing social services, bank buildings, office buildings, hospitals and similar kinds of establishments.

Line 5 - Supp. E - 1 - Basis for classification of Industrial Sales-

Industrial Sales include service to customers engaged in manufacturing or processing work.

REPORT TO ARKANSAS PUBLIC SERVICE COMMISSION YEAR 2021

UTILITY PLANT -- SYSTEM	Beginning Balance	Additions	Retirements	Adjustments	Balance at end of Year
Plant in Service (Classified)	9,512,991,640.81	470,662,936.64	(415,527,380.06)	(1,510,614.56)	9,566,616,582.83
Property Under Capital Lease	80,071,084.54	32,820,603.99	(3,183,678.28)	9,543.83	109,717,554.08
Plant Purchased or Sold	64,005.00	-	-	-	64,005.00
Experimental Plant Unclassified	-	-	-	-	-
Plant Leased to Others	-	-	-	-	-
Plant Held for Future Use	1,044,101.05	-	-	-	1,044,101.05
Completed Construction Not Classified	304,771,788.87	263,211,542.88	-	-	567,983,331.75
Construction Work in Progress	228,506,731.37	13,003,943.66	-	-	241,510,675.03
Plant Acquisition Adjustments	18,043,976.22	-	-	-	18,043,976.22
Sub-Total	**10,145,493,327.86**	**779,699,027.17**	**(418,711,058.34)**	**(1,501,070.73)**	**10,504,980,225.96**
Other Plant Adjustments	-	-	-	-	-
Other Utlity Plant (itemize)	-	-	-	-	-
Nuclear Fuel (in Process of Refinement, etc.)	-	-	-	-	-
Total	**10,145,493,327.86**	**779,699,027.17**	**(418,711,058.34)**	**(1,501,070.73)**	**10,504,980,225.96**

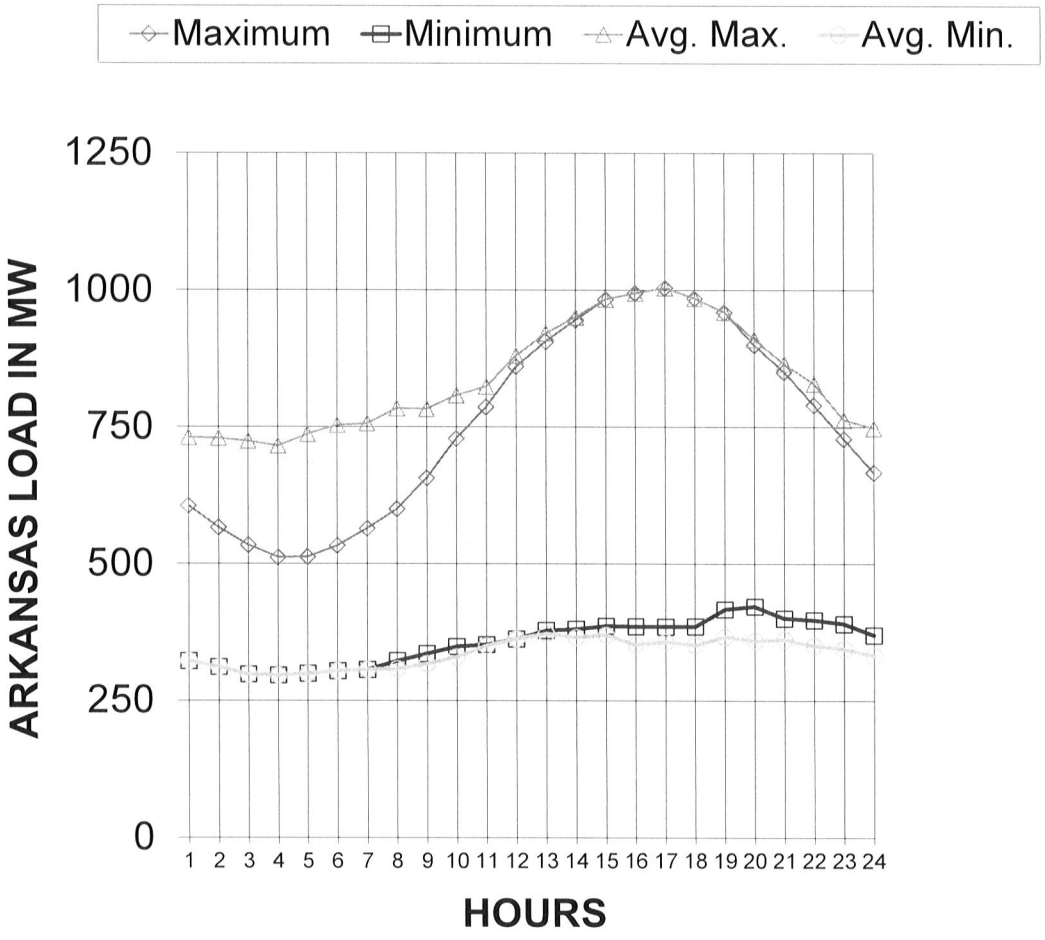
UTILITY PLANT -- ARKANSAS	Beginning Balance	Additions	Retirements	Adjustments	Balance at end of Year
Plant in Service (Classified)	3,244,038,265.58	73,937,074.44	(14,639,795.47)	2,439,521.29	3,305,775,065.84
Property Under Capital Lease	13,620,004.00	(1,765,183.84)	(68,817.08)	16,771.22	11,802,774.30
Plant Purchased or Sold	64,005.00	-	-	-	64,005.00
Experimental Plant Unclassified	-	-	-	-	-
Plant Leased to Others	-	-	-	-	-
Plant Held for Future Use	204,895.00	-	-	-	204,895.00
Completed Construction Not Classified	50,629,773.04	57,555,585.69	-	(627,069.11)	107,558,289.62
Construction Work in Progress	82,128,570.45	(6,240,472.50)	-	-	75,888,097.95
Plant Acquisition Adjustments	-	-	-	-	-
Sub-Total	**3,390,685,513.07**	**123,487,003.79**	**(14,708,612.55)**	**1,829,223.40**	**3,501,293,127.71**
Other Plant Adjustments	-	-	-	-	-
Other Utlity Plant (itemize)	-	-	-	-	-
Nuclear Fuel (in Process of Refinement, etc.)	-	-	-	-	-
Total	**3,390,685,513.07**	**123,487,003.79**	**(14,708,612.55)**	**1,829,223.40**	**3,501,293,127.71**

DAILY PEAK LOAD CURVES

1. Show total net 60 minute peak demand of Intrastate Energy.
2. If 60 minute peak is not available, give that which is available, specifying period.
3. Include total net power demand including that generated and purchased.

	Arkansas Load			
Hour	Maximum	Minimum	Avg. Max.	Avg. Min.
1	606	322	730	322
2	566	311	729	311
3	534	298	724	298
4	512	296	715	296
5	512	299	737	299
6	533	304	753	304
7	564	307	756	306
8	600	322	784	308
9	656	336	783	317
10	729	349	808	330
11	786	352	824	351
12	860	363	880	363
13	906	378	921	372
14	945	381	950	365
15	983	386	983	369
16	994	385	994	352
17	1004	385	1004	357
18	985	385	985	351
19	960	416	960	366
20	899	422	910	359
21	850	400	865	362
22	790	397	829	350
23	728	390	763	344
24	667	369	747	332

DAILY PEAK LOAD CURVES



GENERATING UNIT OUTAGES -- SCHEDULED COMPLETE OUTAGE

Plant Name	Unit No.	Date		Hrs. Lost	Reason for Outage
		Out	On		
SEE SUPP. E-5 1 THROUGH 3					

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Arsenal Hill 5	104	2/26/2021 22:00	3/19/2021 16:40	Valves	main stop valves	497.67	497.67	110	54743	Planned Outage including MS stop valve inspection
Comanche 1G1	307	9/24/2021 22:00		Miscellaneous (Gas Turbine)	hot end inspection	2355	2355	75	176625	Planned Outage
Comanche 1G1	307	5/28/2021 22:00	6/18/2021 15:00	Turbine	high pressure shaft seals	497	497	75	37275	Install Condenser Expansion Joint, Closed Cooling Water Surge Tank modifications, 1S vibration issues.
Comanche 1G2	308	9/24/2021 22:00	11/22/2021 13:27	Miscellaneous (Gas Turbine)	general unit inspection	1408.45	1408.45	74	104225	Planned Outage
Comanche 1G2	308	11/22/2021 20:55	11/22/2021 21:05	Miscellaneous (Gas Turbine)	general unit inspection	0.17	0.17	75	12.5	Planned Outage.
Comanche 1G2	308	5/28/2021 22:00	6/18/2021 15:00	Miscellaneous (HRSG Boiler)	boiler, miscellaneous	497	497	74	36778	Install Condenser Expansion Joint, Closed Cooling Water Surge Tank modifications, 1S vibration issues.
Comanche 1S1	136	9/24/2021 22:00	11/22/2021 16:55	Miscellaneous (Gas Turbine)	hot end inspection	1411.92	1411.92	81	114365	Planned Outage
Comanche 1S1	136	11/22/2021 20:29	11/22/2021 21:05	Miscellaneous (Gas Turbine)	hot end inspection	0.6	0.6	86	51.6	Planned Outage
Comanche 1S1	136	5/28/2021 22:00	6/18/2021 15:00	Miscellaneous (Steam Turbine)	inspection	497	497	84	41748	Install Condenser Expansion Joint, Closed Cooling Water Surge Tank modifications, 1S vibration issues.
Flint Creek 1	113	10/9/2021 3:25	11/15/2021 2:28	Miscellaneous Boiler Tube Problems	fireside cleaning (which requires a full outage) use code 1200 for cleanings that cause deratings.	888.05	888.05	516	458234	Generator i/r, GBIR, Boiler i/r, Boiler cleaning, BOP repairs, ABB Software upgrade, new Capacitor Bank Software upgrades.
Knox Lee 5	109	4/2/2021 22:00	6/8/2021 10:26	Valves	control valves	1596.45	1596.45	338	539600	Planned Outage, GBIR.
Knox Lee 5	109	6/10/2021 18:17	6/10/2021 18:19	Valves	control valves	0.03	0.03	338	11.2	Planned Outage, GBIR.
Mattison 1	311	9/6/2021 22:00	10/3/2021 16:00	Continuous Emissions Monitoring Systems (CEMS)	cems certification and recertification	642	642	71	45582	CEMS Upgrade. Commissioning of new equipment and startup. Transformer Minor Maintenances on GSU1, Sat1, Sat3 and Sat 5.
Mattison 1	311	3/15/2021 6:00	3/26/2021 15:20	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	273.33	273.33	75	20500	Planned Outage
Mattison 1	311	10/15/2021 22:00	11/1/2021 9:13	Miscellaneous (Gas Turbine)	boroscope inspection	395.22	395.22	73	28851	Borescope inspection, Generator Protection Relay adjustments. UPS Battery Capacity Testing.
Mattison 1	311	11/1/2021 12:41	11/1/2021 12:44	Miscellaneous (Gas Turbine)	boroscope inspection	0.05	0.05	75	3.8	Borescope inspection, Generator Protection Relay adjustments. UPS Battery Capacity Testing.
Mattison 2	312	9/6/2021 22:00	10/3/2021 16:00	Continuous Emissions Monitoring Systems (CEMS)	cems certification and recertification	642	642	71	45582	CEMS Upgrade. Commissioning of new equipment and startup. Transformer Minor Maintenances on GSU1, Sat1, Sat3 and Sat 5.
Mattison 2	312	3/15/2021 6:00	3/26/2021 15:20	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	273.33	273.33	75	20500	Planned Outage
Mattison 2	312	10/15/2021 22:00	11/1/2021 13:15	Miscellaneous (Gas Turbine)	boroscope inspection	399.25	399.25	74	29545	Borescope inspections.
Mattison 2	312	11/1/2021 13:15	11/1/2021 16:42	Miscellaneous (Gas Turbine)	boroscope inspection	3.45	3.45	75	258.8	Borescope inspections.
Mattison 3	313	9/6/2021 22:00	10/3/2021 16:00	Continuous Emissions Monitoring Systems (CEMS)	cems certification and recertification	642	642	72	46224	CEMS Upgrade. Commissioning of new equipment and startup. Transformer Minor Maintenances on GSU1, Sat1, Sat3 and Sat 5.
Mattison 3	313	3/15/2021 6:00	3/26/2021 18:21	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	276.35	276.35	76	21003	Planned Outage
Mattison 3	313	10/15/2021 22:00	11/2/2021 9:10	Miscellaneous (Gas Turbine)	boroscope inspection	419.17	419.17	75	31438	Planned outage.
Mattison 3	313	11/2/2021 12:40	11/2/2021 12:44	Miscellaneous (Gas Turbine)	boroscope inspection	0.07	0.07	76	5.1	Planned outage.
Mattison 4	314	9/6/2021 22:00	10/3/2021 16:00	Continuous Emissions Monitoring Systems (CEMS)	cems certification and recertification	642	642	72	46224	CEMS Upgrade. Commissioning of new equipment and startup. Transformer Minor Maintenances on GSU1, Sat1, Sat3 and Sat 5.
Mattison 4	314	3/15/2021 6:00	3/26/2021 18:21	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	276.35	276.35	76	21003	Planned Outage.
Mattison 4	314	10/15/2021 22:00	11/2/2021 13:11	Miscellaneous (Gas Turbine)	boroscope inspection	423.18	423.18	75	31739	Planned Outage
Northeastern 1A	309	2/26/2021 22:00	3/19/2021 18:42	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	499.7	499.7	161	80452	Planned Outage
Northeastern 1A	309	10/1/2021 22:18	10/19/2021 0:26	Miscellaneous HRSG Boiler Tube Problems	tube supports/attachments	410.13	410.13	150	61520	Planned Outage
Northeastern 1B	310	2/26/2021 22:00	3/20/2021 4:14	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	509.23	509.23	161	81987	Planned Outage
Northeastern 1B	310	10/1/2021 22:10	10/20/2021 18:41	Miscellaneous HRSG Boiler Tube Problems	tube supports/attachments	452.52	452.52	150	67878	Planned Outage
Northeastern 1S	137	10/1/2021 22:22	10/20/2021 15:22	Exciter	exciter commutator and brushes	449	449	138	61962	Planned Outage

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 1S	137	2/26/2021 22:00	3/20/2021 2:12	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	507.2	507.2	140	71008	Planned Outage
Northeastern 3	103	3/19/2021 22:00	4/18/2021 19:00	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	717	717	465	333405	Boiler i/r, Turbine Control Valve i/r.
Pirkey 1	117	10/9/2021 1:51	11/6/2021 8:07	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	678.27	678.27	675	457830	GBIR, Planned outage.
Pirkey 1	117	4/17/2021 0:48	5/7/2021 18:00	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	497.2	497.2	675	335610	Air Heater Wash, fgd tower inspection,cleaning, drum inspection.
Southwestern 1	121	9/16/2021 22:00	10/7/2021 19:22	Boiler Air and Gas Systems	air heater (tubular)	501.37	501.37	56	28077	Planned Outage
Southwestern 2	122	10/24/2021 22:00	10/27/2021 17:05	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	67.08	67.08	79	5299.6	State Boiler inspection.
Southwestern 2	122	4/17/2021 7:00	4/24/2021 8:44	Condensing System	condenser tube leaks	169.73	169.73	79	13409	Condenser leak check.
Southwestern 3	123	10/8/2021 22:00	11/6/2021 15:28	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	689.47	689.47	311	214424	GBIR, ORM Interlock Checks, NERC Relay Testing, Governor Valve and MSV i/r, FD fan 5 year inspections, South MBFP Element replacement, Safety Valve i/r, RO filter replacement.
Southwestern 3	123	6/15/2021 0:00	7/7/2021 10:52	Stack Emission	other stack/exhaust emissions - fossil (use codes 9200 to 9290 if fuel quality causes pollution cont	538.87	538.87	311	167588	CEMS Shelter replacement.
Southwestern 4	313	11/10/2021 7:00	11/12/2021 8:33	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	49.55	49.55	79	3914.5	<OMC!> EGT Pipeline Maintenance - No gas available
Southwestern 4	313	5/9/2021 0:00	5/11/2021 16:44	Miscellaneous (Balance of Plant)	process computer	64.73	64.73	74	4790.2	Mark VI control system tie in to Unit 5 controls. Enable gas supply unavailable.
Southwestern 4	313	3/20/2021 6:00	3/29/2021 16:45	Miscellaneous (Gas Turbine)	combustion inspection (ci)	226.75	226.75	79	17913	Borescope inspection, Plant equipment testing.
Southwestern 5	314	11/10/2021 7:00	11/12/2021 8:33	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	49.55	49.55	81	4013.6	<OMC!> EGT Pipeline Maintenance - No gas available
Southwestern 5	314	5/8/2021 22:00	5/20/2021 8:48	Miscellaneous (Balance of Plant)	process computer	274.8	274.8	76	20885	Installation and commissioning of the control system upgrade.
Southwestern 5	314	3/24/2021 6:00	4/1/2021 15:53	Miscellaneous (Gas Turbine)	combustion inspection (ci)	201.88	201.88	81	16353	GBIR, Turbine overspeed protection testing, Relay operational checks and calibrations. Transformer and Generator interlock checks and tests.
Stall 6A	321	3/15/2021 22:00	4/13/2021 15:58	Controls	generator voltage control	689.97	689.97	163	112465	Replace 6A automatic voltage regulator as well as insulation on HRSG inlet duct
Stall 6A	321	4/13/2021 20:12	4/14/2021 7:36	Controls	generator voltage control	11.4	11.4	159	1812.6	Planned Outage- Continue 6A AVR commissioning setup
Stall 6A	321	10/29/2021 23:06	11/19/2021 13:54	NOx Reduction Systems	scr nox ammonia tanks, piping and valves (not injection)	495.8	495.8	159	78832	Replace inlet filters, i/r cooling tower, i/r HRSG, i/r 6S turbine stop valves, HRH bypass valves, misc. boiler valves, Clean inspect HRSG tube bundles and exhaust stack. Replace Ammonia tank and rebuild condensate pump/ motor. GBIR.
Stall 6B	322	3/15/2021 22:00	4/15/2021 11:32	Controls	generator voltage control	733.53	733.53	167	122500	Replace 6B automatic voltage regulator as well as insulation on HRSG inlet duct and MS555 vlv.
Stall 6B	322	10/29/2021 22:27	11/19/2021 9:15	NOx Reduction Systems	scr nox ammonia tanks, piping and valves (not injection)	491.8	491.8	163	80163	Replace inlet filters, i/r cooling tower, i/r HRSG, i/r 6S turbine stop valves, HRH bypass valves, misc. boiler valves, Clean inspect HRSG tube bundles and exhaust stack. Replace Ammonia tank and rebuild condensate pump/ motor. GBIR.
Stall 6S	120	3/15/2021 22:00	4/14/2021 17:58	Miscellaneous (Steam Turbine)	turning gear and motor	715.97	715.97	191	136750	Rebuild turning gear box
Stall 6S	120	10/29/2021 22:51	11/19/2021 11:40	Valves	main stop valves	493.82	493.82	189	93331	Replace inlet filters, i/r cooling tower, i/r HRSG, i/r 6S turbine stop valves, HRH bypass valves, misc. boiler valves, Clean inspect HRSG tube bundles and exhaust stack. Replace Ammonia tank and rebuild condensate pump/ motor. GBIR.
Stall 6S	120	11/19/2021 13:29	11/19/2021 15:59	Valves	main stop valves	2.5	2.5	191	477.5	Replace inlet filters, i/r cooling tower, i/r HRSG, i/r 6S turbine stop valves, HRH bypass valves, misc. boiler valves, Clean inspect HRSG tube bundles and exhaust stack. Replace Ammonia tank and rebuild condensate pump/ motor. GBIR.
Tulsa 2	132	2/26/2021 22:00	3/15/2021 22:01	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	407.02	407.02	164	66751	Install fuel gas overpressure protection shutoff valve; perform Hartford internal boiler inspection and accommodate Transmission switching request.
Tulsa 4	134	10/22/2021 22:00	12/11/2021 17:00	Circulating Water Systems	circulating water piping	1196	1196	158	188968	DC heater trays out inspections, Breaker i/r, install plates in the Circulating Water piping. Critical valve i/r.
Tulsa 4	134	2/26/2021 22:25	3/15/2021 5:32	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	390.12	390.12	158	61639	Install fuel gas overpressure protection shutoff valve; perform Hartford internal boiler inspection on Unit 2, and accommodate Transmission switching request.
Turk 1T	130	5/19/2021 19:59	5/19/2021 20:32	Controls	steam turbine control system - upgrades	0.55	0.55	650	357.5	Turbine overhaul, Turbine Controls upgrade.
Turk 1T	130	5/20/2021 8:13	5/20/2021 13:49	Controls	steam turbine control system - upgrades	5.6	5.6	650	3640	Turbine overhaul, Turbine Controls upgrade.
Turk 1T	130	5/21/2021 21:21	5/21/2021 21:31	Controls	steam turbine control system - upgrades	0.17	0.17	650	108.6	Turbine overhaul, Turbine Controls upgrade.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Turk 1T	130	2/26/2021 23:37	5/19/2021 18:55	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	1962.3	1962.3	650	1E+06	Planned Outage
Welsh 1	114	4/2/2021 23:07	5/1/2021 6:00	Boiler Overhaul and Inspections	minor boiler overhaul (less than 720 hours) (use for non-specific overhaul only, see page b-ccgt-2)	678.88	678.88	525	356414	Reserve Transformer I/R, Reserve Buss I/R and Coal Yard feed project
Welsh 3	116	3/6/2021 0:06	5/14/2021 7:17	Boiler Overhaul and Inspections	major boiler overhaul (720 hours or longer) (use for non-specific overhaul only, see page b-ccgt-2)	1662.18	1662.18	528	877633	Planned outage, GBIR.
Welsh 3	116	5/14/2021 8:43	5/14/2021 14:10	Boiler Overhaul and Inspections	major boiler overhaul (720 hours or longer) (use for non-specific overhaul only, see page b-ccgt-2)	5.45	5.45	528	2877.6	Planned outage, GBIR.
Welsh 3	116	5/14/2021 18:46	5/14/2021 18:49	Boiler Overhaul and Inspections	major boiler overhaul (720 hours or longer) (use for non-specific overhaul only, see page b-ccgt-2)	0.05	0.05	528	26.4	Planned outage, GBIR.
Wilkes 1	110	9/24/2021 22:00	10/27/2021 18:37	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	788.62	788.62	164	129333	Planned Outage
Wilkes 2	111	11/5/2021 22:00	11/15/2021 6:00	Miscellaneous (Steam Turbine)	inspection	225	225	365	82125	Removal of the Front Standard Cover on main turbine to allow Emerson to get final measurements for instrumentation brackets to be installed during Spring 2023 outage.
Wilkes 3	112	11/13/2021 0:00	11/20/2021 6:00	Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	174	174	360	62640	Boiler/Burner Inspections

GENERATING UNIT OUTAGES -- SCHEDULED COMPLETE OUTAGE

Plant Name	Unit No.	Date		Hrs. Lost	Reason for Outage
		Out	On		
SEE SUPP. E-6 1 THROUGH 11					

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Arsenal Hill 5	104	6/14/2021 22:17	6/15/2021 7:54	Boiler Fuel Supply from Bunkers to Boiler	gas burner piping and valves	9.62	9.62	108	1038.6	Pilot valve for 35# reg had trash in it causing the requlator to close, tripping the unit on low gas pressure.
Arsenal Hill 5	104	11/14/2021 22:00	11/19/2021 16:23	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	114.38	114.38	110	12582	Boiler inspection, gas line safety inspection, move gages in control board
Arsenal Hill 5	104	4/5/2021 16:22	4/6/2021 3:00	Miscellaneous (External)	transmission system problems other than catastrophes (do not include switchyard problems in this cat	10.63	10.63	110	1169.6	<OMC!> 12 kV phase to phase ground due to mylar balloon getting caught in power lines in substation
Arsenal Hill 5	104	6/9/2021 16:02	6/9/2021 20:00	Personnel or Procedural Errors	operator error	3.97	3.97	108	428.4	Tripped Unit at full load when operator dropped load on the governor too fast causing high boiler pressure condition and low drum level
Arsenal Hill 5	104	8/7/2021 11:08	8/7/2021 12:33	Power Station Switchyard	transmission line (connected to powerhouse switchyard to 1st substation)	1.42	1.42	108	153	<OMC!> Vines growing up the highline structure caused a fault in the 69kv substation which relayed open line breakers. #5 was DNR
Comanche 1G1	307	2/14/2021 23:00	2/15/2021 14:17	Circulating Water Systems	traveling screen fouling	15.28	15.28	80	1222.6	Cooling Water temps caused the lube oil temp to exceed 140 degrees
Comanche 1G1	307	7/11/2021 22:00	7/16/2021 14:40	Continuous Emissions Monitoring Systems (CEMS)	cems certification and recertification	112.67	112.67	70	7886.7	To Install, program, configure CEMS CO2 analyzer, probe, and air scrubber.
Comanche 1G1	307	2/16/2021 19:03	2/16/2021 21:34	Controls	steam turbine control system - logic problems	2.52	2.52	80	201.4	Reason Unknown
Comanche 1G1	307	2/20/2021 10:40	2/22/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	37.33	37.33	80	2986.6	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Comanche 1G1	307	8/25/2021 13:57	8/25/2021 22:37	Fuel, Ignition, and Combustion Systems	gas fuel system including controls and instrumentation	8.67	8.67	70	606.7	Fuel Valve Error
Comanche 1G1	307	9/18/2021 1:08	9/24/2021 22:00	Generator	generator bearings	164.87	164.87	75	12365	#1 Bearing Vibration
Comanche 1G1	307	3/15/2021 0:00	3/19/2021 15:35	HRSG Boiler Design Limitations	inadequate air not due to equipment problems	111.58	111.58	76	8480.3	Structural inspection of HRSG.
Comanche 1G1	307	2/16/2021 23:19	2/17/2021 0:20	HRSG Boiler Piping System	feedwater valves (not feedwater regulating valve)	1.02	1.02	80	81.4	Main Boiler Feed Pump tripped
Comanche 1G1	307	2/17/2021 1:15	2/17/2021 2:09	HRSG Boiler Piping System	feedwater valves (not feedwater regulating valve)	0.9	0.9	80	72	Main Boiler Feed Pump discharge pressure
Comanche 1G1	307	2/17/2021 3:08	2/17/2021 13:35	HRSG Boiler Piping System	feedwater valves (not feedwater regulating valve)	10.45	10.45	80	836	Main Boiler Feed Pump discharge pressure
Comanche 1G1	307	7/22/2021 12:50	7/22/2021 16:40	Inlet Air System and Compressors	inlet air foggers	3.83	3.83	70	268.3	Clogged tunnel sump pumps caused fogging system to shut down.
Comanche 1G1	307	8/9/2021 13:10	8/9/2021 15:32	Inlet Air System and Compressors	other compressor problems	2.37	2.37	70	165.7	Compressor Stall
Comanche 1G1	307	8/9/2021 16:04	8/11/2021 4:20	Inlet Air System and Compressors	other compressor problems	36.27	36.27	70	2538.7	Compressor Stall
Comanche 1G1	307	4/18/2021 5:16	4/18/2021 6:34	Miscellaneous (Gas Turbine)	gas turbine control system - hardware problems (including card failure)	1.3	1.3	76	98.8	Blade Path Spread - #1 LVDT
Comanche 1G1	307	5/19/2021 8:17	5/19/2021 11:13	Miscellaneous (Gas Turbine)	gas turbine control system - hardware problems (including card failure)	2.93	2.93	75	220	LVDT failed. Replaced with new LVDT
Comanche 1G1	307	2/9/2021 0:47	2/9/2021 5:46	Valves	control valves	4.98	4.98	80	398.6	Control Valve Control Problem on 1S1
Comanche 1G2	308	2/14/2021 22:58	2/15/2021 12:19	Circulating Water Systems	traveling screen fouling	13.35	13.35	80	1068	Cooling Water temps caused the lube oil temp to exceed 140 degrees
Comanche 1G2	308	7/11/2021 22:00	7/16/2021 14:40	Continuous Emissions Monitoring Systems (CEMS)	cems certification and recertification	112.67	112.67	70	7886.7	To Install, program, configure CEMS CO2 analyzer, probe, and air scrubber.
Comanche 1G2	308	2/15/2021 12:42	2/20/2021 16:17	Controls	steam turbine control system - logic problems	123.58	123.58	80	9886.6	Unit Trip - Reason Unknown
Comanche 1G2	308	2/20/2021 16:17	2/22/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	31.72	31.72	80	2537.4	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Comanche 1G2	308	3/15/2021 0:00	3/19/2021 15:35	HRSG Boiler Design Limitations	inadequate air not due to equipment problems	111.58	111.58	75	8368.7	Structural inspection of HRSG.
Comanche 1G2	308	2/9/2021 0:47	2/9/2021 2:23	Valves	miscellaneous drain and vent valves	1.6	1.6	80	128	Control Valve Control Problem on 1S1
Comanche 1S1	136	2/14/2021 23:03	2/15/2021 16:29	Circulating Water Systems	traveling screen fouling	17.43	17.43	88	1534.1	Cooling Water temps caused the lube oil temp to exceed 140 degrees
Comanche 1S1	136	2/20/2021 10:40	2/22/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	37.33	37.33	88	3285.3	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Comanche 1S1	136	3/15/2021 0:00	3/19/2021 15:35	HRSG Boiler Design Limitations	inadequate air not due to equipment problems	111.58	111.58	85	9484.6	Structural inspection of HRSG.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Comanche 1S1	136	2/16/2021 19:03	2/17/2021 16:50	HRSG Boiler Piping System	feedwater valves (not feedwater regulating valve)	21.78	21.78	88	1916.9	1G1 Tripped - Reason Unknown
Comanche 1S1	136	7/11/2021 22:00	7/16/2021 14:40	High Pressure Turbine	bearings	112.67	112.67	80	9013.4	To Install, program, configure CEMS CO2 analyzer, probe, and air scrubber. Calibrate 1S1 thrust probes
Comanche 1S1	136	7/22/2021 13:03	7/22/2021 14:00	Miscellaneous (Steam Turbine)	gland seal system	0.95	0.95	80	76	Loss of gland steam pressure
Comanche 1S1	136	2/9/2021 0:47	2/9/2021 4:56	Valves	miscellaneous drain and vent valves	4.15	4.15	88	365.2	Control Valve Control Problem
Flint Creek 1	113	4/29/2021 16:01	5/9/2021 21:57	Boiler Air and Gas Systems	induced draft fan motors and drives	245.93	245.93	516	126901	A" ID Fan Motor Failure"
Flint Creek 1	113	4/17/2021 3:34	4/29/2021 16:01	Feedwater System	feedwater piping and supports	300.45	300.45	516	155032	Repair the Turbine Boiler Feed Pump Balancing Line, Boiler i/r and clean up Boiler Water.
Knox Lee 5	109	1/17/2021 22:00	1/21/2021 10:13	Boiler Control Systems	combustion/steam condition controls (report local controls - burners, pulverizers, etc., - with comp	84.22	84.22	344	28971	Gas Yard tuning
Knox Lee 5	109	11/9/2021 0:08	11/9/2021 5:34	Boiler Control Systems	combustion/steam condition controls (report local controls - burners, pulverizers, etc., - with comp	5.43	5.43	344	1869	Start Up Failure
Knox Lee 5	109	8/1/2021 0:00	8/5/2021 0:00	Condensing System	expansion joint	96	96	338	32448	To repair Expansion Joint between the Low Pressure Turbine and Condenser.
Knox Lee 5	109	9/9/2021 0:00	9/15/2021 12:00	Condensing System	condenser inspection (use code 3110 to report looking for tube leaks)	156	156	338	52728	To inspect and repair steam side of the Condenser internals due to related backpressure issues.
Knox Lee 5	109	10/12/2021 9:00	10/12/2021 13:38	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	4.63	4.63	342	1584.5	<OMC!> Gulf South Pipeline Maintenance
Knox Lee 5	109	11/3/2021 0:00	11/4/2021 0:00	Fuel Quality	other fuel quality problems (omc)	24	24	344	8256	<OMC!> Gas line Pigging
Knox Lee 5	109	9/15/2021 12:05	9/15/2021 12:53	Valves	miscellaneous drain and vent valves	0.8	0.8	338	270.4	High Vacuum
Lieberman 3	102	10/18/2021 7:00	10/21/2021 9:06	Boiler Air and Gas Systems	other miscellaneous boiler air and gas system problems	74.1	74.1	109	8076.9	Enable Gas Pipeline Maintenance
Lieberman 3	102	5/31/2021 0:00	6/2/2021 19:00	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	67	67	109	7303	Annual Boiler inspection
Lieberman 3	102	4/7/2021 0:32	4/8/2021 14:15	Boiler Tube Leaks	economizer	37.72	37.72	109	4111.2	Boiler i/r
Lieberman 3	102	10/27/2021 9:00	10/29/2021 18:00	Boiler Tube Leaks	economizer	57	57	109	6213	Maintenance outage to inspect boiler
Lieberman 3	102	11/15/2021 6:00	11/17/2021 13:00	Boiler Tube Leaks	economizer	55	55	109	5995	i/r Economizer section of the Boiler for tube leaks.
Lieberman 3	102	6/14/2021 11:00	6/14/2021 16:41	Controls	generator voltage control	5.68	5.68	109	619.4	Unable to Engage AVR
Lieberman 3	102	5/25/2021 0:00	5/27/2021 16:10	Cooling System	hydrogen coolers	64.17	64.17	109	6994.2	To purge Generator and repair possible Hydrogen leak.
Lieberman 3	102	6/7/2021 0:00	6/9/2021 19:48	Electrical	main transformer	67.8	67.8	109	7390.2	GSU Main Transformer A & B Testing
Lieberman 3	102	11/2/2021 6:46	11/2/2021 10:20	Valves	intercept valves	3.57	3.57	109	388.8	Steam valves will not open.
Lieberman 4	103	10/18/2021 7:00	10/21/2021 9:06	Boiler Air and Gas Systems	other miscellaneous boiler air and gas system problems	74.1	74.1	108	8002.8	Enable Gas Pipeline Maintenance
Lieberman 4	103	5/31/2021 0:00	6/2/2021 19:00	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	67	67	108	7236	Annual Boiler inspection
Lieberman 4	103	2/21/2021 0:24	2/26/2021 13:00	Boiler Tube Leaks	waterwall (furnace wall)	132.6	132.6	108	14321	Tube leak repairs
Lieberman 4	103	11/19/2021 18:00	12/9/2021 14:30	Boiler Tube Leaks	waterwall (furnace wall)	476.5	476.5	108	51462	Boiler I/R
Lieberman 4	103	11/11/2021 9:41	11/19/2021 18:00	Boiler Tube Leaks	second reheater	200.32	200.32	108	21634	Tube Leak
Lieberman 4	103	2/17/2021 0:31	2/18/2021 0:56	Boiler Tube Leaks	economizer	24.42	24.42	108	2637	Economizer Leak
Lieberman 4	103	6/6/2021 0:00	6/10/2021 17:47	Electrical	main transformer	113.78	113.78	108	12289	GSU Main Transformer Testing and Oil Samples, Boiler Feedpump i/r
Lieberman 4	103	11/3/2021 9:07	11/3/2021 11:51	Electrical	unit auxiliaries transformer	2.73	2.73	108	295.2	UAT bus work worn boot
Lieberman 4	103	2/18/2021 23:26	2/19/2021 7:42	Miscellaneous (Steam Turbine)	gland seal system	8.27	8.27	108	892.8	Loss of Gland Water supply
Mattison 1	311	12/13/2021 9:00	12/16/2021 10:10	Controls	emergency generator trip devices	73.17	73.17	77	5633.9	Trip testing. This is required through the 13750 and 13760 breakers, which prevents Units 1 and 3 from operating. While units 2 & 4 are in outages for Generator Protection Relay Upgrade.
Mattison 1	311	2/12/2021 10:14	2/12/2021 13:44	Economic	lack of fuel: contract or tariff allows for interruption	3.5	3.5	77	269.5	fuel limits
Mattison 1	311	2/15/2021 17:34	2/15/2021 19:00	Economic	lack of fuel: contract or tariff allows for interruption	1.43	1.43	77	110.3	Gas Unavailability
Mattison 1	311	2/15/2021 19:50	2/15/2021 21:05	Economic	lack of fuel: contract or tariff allows for interruption	1.25	1.25	77	96.3	Gas Unavailability
Mattison 1	311	2/16/2021 11:59	2/22/2021 7:00	Economic	lack of fuel: contract or tariff allows for interruption	139.02	139.02	77	10704	Natural Gas Restrictions
Mattison 1	311	1/11/2021 8:00	1/11/2021 17:00	Electrical	main transformer	9	9	78	702	GSU1/2 transformer has an oil leak. The transformer will need removed from service to make the repair. GSU1/2 is the step-up transformer for Units 1 and 2.
Mattison 1	311	5/26/2021 8:00	5/27/2021 16:40	Electrical	unit auxiliaries transformer	32.67	32.67	71	2319.4	Upgrade Sat 5 and Sat 6 temperature controllers and install new thermocouples in the transformers.
Mattison 1	311	1/12/2021 8:36	1/12/2021 12:55	Electrical	dc instrument power battery chargers	4.32	4.32	78	336.7	DC ground. 13750 breaker had to be opened to troubleshoot.
Mattison 1	311	2/15/2021 22:11	2/16/2021 11:59	Fuel, Ignition, and Combustion Systems	liquid fuel purge system	13.8	13.8	77	1062.6	Gas transfer purge valve failure to close

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Mattison 1	311	2/15/2021 19:00	2/15/2021 19:50	Inlet Air System and Compressors	high pressure compressor bleed valves	0.83	0.83	77	64.1	Compressor Bleed Valve Switch issue
Mattison 2	312	5/12/2021 8:00	5/12/2021 10:33	Auxiliary Systems	closed cooling water pumps and motors	2.55	2.55	71	181.1	To replace the Control Power Transformer on the # 1 Cooling Water Fan.
Mattison 2	312	12/13/2021 9:00	12/16/2021 10:10	Controls	emergency generator trip devices	73.17	73.17	77	5633.9	Generator Protection Relay upgrade.
Mattison 2	312	2/12/2021 10:14	2/12/2021 13:44	Economic	lack of fuel: contract or tariff allows for interruption	3.5	3.5	77	269.5	fuel limits
Mattison 2	312	2/16/2021 9:18	2/16/2021 23:32	Economic	lack of fuel: contract or tariff allows for interruption	14.23	14.23	77	1095.9	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Mattison 2	312	1/11/2021 8:00	1/11/2021 17:00	Electrical	main transformer	9	9	78	702	GSU1/2 transformer has an oil leak. The transformer will need removed from service to make the repair. GSU1/2 is the step-up transformer for Units 1 and 2.
Mattison 2	312	5/26/2021 8:00	5/27/2021 16:40	Electrical	unit auxiliaries transformer	32.67	32.67	71	2319.4	Upgrade Sat 5 and Sat 6 temperature controllers and install new thermocouples in the transformers.
Mattison 2	312	1/12/2021 8:36	1/12/2021 12:55	Electrical	dc instrument power battery chargers	4.32	4.32	78	336.7	DC ground. 13750 breaker had to be opened to troubleshoot.
Mattison 3	313	12/13/2021 9:00	12/16/2021 10:10	Controls	emergency generator trip devices	73.17	73.17	78	5707	Trip testing. This is required through the 13750 and 13760 breakers, which prevents Units 1 and 3 from operating. While units 2 & 4 are in outages for Generator Protection Relay Upgrade.
Mattison 3	313	2/12/2021 15:31	2/13/2021 0:38	Economic	lack of fuel: contract or tariff allows for interruption	9.12	9.12	78	711.1	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Mattison 3	313	2/13/2021 0:38	2/22/2021 7:00	Economic	lack of fuel: contract or tariff allows for interruption	222.37	222.37	78	17345	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Mattison 3	313	5/26/2021 8:00	5/27/2021 16:40	Electrical	unit auxiliaries transformer	32.67	32.67	71	2319.4	Upgrade Sat 5 and Sat 6 temperature controllers and install new thermocouples in the transformers.
Mattison 3	313	4/27/2021 8:00	4/27/2021 15:00	Expander Turbine	controls and instrumentation	7	7	73	511	HMI Hard-Drive Backup.
Mattison 3	313	4/26/2021 17:50	4/27/2021 8:00	Fuel, Ignition, and Combustion Systems	other fuel system problems	14.17	14.17	73	1034.2	Internal gas leak
Mattison 4	314	8/24/2021 13:48	8/26/2021 10:05	Auxiliary Systems	other fire protection system problems	44.28	44.28	71	3144.1	Generator CO2 damper closed while unit was on-line. This called the unit to go into a run-back and shutdown.
Mattison 4	314	12/13/2021 9:00	12/20/2021 15:25	Controls	emergency generator trip devices	174.42	174.42	78	13605	Generator Protection Relay upgrade.
Mattison 4	314	12/20/2021 15:36	12/20/2021 15:48	Controls	emergency generator trip devices	0.2	0.2	78	15.6	Generator Protection Relay upgrade.
Mattison 4	314	2/12/2021 15:33	2/15/2021 22:30	Economic	lack of fuel: contract or tariff allows for interruption	78.95	78.95	78	6158.1	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Mattison 4	314	5/26/2021 8:00	5/27/2021 16:40	Electrical	unit auxiliaries transformer	32.67	32.67	71	2319.4	Upgrade Sat 5 and Sat 6 temperature controllers and install new thermocouples in the transformers.
Mattison 4	314	2/16/2021 23:30	2/24/2021 9:14	Generator	rotor windings (including damper windings and fan blades on hydro units)	177.73	177.73	78	13863	Generator ground fault indication
Mattison 4	314	2/24/2021 10:32	3/5/2021 14:28	Generator	rotor windings (including damper windings and fan blades on hydro units)	219.93	219.93	78	17155	Generator ground fault indication
Northeastern 1A	309	9/12/2021 20:52	9/13/2021 22:26	Circulating Water Systems	waterbox	25.57	25.57	144	3681.6	Condenser Tube Leak on 1S
Northeastern 1A	309	9/15/2021 6:25	9/16/2021 0:14	Circulating Water Systems	waterbox	17.82	17.82	144	2565.6	Condenser Tube Leak on 1S
Northeastern 1A	309	9/20/2021 17:36	9/21/2021 23:19	Circulating Water Systems	waterbox	29.72	29.72	144	4279.2	Tube leak
Northeastern 1A	309	12/15/2021 23:45	12/16/2021 23:22	Controls	turbine governing system	23.62	23.62	165	3896.8	Broken Spring on East Governor Valve
Northeastern 1A	309	2/20/2021 13:27	2/21/2021 21:23	Economic	lack of fuel: contract or tariff allows for interruption	31.93	31.93	161	5141.2	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1A	309	10/19/2021 0:26	10/19/2021 0:27	Exciter	exciter commutator and brushes	0.02	0.02	150	2.6	Planned Outage Testing - Reference CROW# 1-00136559 original outage ticket, was trying to change ticket to Non-Continuous
Northeastern 1A	309	10/23/2021 0:00	10/24/2021 12:28	Exciter	exciter commutator and brushes	36.47	36.47	150	5470.1	Exciter Brush Rigging i/r
Northeastern 1A	309	5/17/2021 10:07	5/17/2021 13:29	Exhaust Systems	other exhaust problems (including high exhaust system temperature not attributable to a specific pro	3.37	3.37	148	498.3	3 Thermocouples failed
Northeastern 1A	309	2/14/2021 11:43	2/14/2021 14:43	HRSG Boiler Control Systems	feedwater controls (report local controls - feedwater pump, feedwater regulator valve, etc., - with	3	3	161	483	Reason Unknown

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 1A	309	12/15/2021 21:01	12/15/2021 21:29	HRSG Boiler Control Systems	other boiler instrumentation and control problems	0.47	0.47	165	77.1	High Pressure Drum Transmitter Failure
Northeastern 1A	309	2/24/2021 12:00	2/26/2021 22:00	HRSG Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	58	58	161	9338	Pre Planned Outage work
Northeastern 1A	309	4/9/2021 23:24	4/11/2021 17:39	HRSG Boiler Piping System	other cold reheat steam valves (not including turbine stop or intercept valves)	42.25	42.25	150	6337.5	Repair 1A Hot RH Drain line, RH Attemperator Block Valve, Cluster Drain Valve, 1B Main Steam line leak, 1S Front Standard oil leaks.
Northeastern 1A	309	8/14/2021 0:26	8/20/2021 16:00	HRSG Boiler Tube Leaks	hp reheater	159.57	159.57	144	22978	Boiler i/r and to fix a suspected Tube Leak on the HRSG on 1B. Currently experiencing elevated make up & chemical usage.
Northeastern 1A	309	7/16/2021 5:51	7/19/2021 7:00	HRSG Boiler Water Condition	boiler water condition (not feedwater water quality)	73.15	73.15	144	10534	Cation Conductivity
Northeastern 1A	309	7/19/2021 9:35	7/21/2021 3:19	HRSG Boiler Water Condition	boiler water condition (not feedwater water quality)	41.73	41.73	144	6009.6	Tube Leak
Northeastern 1A	309	1/29/2021 11:34	1/30/2021 16:41	Inlet Air System and Compressors	inlet air vanes/nozzles	29.12	29.12	165	4804.3	Broken Linkage IGV
Northeastern 1A	309	7/24/2021 7:08	7/24/2021 11:29	Lube Oil	lube oil system valves and piping	4.35	4.35	144	626.4	Oil Pressure Sensing Line Leak on #1 Steamer
Northeastern 1B	310	9/12/2021 21:24	9/13/2021 22:26	Circulating Water Systems	waterbox	25.03	25.03	148	3704.9	Condenser Tube Leak on 1S
Northeastern 1B	310	9/15/2021 6:25	9/16/2021 0:14	Circulating Water Systems	waterbox	17.82	17.82	148	2636.9	Condenser Tube Leak on 1S
Northeastern 1B	310	9/20/2021 17:18	9/21/2021 23:19	Circulating Water Systems	waterbox	30.02	30.02	148	4442.5	Tube Leak
Northeastern 1B	310	12/15/2021 23:45	12/17/2021 4:24	Controls	turbine governing system	28.65	28.65	165	4727.3	Broken Spring on East Governor Valve on 1S
Northeastern 1B	310	2/16/2021 10:24	2/19/2021 13:40	Economic	lack of fuel: contract or tariff allows for interruption	75.27	75.27	161	12118	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1B	310	2/20/2021 13:10	2/22/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	34.83	34.83	161	5608.1	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1B	310	10/23/2021 0:00	10/24/2021 18:23	Exciter	exciter commutator and brushes	42.38	42.38	150	6357.5	Exciter Brush Rigging i/r
Northeastern 1B	310	6/10/2021 12:05	6/10/2021 12:48	Exhaust Systems	other exhaust problems (including high exhaust system temperature not attributable to a specific pro	0.72	0.72	148	106.1	Exhaust Spread
Northeastern 1B	310	2/19/2021 13:40	2/19/2021 15:41	HRSG Boiler Control Systems	boiler drum gage glasses / level indicator	2.02	2.02	161	324.7	HP durm level transmitters
Northeastern 1B	310	12/17/2021 4:33	12/17/2021 5:01	HRSG Boiler Control Systems	other boiler instrumentation and control problems	0.47	0.47	165	77.1	High Pressure Drum Transmitter Erratic
Northeastern 1B	310	2/24/2021 12:00	2/26/2021 22:00	HRSG Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	58	58	161	9338	Pre Planned Outage work
Northeastern 1B	310	4/9/2021 23:08	4/11/2021 17:39	HRSG Boiler Piping System	other cold reheat steam valves (not including turbine stop or intercept valves)	42.52	42.52	150	6377.6	Repair 1A Hot RH Drain line, RH Attemperator Block Valve, Cluster Drain Valve, 1B Main Steam line leak, 1S Front Standard oil leaks.
Northeastern 1B	310	8/14/2021 0:38	8/20/2021 22:54	HRSG Boiler Tube Leaks	hp reheater	166.27	166.27	148	24608	1B Suspected Tube Leak
Northeastern 1B	310	7/16/2021 5:51	7/19/2021 0:39	HRSG Boiler Water Condition	boiler water condition (not feedwater water quality)	66.8	66.8	148	9886.4	Cation Conductivity
Northeastern 1B	310	7/19/2021 10:23	7/21/2021 3:19	HRSG Boiler Water Condition	boiler water condition (not feedwater water quality)	40.93	40.93	148	6058.1	Tube Leak
Northeastern 1B	310	7/24/2021 7:08	7/24/2021 15:02	Lube Oil	lube oil system valves and piping	7.9	7.9	148	1169.2	Oil Pressure sensing line leaking on #1 steamer
Northeastern 1B	310	7/26/2021 9:38	7/26/2021 17:44	Miscellaneous (Gas Turbine)	gas turbine control system - internal and termination wiring	8.1	8.1	148	1198.8	Wire Not terminated on card correctly
Northeastern 1S	137	9/12/2021 21:27	9/13/2021 22:26	Circulating Water Systems	waterbox	24.98	24.98	130	3247.8	Condenser Tube Leak
Northeastern 1S	137	9/15/2021 6:26	9/16/2021 0:14	Circulating Water Systems	waterbox	17.8	17.8	130	2314	Condenser Tube Leak
Northeastern 1S	137	9/20/2021 17:39	9/21/2021 23:19	Circulating Water Systems	waterbox	29.67	29.67	130	3856.7	Tube leak
Northeastern 1S	137	12/15/2021 23:45	12/17/2021 2:56	Controls	turbine governing system	27.18	27.18	140	3805.6	Broken Spring on East Governor Valve
Northeastern 1S	137	2/20/2021 13:31	2/22/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	34.48	34.48	140	4827.6	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1S	137	10/23/2021 0:00	10/24/2021 16:30	Exciter	exciter commutator and brushes	40.5	40.5	138	5589	Exciter Brush Rigging i/r
Northeastern 1S	137	2/24/2021 12:00	2/26/2021 22:00	HRSG Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	58	58	140	8120	Pre Planned Outage work
Northeastern 1S	137	4/9/2021 23:29	4/11/2021 17:39	HRSG Boiler Piping System	other cold reheat steam valves (not including turbine stop or intercept valves)	42.17	42.17	138	5819	Repair 1A Hot RH Drain line, RH Attemperator Block Valve, Cluster Drain Valve, 1B Main Steam line leak, 1S Front Standard oil leaks.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 1S	137	8/14/2021 0:43	8/20/2021 23:24	HRSG Boiler Tube Leaks	hp reheater	166.68	166.68	130	21669	Boiler i/r and to fix a suspected Tube Leak on the HRSG on 1B. Currently experiencing elevated make up & chemical usage.
Northeastern 1S	137	7/16/2021 5:53	7/19/2021 4:54	HRSG Boiler Water Condition	boiler water condition (not feedwater water quality)	71.02	71.02	130	9232.2	Cation Conductivity
Northeastern 1S	137	7/19/2021 10:25	7/21/2021 3:19	HRSG Boiler Water Condition	boiler water condition (not feedwater water quality)	40.9	40.9	130	5317	Tube leak
Northeastern 1S	137	7/24/2021 7:06	7/24/2021 14:06	Lube Oil	lube oil system valves and piping	7	7	130	910	Oil Pressure Sensing line Leak
Northeastern 2	102	8/9/2021 6:00	8/9/2021 15:35	Boiler Overhaul and Inspections	other boiler inspections	9.58	9.58	434	4159	Hydro unit 2 boiler to check for leaks
Northeastern 2	102	4/26/2021 10:00	4/26/2021 14:34	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	4.57	4.57	434	1982.1	Hydro on the Boiler
Northeastern 2	102	5/2/2021 0:00	5/7/2021 18:00	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	138	138	434	59892	Boiler hydro
Northeastern 2	102	6/21/2021 6:30	6/21/2021 21:13	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	14.72	14.72	434	6387.2	Hydro Test on unit 2 boiler
Northeastern 2	102	11/10/2021 8:00	11/10/2021 11:37	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	3.62	3.62	434	1569.8	Boiler i/r and Hydro
Northeastern 2	102	6/25/2021 7:00	7/2/2021 18:00	Boiler Piping System	other miscellaneous piping system problems	179	179	434	77686	Asbestos Abate and Re-insulate Bottom of the MBFP
Northeastern 2	102	12/16/2021 6:00	12/17/2021 20:00	Condensate System	other lp heater - general	38	38	434	16492	Pressure Vessel & DC heater inspections needed for unit 2.
Northeastern 2	102	4/20/2021 20:07	4/20/2021 22:36	Controls	generator voltage control	2.48	2.48	434	1077.6	Repairing AVR
Northeastern 2	102	9/24/2021 8:00	9/24/2021 16:00	Electrical	dc instrument power battery chargers	8	8	434	3472	Battery Load Testing
Northeastern 2	102	11/14/2021 6:00	11/19/2021 21:30	Miscellaneous (Steam Turbine)	inspection	135.5	135.5	434	58807	Extraction check valves inspections/repairs, and FD fan inspections
Northeastern 2	102	4/20/2021 15:02	4/20/2021 16:33	Miscellaneous (Steam Turbine)	other miscellaneous steam turbine problems	1.52	1.52	434	658.4	in a prewarm hold
Northeastern 2	102	1/25/2021 7:00	3/1/2021 0:00	Piping	miscellaneous turbine piping	833	833	434	361522	Asbestos abatement and re insulation on several sections of steam piping under the Turbine Belly.
Northeastern 3	103	4/18/2021 19:00	4/19/2021 15:03	Auxiliary Systems	auxiliary boiler	20.05	20.05	465	9323.3	Aux boiler issues and soot blowing valve issues
Northeastern 3	103	4/27/2021 1:18	4/27/2021 9:25	Boiler Air and Gas Systems	forced draft fan lubrication system	8.12	8.12	465	3774.4	FD fan main line oil leak
Northeastern 3	103	1/29/2021 8:00	1/29/2021 12:45	Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	4.75	4.75	465	2208.8	Boiler i/r, Boiler Hydro.
Northeastern 3	103	5/27/2021 2:11	5/30/2021 20:00	Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	89.82	89.82	465	41765	Boiler i/r, #1 Turbine Stop Valve i/r to include feedback replacement and #3 Turbine Control Valve i/r.
Northeastern 3	103	12/3/2021 0:00	12/3/2021 16:30	Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	16.5	16.5	465	7672.5	Boiler i/r.
Northeastern 3	103	3/5/2021 8:00	3/6/2021 10:42	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	26.7	26.7	465	12416	Boiler i/r, Hydro.
Northeastern 3	103	3/17/2021 0:00	3/19/2021 22:00	Boiler Overhaul and Inspections	boiler inspections - scheduled or routine	70	70	465	32550	Pre-Planned outage work.
Northeastern 3	103	6/26/2021 23:13	6/27/2021 8:57	Feedwater System	feedwater pump	9.73	9.73	465	4525.8	Reason Unknown
Northeastern 3	103	12/3/2021 16:30	12/6/2021 15:01	Feedwater System	other high pressure heater problems (see condensate system for lp and ip heater codes)	70.52	70.52	465	32790	Heater 36 Repair
Northeastern 3	103	11/10/2021 2:07	11/13/2021 0:00	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	69.88	69.88	465	32496	Pre-planned outage work
Northeastern 3	103	11/13/2021 0:00	11/24/2021 0:13	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	264.22	264.22	465	122861	Replace Turbine Chest Pressure Sensing Line. Main Steam Drain Line leaking through i/r, repair Bottom Ash Door that is currently stuck, repair Boiler Circ. Pump gasket leak and inspect Thrust Pads, Precipitator i/r, replace Cascade Belts above the coal silos, Boiler hydro.
Northeastern 3	103	7/2/2021 14:32	7/4/2021 12:10	Slag and Ash Removal	soot blowers - steam	45.63	45.63	465	21219	soot blower issue
Pirkey 1	117	3/4/2021 21:30	3/10/2021 18:00	Boiler Air and Gas Systems	induced draft fan motors and drives	140.5	140.5	675	94838	To install spare 13KV motor on A" ID Fan."
Pirkey 1	117	2/20/2021 15:47	2/24/2021 17:07	Boiler Air and Gas Systems	air heater (regenerative)	97.33	97.33	675	65700	Primary Air Heater Locked up, leading eadge seal shoe plate dropped down.
Pirkey 1	117	4/3/2021 17:59	4/5/2021 9:18	Boiler Air and Gas Systems	air heater (regenerative)	39.32	39.32	675	26539	Primary air heater locked up, two leading edge shoes sheared off.
Pirkey 1	117	6/3/2021 3:30	6/5/2021 1:17	Boiler Air and Gas Systems	air heater (regenerative)	45.78	45.78	675	30904	Locked up Primary Air Heater
Pirkey 1	117	2/15/2021 6:09	2/17/2021 14:50	Boiler Control Systems	other boiler instrumentation and control problems	56.68	56.68	675	38261	Operator lost the B" channel or one of the three drum level channels. DCS rejected flow to manual and operator maintained flow and drum level but eventually low drum level tripped unit."
Pirkey 1	117	2/8/2021 18:07	2/12/2021 1:18	Boiler Tube Leaks	waterwall (furnace wall)	79.18	79.18	675	53449	Water wall tube leak, 9 the elev NE Corner.
Pirkey 1	117	3/1/2021 16:19	3/4/2021 21:30	Boiler Tube Leaks	waterwall (furnace wall)	77.18	77.18	675	52099	Boiler tube leak, door seal box around seal weld.
Pirkey 1	117	11/10/2021 22:07	11/14/2021 21:23	Boiler Tube Leaks	second superheater	95.27	95.27	675	64305	Tube Leak

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Pirkey 1	117	3/10/2021 18:00	3/12/2021 19:38	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	49.63	49.63	675	33502	<OMC!> Scheduled pipeline integrity work.
Pirkey 1	117	1/26/2021 2:22	1/26/2021 11:48	Electrical	dc instrument power battery chargers	9.43	9.43	675	6367.3	Station battery charger tripped, plant dc voltage went low momentarly.
Pirkey 1	117	2/4/2021 22:11	2/5/2021 8:11	Miscellaneous (Balance of Plant)	dcs - logic problems	10	10	675	6750	DCS Runback issues, while swapping Circ water pumps.
Pirkey 1	117	6/22/2021 2:47	6/30/2021 13:54	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	203.12	203.12	675	137104	Trouble shoot and repair cause of 200K ACFM excess airflow causing ID Fans to reach motor amp limits. Boiler i/r. Repair Motor Driven Boiler Feed Pump Discharge Valve. Repair Drum Level control instrumentation and head chamber issue.
Pirkey 1	117	7/10/2021 2:39	7/15/2021 8:38	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	125.98	125.98	675	85039	repair # 7 gov valve steam leak (critical path) and precipitator cleaning and hopper vacuuming, and air heater inspection.
Pirkey 1	117	7/31/2021 2:34	8/9/2021 11:39	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	225.08	225.08	675	151931	Precipitator Cleaning, TR sets i/r, Boiler i/r.
Southwestern 1	121	5/5/2021 7:00	5/7/2021 12:21	Cooling System	hydrogen coolers	53.35	53.35	56	2987.6	Hydrogen Cooler leak i/r
Southwestern 1	121	10/19/2021 0:00	10/22/2021 12:56	Lube Oil	lube oil coolers	84.93	84.93	56	4756.2	To repair Turbine Lube Oil Cooler leak
Southwestern 1	121	2/9/2021 10:23	3/5/2021 16:45	Lube Oil	other lube oil system problems	582.37	582.37	56	32613	Bearing oil leak in the exciter
Southwestern 2	122	10/6/2021 20:54	10/7/2021 15:31	Boiler Air and Gas Systems	other forced draft fan problems	18.62	18.62	79	1470.7	UNKNOWN AT THIS TIME
Southwestern 2	122	3/1/2021 8:00	3/1/2021 17:00	Boiler Piping System	other feedwater problems downstream of feedwater regulating valve (use codes 3401 to 3499 for remain	9	9	79	711	Repair Start-up Regulator Pipe.
Southwestern 2	122	2/9/2021 10:53	2/9/2021 11:49	Boiler Piping System	other miscellaneous piping system problems	0.93	0.93	79	73.7	Reason Unknown
Southwestern 2	122	2/20/2021 10:40	2/23/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	61.33	61.33	79	4845.3	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Southwestern 3	123	6/12/2021 11:25	6/12/2021 13:21	Boiler Control Systems	other boiler instrumentation and control problems	1.93	1.93	311	601.2	Unit Trip - Reason Unknown
Southwestern 3	123	1/19/2021 14:25	2/2/2021 17:00	Boiler Piping System	other main steam valves (including vent and drain valves but not including the turbine stop valves)	338.58	338.58	311	105299	Main Steam Stop Valve Piping Leaking
Southwestern 3	123	2/22/2021 7:00	2/23/2021 15:50	Boiler Piping System	blowdown system controls / instrumentation	32.83	32.83	311	10211	Drum Pressure transmitter line that has failed
Southwestern 3	123	8/31/2021 0:24	9/2/2021 9:26	Boiler Tube Leaks	waterwall (furnace wall)	57.03	57.03	311	17737	Tube Leak
Southwestern 3	123	2/20/2021 10:40	2/22/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	37.33	37.33	311	11611	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Southwestern 3	123	2/22/2021 5:00	2/22/2021 7:00	Economic	lack of fuel: contract or tariff allows for interruption	2	2	311	622	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Southwestern 3	123	4/23/2021 14:11	4/23/2021 16:47	Electrical	other ac instrument power problems	2.6	2.6	311	808.6	Reason Unknown
Southwestern 3	123	4/23/2021 20:03	4/24/2021 2:18	Electrical	other ac instrument power problems	6.25	6.25	311	1943.8	Other
Southwestern 4	313	11/4/2021 7:10	11/4/2021 8:34	Auxiliary Systems	starting system (including motor)	1.4	1.4	79	110.6	Startup Failure
Southwestern 4	313	2/13/2021 9:13	2/20/2021 13:31	Economic	lack of fuel: contract or tariff allows for interruption	172.3	172.3	82	14129	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Southwestern 4	313	2/22/2021 0:00	2/22/2021 5:00	Economic	lack of fuel: contract or tariff allows for interruption	5	5	82	410	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Southwestern 4	313	3/31/2021 18:14	3/31/2021 23:38	Fuel, Ignition, and Combustion Systems	fuel piping and valves	5.4	5.4	79	426.6	Start Failure - possible gas valve issue
Southwestern 4	313	11/3/2021 11:24	11/3/2021 11:30	Fuel, Ignition, and Combustion Systems	fuel piping and valves	0.1	0.1	79	7.9	Gas issues
Southwestern 4	313	8/13/2021 13:55	8/13/2021 15:15	Inlet Air System and Compressors	other compressor problems	1.33	1.33	74	98.6	Compressor Bleed trip
Southwestern 4	313	12/13/2021 0:00	12/15/2021 18:00	Miscellaneous (Generator)	inspection	66	66	81	5346	NERC Relay Testing
Southwestern 5	314	2/13/2021 9:14	2/20/2021 13:31	Economic	lack of fuel: contract or tariff allows for interruption	172.28	172.28	84	14472	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Southwestern 5	314	2/22/2021 0:00	2/22/2021 5:00	Economic	lack of fuel: contract or tariff allows for interruption	5	5	84	420	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Southwestern 5	314	12/15/2021 0:00	12/16/2021 14:00	Miscellaneous (Generator)	inspection	38	38	84	3192	NERC Relay Testing
Stall 6A	321	3/12/2021 7:00	3/15/2021 22:00	Controls	generator voltage control	86	86	163	14018	Replace 6A automatic voltage regulator as well as insulation on HRSG inlet duct
Stall 6A	321	2/4/2021 22:16	2/9/2021 12:06	Feedwater System	feedwater pump	109.83	109.83	167	18342	Boiler Feed Pump outaboard Seal leak i/r & Disc Cavity#3 cooling valve i/r
Stall 6A	321	6/19/2021 11:05	6/19/2021 18:09	HRSG Boiler Control Systems	feedwater controls (report local controls - feedwater pump, feedwater regulator valve, etc., - with	7.07	7.07	159	1123.7	IP drum level Control Valve controller failed and unit tripped on LOW IP drum level
Stall 6A	321	6/25/2021 22:16	7/4/2021 3:18	HRSG Boiler Piping System	other cold reheat steam valves (not including turbine stop or intercept valves)	197.03	197.03	159	31328	R/R Main Steam to Cold Reheat bypass Valve is leaking through on both A & B units
Stall 6A	321	2/21/2021 8:07	2/21/2021 20:37	High Pressure Turbine	rotor shaft	12.5	12.5	167	2087.5	FO due to STG rotor stuck after shutting it down DNR
Stall 6A	321	1/13/2021 20:16	1/14/2021 10:20	Miscellaneous (Steam Turbine)	vibration of the turbine generator unit that cannot be attributed to a specific cause such as bearin	14.07	14.07	169	2377.3	To test Vibration issues on 6S Turbine on Hot Restarts
Stall 6A	321	2/3/2021 0:00	2/3/2021 10:34	Miscellaneous (Steam Turbine)	vibration of the turbine generator unit that cannot be attributed to a specific cause such as bearin	10.57	10.57	167	1764.7	Repair #3 Disc Cavity leak and vibration checks on 6S hot restart
Stall 6A	321	8/16/2021 12:45	8/18/2021 17:40	Personnel or Procedural Errors	maintenance personnel error	52.92	52.92	159	8413.8	Circulating Pump and cooling tower fans tripped due to metal plate falling on wiring
Stall 6B	322	9/16/2021 18:16	9/19/2021 9:04	Auxiliary Systems	cooling and seal air system	62.8	62.8	163	10236	Rotor air cooler temp high following RAC fan motor failure
Stall 6B	322	3/12/2021 7:00	3/15/2021 22:00	Controls	generator voltage control	86	86	167	14362	Replace 6B automatic voltage regulator as well as insulation on HRSG inlet duct and MS555 vlv
Stall 6B	322	9/20/2021 9:00	9/20/2021 15:41	Fuel, Ignition, and Combustion Systems	gas fuel system including controls and instrumentation	6.68	6.68	163	1089.3	6B unavailable to restart due to problems with the gas startup regulator needing replacement
Stall 6B	322	7/4/2021 14:16	7/4/2021 19:13	HRSG Boiler Fuel Supply	gas burner piping and valves	4.95	4.95	163	806.9	Diaphagm for the Gas pressure regulator on the performance conditioning skid failed in service. Tripping the unit.
Stall 6B	322	6/25/2021 22:31	7/4/2021 3:18	HRSG Boiler Piping System	other cold reheat steam valves (not including turbine stop or intercept valves)	196.78	196.78	163	32076	R/R Main Steam to Cold Reheat bypass Valve is leaking through on both A & B units
Stall 6B	322	2/23/2021 9:47	2/23/2021 18:42	HRSG Boiler Piping System	other lp steam valves (including vent and drain valves but not including the turbine stop valves)	8.92	8.92	171	1524.8	LP #2 Preheater vent line leaking
Stall 6B	322	2/21/2021 8:07	2/21/2021 20:37	High Pressure Turbine	rotor shaft	12.5	12.5	171	2137.5	FO due to STG rotor stuck after shutting it down DNR
Stall 6B	322	1/13/2021 20:19	1/16/2021 2:25	Miscellaneous (Steam Turbine)	vibration of the turbine generator unit that cannot be attributed to a specific cause such as bearin	54.1	54.1	172	9305.2	To test Vibration issues on 6S Turbine on Hot Restarts and repair leak in LP evap of HRSG
Stall 6B	322	2/3/2021 0:00	2/3/2021 16:54	Miscellaneous (Steam Turbine)	vibration of the turbine generator unit that cannot be attributed to a specific cause such as bearin	16.9	16.9	171	2889.9	Steam Turbine vibration troubleshooting on Hot restarts
Stall 6B	322	4/24/2021 22:24	4/26/2021 19:41	Miscellaneous HRSG Boiler Tube Problems	boiler drains system	45.28	45.28	163	7381.1	Repair Natural Gas Regulator leaking past an O-ring, repair a leak on a weld on the Drain Valve for HP Evaporator Drain Line and DC#3 actuator not working.
Stall 6B	322	8/16/2021 12:45	8/18/2021 20:46	Personnel or Procedural Errors	maintenance personnel error	56.02	56.02	163	9130.8	Circulating Pump and cooling tower fans tripped due to metal plate falling on wires
Stall 6B	322	2/4/2021 22:28	2/9/2021 10:06	Valves	miscellaneous drain and vent valves	107.63	107.63	171	18405	Repair steam leak on 6S steam seal trap and 6B BFP outboard seal.
Stall 6S	120	6/25/2021 22:48	7/4/2021 3:18	HRSG Boiler Piping System	other cold reheat steam valves (not including turbine stop or intercept valves)	196.5	196.5	189	37139	R/R Main Steam to Cold Reheat bypass Valve is leaking through on both A & B units
Stall 6S	120	2/21/2021 8:07	2/21/2021 20:37	Miscellaneous (Steam Turbine)	turning gear and motor	12.5	12.5	192	2400	6S is possibly unavailable for 12 hours. Trouble with turning gear staying on turning gear. Tripped off gear unnoticed and became stuck. Once back on TG it needed to roll out for 6 hours.
Stall 6S	120	3/12/2021 7:00	3/15/2021 22:00	Miscellaneous (Steam Turbine)	turning gear and motor	86	86	191	16426	Rebuild turning gear box
Stall 6S	120	1/13/2021 20:21	1/14/2021 13:00	Miscellaneous (Steam Turbine)	vibration of the turbine generator unit that cannot be attributed to a specific cause such as bearin	16.65	16.65	193	3213.5	To test Vibration issues on 6S Turbine on Hot Restarts
Stall 6S	120	2/3/2021 0:00	2/3/2021 16:02	Miscellaneous (Steam Turbine)	vibration of the turbine generator unit that cannot be attributed to a specific cause such as bearin	16.03	16.03	192	3078.3	Turbine vibration troubleshooting on Hot restarts
Stall 6S	120	9/20/2021 6:12	9/20/2021 6:33	Personnel or Procedural Errors	operator error	0.35	0.35	189	66.2	Hot Reheat Valve left in manual on startup causing low RH pressure condition as the STG picked up load
Stall 6S	120	8/16/2021 12:51	8/18/2021 18:51	Personnel or Procedural Errors	maintenance personnel error	54	54	189	10206	Circulating Pump and cooling tower fans Tripped when employee accidently dropped metal plate on 13B power lines
Stall 6S	120	2/4/2021 22:28	2/9/2021 14:59	Valves	miscellaneous drain and vent valves	112.52	112.52	192	21603	Seal Trap leak repairs

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Tulsa 2	132	5/12/2021 0:00	5/13/2021 0:00	Boiler Air and Gas Systems	other miscellaneous boiler air and gas system problems	24	24	164	3936	Purge Natural Gas Line because a contracor installed safety shut off valve would not required.
Tulsa 2	132	7/24/2021 3:13	7/25/2021 3:17	Boiler Control Systems	combustion/steam condition controls (report local controls - burners, pulverizers, etc., - with comp	24.07	24.07	164	3947	Programming error cause FD fan inlet damper to go 100% open after purge was completed.
Tulsa 2	132	3/26/2021 0:16	4/1/2021 18:37	Boiler Piping System	desuperheater/attemperator piping	162.35	162.35	164	26625	Feedwater leak repairs on the RH Attemperator Line and Boiler i/r
Tulsa 2	132	8/29/2021 4:04	9/5/2021 17:00	Boiler Tube Leaks	first superheater	180.93	180.93	164	29673	Possible Reheat Tube Busted
Tulsa 2	132	6/27/2021 2:44	7/1/2021 11:39	Boiler Tube Leaks	second superheater	104.92	104.92	164	17206	Secondary SH tube leak
Tulsa 2	132	6/18/2021 11:58	6/19/2021 20:17	Boiler Tube Leaks	economizer	32.32	32.32	164	5300	TPS2 Economizer tube leak
Tulsa 2	132	4/22/2021 0:07	4/29/2021 0:00	Circulating Water Systems	circulating water piping	167.88	167.88	164	27533	Circulating Water Line leak repairs
Tulsa 2	132	9/5/2021 17:00	9/10/2021 9:35	Circulating Water Systems	circulating water piping	112.58	112.58	164	18464	To repair a leak in the circulating water line.
Tulsa 2	132	10/29/2021 9:00	11/3/2021 10:18	Circulating Water Systems	circulating water piping	121.3	121.3	164	19893	Circulating Water Leak
Tulsa 2	132	2/15/2021 18:33	2/17/2021 17:02	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	46.48	46.48	164	7623.2	Water Induction Issues. The DC heater level transmitter froze and the control system thought we were in a water induction event so it tripped the unit, closed all turbine extraction valve and locked out the BFP's.
Tulsa 2	132	10/27/2021 20:12	10/28/2021 22:40	Controls	other turbine instrument and control problems	26.47	26.47	164	4340.6	TPS2 - Turbine RPM Tachometer Out of Service.
Tulsa 2	132	2/17/2021 17:02	2/23/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	126.97	126.97	164	20823	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 2	132	10/6/2021 4:00	10/6/2021 6:00	Electrical	400-700 volt circuit breakers	2	2	164	328	To establish temporary power to TPS3 (retired) switchgear for inspections.
Tulsa 2	132	10/25/2021 8:00	10/25/2021 15:26	Electrical	dc instrument power battery chargers	7.43	7.43	164	1219	To perform required battery capacity testing on TPS 2 & 4.
Tulsa 2	132	2/15/2021 2:48	2/15/2021 15:31	Feedwater System	other feedwater system problems	12.72	12.72	164	2085.6	During extreme cold weather the small vent line on the FW regulator froze and the valve whent wide open and tripped the unit on high drum level.
Tulsa 2	132	12/1/2021 0:00	12/17/2021 9:57	Feedwater System	other feedwater system problems	393.95	393.95	164	64608	Maintenance outage to address valve leaks and actuator repairs on the boiler feed pumps. Also a transmission outage to replace 2 138 KV CCVT in the TPS substation (December 1st only).
Tulsa 2	132	1/26/2021 7:01	1/29/2021 17:00	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	81.98	81.98	164	13445	Wiring Changes on N and S FD Fans.
Tulsa 2	132	2/1/2021 7:00	2/4/2021 7:45	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	72.75	72.75	164	11931	Control system wiring repairs.
Tulsa 2	132	4/13/2021 21:19	4/16/2021 15:30	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	66.18	66.18	164	10854	Economizer tube leak repairs.
Tulsa 2	132	6/9/2021 5:34	6/10/2021 17:29	Piping	miscellaneous turbine piping	35.92	35.92	164	5890.4	Drain on Main Steam Line Pipe Blew Out.
Tulsa 4	134	3/24/2021 16:30	3/25/2021 15:23	Auxiliary Systems	fuel gas compressor - other	22.88	22.88	158	3615.5	Purging the Gas Line
Tulsa 4	134	5/12/2021 0:00	5/13/2021 0:00	Boiler Air and Gas Systems	other miscellaneous boiler air and gas system problems	24	24	158	3792	Purge Natural Gas Line.
Tulsa 4	134	6/29/2021 0:00	6/30/2021 22:09	Boiler Fuel Supply from Bunkers to Boiler	other oil and gas fuel supply problems (see codes 0360-0410 for burner problems)	46.15	46.15	158	7291.7	Install fuel gas overpressure protection shutoff valve, and Unit 3 transformer inspections.
Tulsa 4	134	1/25/2021 4:35	1/26/2021 1:07	Boiler Water Condition	boiler water condition (not feedwater water quality)	20.53	20.53	158	3244.2	Water Chemistry Issues
Tulsa 4	134	8/1/2021 8:05	8/7/2021 7:00	Circulating Water Systems	circulating water piping	142.92	142.92	158	22581	TPS4 - Circulating Water line leak in the return piping at 4S Cooling Tower.
Tulsa 4	134	8/14/2021 4:00	8/17/2021 1:55	Circulating Water Systems	circulating water piping	69.92	69.92	158	11047	circulating water line leak at 4S cooling tower
Tulsa 4	134	2/15/2021 21:45	2/17/2021 17:02	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	43.28	43.28	158	6838.7	Water Chemistry Issues. Excessive amount of Mopa was inadverently sipioned into the chemistry.
Tulsa 4	134	5/11/2021 8:00	5/11/2021 10:36	Electrical	switchyard transformers and associated cooling systems - external (omc)	2.6	2.6	158	410.8	<OMC!> Transmission outage.
Tulsa 4	134	10/6/2021 4:00	10/6/2021 6:00	Electrical	400-700 volt circuit breakers	2	2	158	316	To establish temporary power to TPS3 (retired) switchgear for inspections.
Tulsa 4	134	6/9/2021 7:56	6/9/2021 12:19	Lube Oil	lube oil pumps	4.38	4.38	158	692.5	Turbine oil pump relay failed. Pump would not start.
Tulsa 4	134	12/14/2021 11:45	12/15/2021 12:53	Lube Oil	other lube oil system problems	25.13	25.13	158	3971	An oil leak was discovered on the inboard side of the front standard shaft. ERD 12/17.
Turk 1T	130	2/16/2021 3:07	2/17/2021 11:06	Boiler Control Systems	feedwater instrumentation (not local controls)	31.98	31.98	650	20789	Lost 2 out of 3 Furnace flow instruments due to freezing weather causing unit trip
Turk 1T	130	11/3/2021 21:40	11/5/2021 19:35	Boiler Piping System	hot reheat steam piping up to turbine stop valves	45.92	45.92	650	29846	Leak in Hot Reheat Steam Drain Line. Leak was found during Startup Unit was Off Line
Turk 1T	130	5/28/2021 10:25	5/28/2021 18:13	Controls	hydraulic system pipes and valves	7.8	7.8	650	5070	Control Valve. MCV B oil leak from bad O ring at fitting.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Turk 1T	130	8/3/2021 2:37	8/3/2021 11:33	Controls	hydraulic system pipes and valves	8.93	8.93	650	5806.5	To repair an EHC fluid leak located on A" Main Turbine Control Valve O Ring."
Turk 1T	130	11/3/2021 7:31	11/3/2021 21:40	Cooling System	seal oil system and seals	14.15	14.15	650	9197.5	Seal Oil DP, Loss of Seal Oil Pumps
Turk 1T	130	7/12/2021 17:57	7/15/2021 18:20	Feedwater System	feedwater pump drive - steam turbine	72.38	72.38	650	47049	Feed water Flow, Loss of control of Boiler Feed Pump Turbine Control Valve (Servo Valve)
Turk 1T	130	8/19/2021 2:50	8/19/2021 12:44	Miscellaneous (Balance of Plant)	dcs - data highway	9.9	9.9	650	6435	Power Panel Failure, Lost Drop 12 in DCS
Turk 1T	130	6/5/2021 10:19	6/5/2021 19:30	Miscellaneous (Balance of Plant)	dcs - logic problems	9.18	9.18	650	5969	Unit Trip Seal Oil pessure, Logic Issue
Turk 1T	130	8/20/2021 8:55	8/22/2021 3:15	Slag and Ash Removal	bottom ash rotary (drag chain type) conveyor and motor	42.33	42.33	650	27517	Submerged Flight Conveyor Chain Broken
Weleetka 4	304	8/17/2021 8:00	8/17/2021 15:45	Auxiliary Systems	battery and charger system	7.75	7.75	47	364.3	Battery load testing
Weleetka 4	304	3/2/2021 0:00	3/5/2021 19:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	91	91	50	4550	<OMC!> Enable Oklahoma Pipeline u/a due to maintenance
Weleetka 4	304	3/16/2021 7:00	3/16/2021 22:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	15	15	50	750	<OMC!> Enable Oklahoma Pipeline u/a due to maintenance
Weleetka 4	304	2/14/2021 0:00	2/22/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	192	192	50	9600	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Weleetka 4	304	9/16/2021 4:00	9/16/2021 13:00	Economic	lack of fuel: contract or tariff allows for interruption	9	9	47	423	Enable Oklahoma Pipe Line Pigging - No Gas Supply Available
Weleetka 4	304	9/17/2021 4:00	9/17/2021 6:15	Economic	lack of fuel: contract or tariff allows for interruption	2.25	2.25	47	105.8	Enable Oklahoma Pipe Line Pigging - No Gas Supply Available
Weleetka 4	304	9/21/2021 4:00	9/21/2021 12:30	Economic	lack of fuel: contract or tariff allows for interruption	8.5	8.5	47	399.5	Enable Oklahoma Pipe Line Pigging - No Gas Supply Available
Weleetka 4	304	9/23/2021 4:00	9/23/2021 16:00	Economic	lack of fuel: contract or tariff allows for interruption	12	12	47	564	Enable Oklahoma Pipe Line Pigging - No Gas Supply Available
Weleetka 4	304	4/22/2021 7:00	4/23/2021 16:00	Fuel, Ignition, and Combustion Systems	fuel nozzles/vanes	33	33	50	1650	Burner inspection
Weleetka 4	304	5/18/2021 7:53	5/18/2021 10:14	Miscellaneous (Gas Turbine)	vibration (not engine) in unit not attributable to bearings or other components	2.35	2.35	50	117.5	Vibration
Weleetka 4	304	2/10/2021 7:55	2/14/2021 0:00	Miscellaneous (Generator)	generator output breaker	88.08	88.08	50	4404.2	Generator breaker will not close
Weleetka 5	305	8/18/2021 8:00	8/18/2021 16:00	Auxiliary Systems	battery and charger system	8	8	49	392	Battery load testing
Weleetka 5	305	3/2/2021 0:00	3/5/2021 19:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	91	91	50	4550	<OMC!> Enable Oklahoma Pipeline u/a due to maintenance
Weleetka 5	305	3/16/2021 7:00	3/16/2021 22:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	15	15	50	750	<OMC!> Enable Oklahoma Pipeline u/a due to maintenance
Weleetka 5	305	2/13/2021 9:00	2/22/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	207	207	50	10350	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Weleetka 5	305	9/16/2021 4:00	9/16/2021 13:00	Economic	lack of fuel: contract or tariff allows for interruption	9	9	49	441	Enable Oklahoma Pipe Line Pigging - No Gas Supply Available
Weleetka 5	305	9/17/2021 4:00	9/17/2021 6:15	Economic	lack of fuel: contract or tariff allows for interruption	2.25	2.25	49	110.3	Enable Oklahoma Pipe Line Pigging - No Gas Supply Available
Weleetka 5	305	9/21/2021 4:00	9/21/2021 12:30	Economic	lack of fuel: contract or tariff allows for interruption	8.5	8.5	49	416.5	Enable Oklahoma Pipe Line Pigging - No Gas Supply Available
Weleetka 5	305	9/23/2021 4:00	9/23/2021 16:00	Economic	lack of fuel: contract or tariff allows for interruption	12	12	49	588	Enable Oklahoma Pipe Line Pigging - No Gas Supply Available
Weleetka 5	305	2/10/2021 12:19	2/10/2021 15:36	Fuel, Ignition, and Combustion Systems	fuel piping and valves	3.28	3.28	50	164.2	Inlet vent valve needs replaced
Welsh 1	114	5/1/2021 6:00	5/1/2021 16:28	Boiler Control Systems	boiler drum gage glasses / level indicator	10.47	10.47	525	5495.2	Start Failure
Welsh 1	114	2/4/2021 14:50	2/4/2021 15:33	Condensate System	condensate system controls and instrumentation (not hotwell level, heater level, or deaerator level	0.72	0.72	525	376.4	Start Failure
Welsh 1	114	12/21/2021 9:00	12/21/2021 11:16	Electrical	switchyard circuit breakers - external (omc)	2.27	2.27	525	1190.2	<OMC!> Reserve Feed out of service
Welsh 1	114	12/10/2021 0:00	12/11/2021 10:00	Electrical	main transformer	34	34	525	17850	GSU Testing
Welsh 1	114	1/12/2021 1:10	1/26/2021 8:00	Feedwater System	feedwater pump	342.83	342.83	525	179987	To repair BFP IB pump seal and thrust bearing
Welsh 1	114	11/13/2021 3:18	11/20/2021 2:30	Miscellaneous (Balance of Plant)	balance of plant overhaul/outage	167.2	167.2	525	87780	E4 Burner repair, Exciter Cooling Water leak u/r, Superheater Thermocouple replacement, Fabric Filter Bag replacement.
Welsh 1	114	12/3/2021 10:30	12/7/2021 14:08	Power Station Switchyard	power station switchyard (non generating unit equipment)	99.63	99.63	525	52307	MOAB 10246 Failure

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Welsh 3	116	2/11/2021 19:47	2/12/2021 4:56	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	9.15	9.15	528	4831.2	Lost Vacuum on Main Turbine
Welsh 3	116	11/5/2021 16:00	2/9/2022 17:22	Generator	stator windings, bushings, and terminals	1353	1353	528	714384	Generator rewind
Welsh 3	116	10/2/2021 2:12	11/5/2021 16:00	Miscellaneous (Generator)	inspection	829.8	829.8	528	438134	To repair Generator Resistance Temperature Devices.
Wilkes 1	110	4/15/2021 10:25	4/15/2021 15:49	Boiler Fuel Supply from Bunkers to Boiler	gas burner piping and valves	5.4	5.4	164	885.6	Start Failure due to Gas vent valve not opening
Wilkes 1	110	4/5/2021 0:45	4/15/2021 10:25	Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	249.67	249.67	164	40945	MO to repair suspected economizer tube leak.
Wilkes 1	110	11/8/2021 0:00	11/11/2021 6:00	Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	78	78	164	12792	Superheat Attemperator Valves and Boiler i/r
Wilkes 1	110	11/26/2021 0:00	11/29/2021 0:00	Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	72	72	164	11808	Boiler i/r
Wilkes 1	110	12/14/2021 0:19	12/17/2021 0:00	Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	71.68	71.68	164	11756	Boiler I/R
Wilkes 1	110	9/1/2021 0:18	9/3/2021 0:00	Boiler Piping System	desuperheater/attemperator valves	47.7	47.7	164	7822.8	To replace blown packing on the Super Heater Main Steam Attemperator.
Wilkes 1	110	11/29/2021 0:00	12/8/2021 6:00	Boiler Piping System	desuperheater/attemperator valves	222	222	164	36408	to replace A & B SH Spray Regulators and Boiler i/r
Wilkes 1	110	1/5/2021 6:00	1/8/2021 15:21	Boiler Tube Leaks	economizer	81.35	81.35	164	13341	Due to Possible Economizer Tube Leak. While coming off line for Condenser repairs water was discovered coming from the bottom of the boiler.
Wilkes 1	110	8/3/2021 0:12	8/10/2021 6:00	Boiler Tube Leaks	economizer	173.8	173.8	164	28503	Boiler i/r
Wilkes 1	110	9/7/2021 0:00	9/9/2021 12:00	Boiler Tube Leaks	economizer	60	60	164	9840	Boiler I/R
Wilkes 1	110	1/1/2021 0:13	1/5/2021 6:00	Condensing System	condenser tube leaks	101.78	101.78	164	16692	Condenser leak repair.
Wilkes 1	110	2/3/2021 11:35	2/4/2021 14:32	Condensing System	air ejector piping and valves	26.95	26.95	164	4419.8	Valve broken
Wilkes 1	110	6/7/2021 12:42	6/10/2021 0:00	Electrical	other 400-700 volt problems	59.3	59.3	164	9725.2	480V Bus Ground Detector
Wilkes 1	110	1/23/2021 0:09	2/3/2021 11:35	Feedwater System	feedwater pump	275.43	275.43	164	45171	To clear out and repack 1B boiler feed pump and Boiler i/r.
Wilkes 2	111	9/9/2021 0:00	9/14/2021 17:15	Boiler Internals and Structures	refractory and insulation	137.25	137.25	355	48724	Repair hot spot on Northeast side of boiler floor. Boiler i/r
Wilkes 2	111	10/31/2021 13:30	11/4/2021 11:00	Boiler Tube Leaks	waterwall (furnace wall)	93.5	93.5	355	33193	Furnace waterwall tube leak
Wilkes 2	111	3/23/2021 0:55	4/9/2021 6:00	Condensate System	condensate valves	413.08	413.08	365	150775	Repair Condensate Regulator, calibrate Main Turbine differential expansion indication, pull wire for the A" Heater Drip Pump and Boiler i/r."
Wilkes 2	111	10/23/2021 0:45	10/29/2021 6:00	Condensate System	condensate valves	149.25	149.25	355	52984	Condensate Regulator Bypass valve is leaking by. Condensate Regulator Bypass Valve replacement.
Wilkes 2	111	7/28/2021 0:09	7/29/2021 14:15	Condensate System	deaerator (including level control)	38.1	38.1	355	13526	Outage to repair crack in Deaerator.
Wilkes 2	111	5/22/2021 0:38	6/11/2021 0:00	Controls	other turbine instrument and control problems	479.37	479.37	355	170175	Turbine differential expansion instrumentation repairs
Wilkes 2	111	6/11/2021 0:00	6/12/2021 0:00	Controls	other turbine instrument and control problems	24	24	355	8520	Turbine differential expansion instrumentation repairs
Wilkes 2	111	8/4/2021 0:10	8/7/2021 6:00	Feedwater System	high pressure heater tube leaks	77.83	77.83	355	27631	Repair tube leak in HP heater.
Wilkes 2	111	10/6/2021 17:10	10/14/2021 6:00	Low Pressure Turbine	bearings	180.83	180.83	355	64196	#4 bearing, high vibration and noise from bearing area
Wilkes 2	111	12/16/2020 8:22	2/27/2021 12:30	Miscellaneous (Steam Turbine)	vibration of the turbine generator unit that cannot be attributed to a specific cause such as bearin	1380.5	1380.5	365	503883	Vibration Issues
Wilkes 3	112	2/15/2021 6:08	2/15/2021 11:27	Boiler Control Systems	other boiler instrumentation and control problems	5.32	5.32	360	1914.1	Lost Drum Level indication
Wilkes 3	112	4/15/2021 19:08	4/15/2021 22:36	Boiler Fuel Supply from Bunkers to Boiler	gas burner piping and valves	3.47	3.47	360	1248.1	Regulator trip valve is stuck open
Wilkes 3	112	2/24/2021 12:00	2/26/2021 6:00	Boiler Fuel Supply from Bunkers to Boiler	other burner problems	42	42	360	15120	To i/r 45lb. Gas Regulators.
Wilkes 3	112	3/23/2021 9:00	4/12/2021 6:00	Boiler Fuel Supply from Bunkers to Boiler	other burner problems	477	477	360	171720	Turbine Speed Probes i/r, Boiler i/r, Burner i/r and 45 lb. Gas Regulators i/r.
Wilkes 3	112	11/3/2021 19:05	11/5/2021 6:00	Boiler Fuel Supply from Bunkers to Boiler	other burner problems	34.92	34.92	360	12570	45# Gas regulator issue. 45# gas regulators went shut
Wilkes 3	112	3/4/2021 6:00	3/11/2021 6:00	Boiler Overhaul and Inspections	boiler inspections - problem identification / investigation	168	168	360	60480	Boiler i/r and Air test.
Wilkes 3	112	2/9/2021 3:24	2/9/2021 7:27	Controls	hydraulic system pipes and valves	4.05	4.05	360	1458	EHC Leak
Wilkes 3	112	5/10/2021 6:00	5/14/2021 9:38	Controls	steam turbine control system - upgrades	99.63	99.63	353	35170	To change and install Speed Probes on Front Standard. Overspeed Testing once installation complete.
Wilkes 3	112	1/30/2021 21:46	2/2/2021 6:00	Controls	generator metering devices	56.23	56.23	360	20244	Lost the VAR reading due to a ad transducer
Wilkes 3	112	1/20/2021 11:00	1/28/2021 10:09	Controls	generator synchronization equipment	191.15	191.15	360	68814	New Sync Scope Control Issues
Wilkes 3	112	1/28/2021 10:10	1/28/2021 10:11	Controls	generator synchronization equipment	0.02	0.02	360	6.1	MW reading stayed at zero when it paralled.
Wilkes 3	112	12/19/2020 19:00	1/20/2021 11:00	Cooling System	hydrogen seals	467	467	360	168120	Hydrogen seal leak

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Wilkes 3	112	2/21/2021 9:00	2/23/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	39	39	360	14040	Natural Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	1/28/2021 16:43	1/28/2021 17:31	Miscellaneous (Steam Turbine)	turbine overspeed trip test	0.8	0.8	360	288	Turbine overspeed test
Wilkes 3	112	4/15/2021 22:36	4/16/2021 8:00	Personnel or Procedural Errors	staff shortage	9.4	9.4	360	3384	Unable to reach a chemist to allow the unit to go into start up. Chemist had been at the plant for 15 hours for double start-up.
Wilkes 3	112	5/4/2021 0:00	5/10/2021 6:00	Power Station Switchyard	transmission equipment at the 1st substation (see code 9300 if applicable)	150	150	353	52950	<OMC!> Transmission Outage

GENERATING UNIT OUTAGES -- SCHEDULED COMPLETE OUTAGE

Plant Name	Unit No.	Date		Hrs. Lost	Reason for Outage
		Out	On		

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Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (H	Duration (EC	Reduction (	Loss (M\	Description
Flint Creek 1	113	5/16/2021 0:00	5/20/2021 16:41	Boiler Fuel Supply from Bur	pulverizer inspection	112.68	8.95	41	4620.3	A" Mill o/s for 3
Flint Creek 1	113	6/13/2021 0:00	6/18/2021 15:08	Boiler Fuel Supply from Bur	pulverizer inspection	135.13	10.74	41	5540.3	B" Mill o/s for 3
Flint Creek 1	113	6/20/2021 0:00	6/24/2021 20:10	Boiler Fuel Supply from Bur	pulverizer inspection	116.17	9.23	41	4762.7	D" Mill o/s for 3

GENERATING UNIT OUTAGES -- SCHEDULED COMPLETE OUTAGE

Plant Name	Unit No.	Date		Hrs. Lost	Reason for Outage
		Out	On		
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Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Arsenal Hill 5	104	10/21/2021 8:46	10/21/2021 13:46	Boiler Air and Gas Systems	forced draft fan motors	5	2.73	60	300	5A FD Fan motor failed in service, unit curtailed to 50 mw. In repair shop being rebuilt.
Arsenal Hill 5	104	10/21/2021 13:46	11/14/2021 22:00	Boiler Air and Gas Systems	forced draft fan motors	585.23	337.62	62	37138	5A FD Fan Motor Failure. Motor pulled for evaluation and repair expected return date 12/15/2021
Arsenal Hill 5	104	6/17/2021 19:42	6/18/2021 0:00	Boiler Control Systems	burner management system	4.3	0.31	8	33.8	Hot spots causing 1C igniter issues due to excessive heat on flame scanner electronics.
Arsenal Hill 5	104	8/11/2021 11:40	8/11/2021 14:10	Boiler Control Systems	burner management system	2.5	0.71	31	76.1	Issue with Burner Pilots shorting out and failing
Arsenal Hill 5	104	8/11/2021 14:10	8/11/2021 16:23	Boiler Control Systems	burner management system	2.22	1.47	73	158.9	Burner issues with power supply shorting out
Arsenal Hill 5	104	2/9/2021 8:29	2/9/2021 8:38	Boiler Control Systems	other boiler instrumentation and control problems	0.15	0.1	75	11.2	Drum pressure transmitter frozen
Arsenal Hill 5	104	6/16/2021 17:49	6/16/2021 19:22	Boiler Fuel Supply from Bunkers to Boiler	gas burner piping and valves	1.55	0.11	8	12.2	35 lb reg needs adjusted after the pilot valve was revbuilt on 14th while at higher loads
Arsenal Hill 5	104	8/27/2021 15:45	9/8/2021 9:23	Boiler Fuel Supply from Bunkers to Boiler	gas burner piping and valves	281.63	10.81	4	1167.9	DUE TO HIGH END COMBUSTION CONTROL ISSUES
Arsenal Hill 5	104	8/18/2021 11:12	8/18/2021 12:46	Boiler Piping System	desuperheater/attemperator valves	1.57	0.68	48	73.9	Desuperheater block valve soleniod failed and could not open valve
Arsenal Hill 5	104	2/20/2021 12:43	2/26/2021 22:00	Economic	reserve shutdown	153.28	0	0	0	DNR
Arsenal Hill 5	104	3/19/2021 16:40	4/5/2021 5:00	Economic	reserve shutdown	396.33	0	0	0	DNR
Arsenal Hill 5	104	4/9/2021 0:18	4/26/2021 8:41	Economic	reserve shutdown	416.38	0	0	0	DNR
Arsenal Hill 5	104	4/29/2021 1:01	6/7/2021 13:58	Economic	reserve shutdown	948.95	0	0	0	DNR
Arsenal Hill 5	104	6/9/2021 20:00	6/14/2021 7:06	Economic	reserve shutdown	107.1	0	0	0	DNR
Arsenal Hill 5	104	6/18/2021 0:12	7/24/2021 12:09	Economic	reserve shutdown	875.94	0	0	0	dnr
Arsenal Hill 5	104	7/30/2021 20:46	8/4/2021 9:43	Economic	reserve shutdown	108.94	0	0	0	dnr
Arsenal Hill 5	104	8/6/2021 19:09	8/7/2021 11:08	Economic	reserve shutdown	15.98	0	0	0	DNR
Arsenal Hill 5	104	8/7/2021 12:33	8/9/2021 10:09	Economic	reserve shutdown	45.6	0	0	0	dnr
Arsenal Hill 5	104	8/14/2021 0:20	8/16/2021 9:41	Economic	reserve shutdown	57.35	0	0	0	DNR
Arsenal Hill 5	104	8/18/2021 22:32	8/25/2021 9:01	Economic	reserve shutdown	154.48	0	0	0	DNR
Arsenal Hill 5	104	8/27/2021 20:10	10/8/2021 8:55	Economic	reserve shutdown	996.75	0	0	0	DNR
Arsenal Hill 5	104	10/11/2021 0:22	10/21/2021 8:46	Economic	reserve shutdown	248.4	0	0	0	DNR
Arsenal Hill 5	104	10/23/2021 11:20	11/14/2021 22:00	Economic	reserve shutdown	539.67	0	0	0	DNR
Arsenal Hill 5	104	11/19/2021 16:23	2/25/2022 1:00	Economic	reserve shutdown	1015.62	0	0	0	dnr
Arsenal Hill 5	104	12/1/2020 18:00	2/9/2021 3:50	Economic	reserve shutdown	939.83	0	0	0	DNR
Arsenal Hill 5	104	2/11/2021 11:00	2/11/2021 19:00	Economic	lack of fuel: contract or tariff allows for interruption	8	4.36	60	480	Fuel Limited due to extreme cold weather
Arsenal Hill 5	104	2/12/2021 8:20	2/13/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	24.67	13.46	60	1480.1	Fuel limited due to extreme cold weather
Arsenal Hill 5	104	2/13/2021 9:00	2/15/2021 8:50	Economic	lack of fuel: contract or tariff allows for interruption	47.83	32.61	75	3587.5	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Arsenal Hill 5	104	2/15/2021 8:50	2/16/2021 0:01	Economic	lack of fuel: contract or tariff allows for interruption	15.18	7.59	55	835.1	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Arsenal Hill 5	104	2/16/2021 0:00	2/17/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	24	11.99	55	1319.1	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider.
Arsenal Hill 5	104	2/17/2021 0:00	2/17/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	9	6.14	75	675	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider.
Arsenal Hill 5	104	2/17/2021 9:00	2/18/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	24	12	55	1320	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider.
Arsenal Hill 5	104	2/18/2021 9:00	2/19/2021 6:38	Economic	lack of fuel: contract or tariff allows for interruption	21.63	14.75	75	1622.5	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider.
Arsenal Hill 5	104	2/19/2021 6:38	2/20/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	26.37	13.18	55	1450.1	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider.
Arsenal Hill 5	104	7/27/2021 15:27	7/27/2021 18:47	Feedwater System	other feedwater valves	3.33	1.27	42	137.5	5B feed pump recirculating valve not operating automatically
Comanche 1G1	307	2/18/2021 20:30	2/19/2021 7:14	Cooling System	hydrogen coolers	10.73	0	0	0	1G1 Stator High Temp Alarm
Comanche 1G1	307	1/12/2021 21:37	1/16/2021 2:15	Economic	reserve shutdown	76.63	0	0	0	DNR
Comanche 1G1	307	1/17/2021 4:26	1/22/2021 1:19	Economic	reserve shutdown	116.88	0	0	0	DNR
Comanche 1G1	307	1/23/2021 13:03	1/28/2021 1:31	Economic	reserve shutdown	108.47	0	0	0	DNR
Comanche 1G1	307	1/29/2021 13:14	2/1/2021 2:27	Economic	reserve shutdown	61.22	0	0	0	DNR
Comanche 1G1	307	2/2/2021 19:01	2/9/2021 0:47	Economic	reserve shutdown	149.77	0	0	0	DNR
Comanche 1G1	307	2/20/2021 9:56	2/20/2021 10:40	Economic	reserve shutdown	0.73	0	0	0	DNR
Comanche 1G1	307	2/22/2021 0:00	3/15/2021 0:00	Economic	reserve shutdown	503	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Comanche 1G1	307	3/19/2021 15:35	3/24/2021 0:47	Economic	reserve shutdown	105.2	0	0	0	DNR
Comanche 1G1	307	3/26/2021 1:48	4/8/2021 4:12	Economic	reserve shutdown	314.4	0	0	0	Unit is DNR
Comanche 1G1	307	4/9/2021 17:39	4/18/2021 2:30	Economic	reserve shutdown	200.85	0	0	0	DNR
Comanche 1G1	307	4/19/2021 14:42	4/21/2021 1:14	Economic	reserve shutdown	34.53	0	0	0	DNR
Comanche 1G1	307	4/22/2021 4:24	4/28/2021 2:29	Economic	reserve shutdown	142.08	0	0	0	DNR
Comanche 1G1	307	4/29/2021 5:43	5/19/2021 4:35	Economic	reserve shutdown	478.87	0	0	0	DNR
Comanche 1G1	307	5/21/2021 2:56	5/24/2021 2:23	Economic	reserve shutdown	71.45	0	0	0	DNR
Comanche 1G1	307	5/28/2021 0:29	5/28/2021 22:00	Economic	reserve shutdown	21.52	0	0	0	DNR
Comanche 1G1	307	6/18/2021 15:00	7/11/2021 22:00	Economic	reserve shutdown	559	0	0	0	DNR
Comanche 1G1	307	7/16/2021 14:40	7/19/2021 7:34	Economic	reserve shutdown	64.9	0	0	0	DNR
Comanche 1G1	307	7/30/2021 22:09	8/9/2021 9:48	Economic	reserve shutdown	227.65	0	0	0	DNR
Comanche 1G1	307	8/14/2021 0:34	8/16/2021 11:35	Economic	reserve shutdown	59.02	0	0	0	DNR
Comanche 1G1	307	8/18/2021 1:49	8/21/2021 11:28	Economic	reserve shutdown	81.65	0	0	0	DNR
Comanche 1G1	307	8/23/2021 2:46	8/25/2021 10:56	Economic	reserve shutdown	56.17	0	0	0	DNR
Comanche 1G1	307	8/27/2021 1:38	9/7/2021 4:23	Economic	reserve shutdown	266.75	0	0	0	dnr
Comanche 1G1	307	9/9/2021 1:24	9/17/2021 2:45	Economic	reserve shutdown	193.35	0	0	0	DNR
Comanche 1G1	307	12/29/2020 7:04	1/11/2021 1:43	Economic	reserve shutdown	241.72	0	0	0	DNR
Comanche 1G1	307	2/13/2021 9:00	2/13/2021 10:29	Economic	lack of fuel: contract or tariff allows for interruption	1.48	0.93	50	74.2	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Comanche 1G1	307	2/18/2021 9:00	2/18/2021 18:35	Economic	lack of fuel: contract or tariff allows for interruption	9.58	4.07	34	325.8	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider.
Comanche 1G1	307	4/18/2021 21:20	4/19/2021 16:10	Exhaust Systems	exhaust stack	18.83	0.47	2	35.8	Exhaust duct pressure
Comanche 1G1	307	7/29/2021 4:05	7/31/2021 0:00	Inlet Air System and Compressors	other compressor problems	43.92	7.69	14	538	Compressor oil fouling
Comanche 1G1	307	8/17/2021 6:40	8/23/2021 0:00	Inlet Air System and Compressors	other compressor problems	137.33	18.88	11	1321.8	Compressor Stall
Comanche 1G1	307	8/23/2021 0:00	8/25/2021 12:13	Inlet Air System and Compressors	other compressor problems	60.22	14.3	19	1001.1	Compressor fouling
Comanche 1G1	307	8/25/2021 12:13	8/25/2021 13:57	Inlet Air System and Compressors	other compressor problems	1.73	0.52	24	36.4	Compressor fouling
Comanche 1G1	307	8/26/2021 7:31	8/27/2021 0:00	Inlet Air System and Compressors	other compressor problems	16.48	3.71	18	259.6	Compressor Fouling
Comanche 1G1	307	8/31/2021 5:28	9/18/2021 1:08	Inlet Air System and Compressors	other compressor problems	427.67	101.57	19	7617.8	Compressor fouling
Comanche 1G1	307	2/12/2021 13:53	2/12/2021 14:49	Miscellaneous (External)	other miscellaneous external problems	0.93	0.36	31	29	<OMC!> Regulator slammed shut on gas line
Comanche 1G2	308	1/12/2021 20:55	1/15/2021 22:00	Economic	reserve shutdown	73.08	0	0	0	DNR
Comanche 1G2	308	1/17/2021 5:09	1/21/2021 20:48	Economic	reserve shutdown	111.65	0	0	0	DNR
Comanche 1G2	308	1/23/2021 11:44	1/27/2021 20:58	Economic	reserve shutdown	105.23	0	0	0	DNR
Comanche 1G2	308	1/29/2021 12:38	1/31/2021 22:00	Economic	reserve shutdown	57.37	0	0	0	DNR
Comanche 1G2	308	2/2/2021 17:51	2/8/2021 21:01	Economic	reserve shutdown	147.17	0	0	0	DNR
Comanche 1G2	308	2/22/2021 0:00	3/15/2021 0:00	Economic	reserve shutdown	503	0	0	0	DNR
Comanche 1G2	308	3/19/2021 15:35	3/23/2021 0:51	Economic	reserve shutdown	81.27	0	0	0	DNR
Comanche 1G2	308	3/26/2021 0:33	4/7/2021 23:57	Economic	reserve shutdown	311.4	0	0	0	Unit is DNR
Comanche 1G2	308	4/9/2021 18:40	4/17/2021 21:48	Economic	reserve shutdown	195.13	0	0	0	DNR
Comanche 1G2	308	4/19/2021 16:07	4/20/2021 20:57	Economic	reserve shutdown	28.83	0	0	0	DNR
Comanche 1G2	308	4/22/2021 3:25	4/27/2021 21:49	Economic	reserve shutdown	138.4	0	0	0	DNR
Comanche 1G2	308	4/29/2021 4:33	5/19/2021 0:00	Economic	reserve shutdown	475.45	0	0	0	DNR
Comanche 1G2	308	5/21/2021 1:46	5/23/2021 21:54	Economic	reserve shutdown	68.13	0	0	0	DNR
Comanche 1G2	308	5/28/2021 1:37	5/28/2021 22:00	Economic	reserve shutdown	20.38	0	0	0	DNR
Comanche 1G2	308	6/18/2021 15:00	7/11/2021 22:00	Economic	reserve shutdown	559	0	0	0	DNR
Comanche 1G2	308	7/16/2021 14:40	7/19/2021 3:01	Economic	reserve shutdown	60.35	0	0	0	DNR
Comanche 1G2	308	7/30/2021 20:54	8/9/2021 4:46	Economic	reserve shutdown	223.87	0	0	0	DNR
Comanche 1G2	308	8/14/2021 1:55	8/16/2021 7:18	Economic	reserve shutdown	53.38	0	0	0	DNR
Comanche 1G2	308	8/18/2021 0:41	8/21/2021 6:50	Economic	reserve shutdown	78.15	0	0	0	DNR
Comanche 1G2	308	8/23/2021 1:30	8/25/2021 6:48	Economic	reserve shutdown	53.3	0	0	0	DNR
Comanche 1G2	308	8/27/2021 0:26	9/6/2021 23:47	Economic	reserve shutdown	263.35	0	0	0	dnr
Comanche 1G2	308	9/9/2021 0:25	9/16/2021 22:23	Economic	reserve shutdown	189.97	0	0	0	DNR
Comanche 1G2	308	9/18/2021 21:52	9/24/2021 22:00	Economic	reserve shutdown	144.13	0	0	0	DNR
Comanche 1G2	308	11/22/2021 21:05	1/1/2022 23:43	Economic	reserve shutdown	938.92	0	0	0	DNR
Comanche 1G2	308	12/29/2020 7:05	1/10/2021 20:59	Economic	reserve shutdown	236.98	0	0	0	DNR
Comanche 1G2	308	2/13/2021 9:00	2/13/2021 10:31	Economic	lack of fuel: contract or tariff allows for interruption	1.52	0.95	50	75.8	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Comanche 1G2	308	2/12/2021 13:54	2/12/2021 14:49	Miscellaneous (External)	other miscellaneous external problems	0.92	0.37	32	29.4	<OMC!> regulator slammed shut on the gas line
Comanche 1G2	308	7/29/2021 4:05	7/31/2021 0:00	Turbine	thrust bearing	43.92	9.88	18	691.7	High Thrust Bearing temperature and ambient conditions

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Comanche 1G2	308	8/17/2021 6:43	8/23/2021 0:00	Turbine	thrust bearing	137.28	20.59	12	1441.4	Thrust Bearing Temp
Comanche 1G2	308	8/23/2021 0:00	8/25/2021 12:13	Turbine	thrust bearing	60.22	14.3	19	1001.1	High Thrust Bearing temperature and ambient conditions
Comanche 1G2	308	8/25/2021 12:13	9/19/2021 0:00	Turbine	thrust bearing	587.78	176.34	24	13049	High Thrust Bearing temperature and ambient conditions
Comanche 1G2	308	9/19/2021 0:00	9/24/2021 22:00	Turbine	thrust bearing	142	33.73	19	2495.7	High Thrust Bearing temperature and ambient conditions
Comanche 1S1	136	1/12/2021 21:11	1/16/2021 1:17	Economic	reserve shutdown	76.1	0	0	0	DNR
Comanche 1S1	136	1/17/2021 4:49	1/22/2021 0:09	Economic	reserve shutdown	115.33	0	0	0	DNR
Comanche 1S1	136	1/23/2021 12:34	1/28/2021 2:02	Economic	reserve shutdown	109.47	0	0	0	DNR
Comanche 1S1	136	1/29/2021 12:59	2/1/2021 1:09	Economic	reserve shutdown	60.17	0	0	0	DNR
Comanche 1S1	136	2/2/2021 18:32	2/9/2021 0:47	Economic	reserve shutdown	150.25	0	0	0	DNR
Comanche 1S1	136	2/20/2021 9:23	2/20/2021 10:40	Economic	reserve shutdown	1.28	0	0	0	DNR
Comanche 1S1	136	2/22/2021 0:00	3/15/2021 0:00	Economic	reserve shutdown	503	0	0	0	DNR
Comanche 1S1	136	3/19/2021 15:35	3/23/2021 5:05	Economic	reserve shutdown	85.5	0	0	0	DNR
Comanche 1S1	136	3/26/2021 1:08	4/8/2021 4:48	Economic	reserve shutdown	315.67	0	0	0	Unit is DNR
Comanche 1S1	136	4/9/2021 17:50	4/18/2021 1:45	Economic	reserve shutdown	199.92	0	0	0	DNR
Comanche 1S1	136	4/19/2021 15:37	4/21/2021 0:27	Economic	reserve shutdown	32.83	0	0	0	DNR
Comanche 1S1	136	4/22/2021 3:55	4/28/2021 1:34	Economic	reserve shutdown	141.65	0	0	0	DNR
Comanche 1S1	136	4/29/2021 5:13	5/19/2021 3:30	Economic	reserve shutdown	478.28	0	0	0	DNR
Comanche 1S1	136	5/21/2021 2:29	5/24/2021 1:40	Economic	reserve shutdown	71.18	0	0	0	DNR
Comanche 1S1	136	5/28/2021 1:08	5/28/2021 22:00	Economic	reserve shutdown	20.87	0	0	0	DNR
Comanche 1S1	136	6/18/2021 15:00	7/11/2021 22:00	Economic	reserve shutdown	559	0	0	0	DNR
Comanche 1S1	136	7/16/2021 14:40	7/19/2021 6:33	Economic	reserve shutdown	63.88	0	0	0	DNR
Comanche 1S1	136	7/30/2021 21:37	8/9/2021 8:28	Economic	reserve shutdown	226.84	0	0	0	dnr
Comanche 1S1	136	8/14/2021 1:22	8/16/2021 10:43	Economic	reserve shutdown	57.35	0	0	0	DNR
Comanche 1S1	136	8/18/2021 1:20	8/21/2021 10:34	Economic	reserve shutdown	81.23	0	0	0	DNR
Comanche 1S1	136	8/23/2021 2:14	8/25/2021 9:53	Economic	reserve shutdown	55.64	0	0	0	DNR
Comanche 1S1	136	8/27/2021 0:57	9/7/2021 3:25	Economic	reserve shutdown	266.47	0	0	0	dnr
Comanche 1S1	136	9/9/2021 0:59	9/17/2021 1:49	Economic	reserve shutdown	192.83	0	0	0	DNR
Comanche 1S1	136	9/18/2021 21:22	9/24/2021 22:00	Economic	reserve shutdown	144.63	0	0	0	DNR
Comanche 1S1	136	11/22/2021 21:05	1/2/2022 3:30	Economic	reserve shutdown	938.92	0	0	0	DNR
Comanche 1S1	136	12/29/2020 7:06	1/11/2021 1:00	Economic	reserve shutdown	241	0	0	0	DNR
Comanche 1S1	136	2/13/2021 9:00	2/13/2021 10:30	Economic	lack of fuel: contract or tariff allows for interruption	1.5	0.34	20	30	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Comanche 1S1	136	9/19/2021 0:00	9/24/2021 21:59	Generator	generator bearings	141.98	62.92	39	5096.8	1G1 Outage - Generator bearing vibration
Comanche 1S1	136	9/19/2021 0:00	9/24/2021 21:59	Generator	generator bearings	141.98	8.07	5	653.4	1G2 limited due to High Thrust Bearing temperature.
Comanche 1S1	136	2/15/2021 16:29	2/16/2021 19:03	HRSG Boiler Control Systems	feedwater controls (report local controls - feedwater pump, feedwater regulator valve, etc.) - with	26.57	13.28	44	1168.9	1G2 Unavailable due to broken instrument air line going to the pressure regulating valve
Comanche 1S1	136	2/17/2021 16:50	2/20/2021 10:40	HRSG Boiler Piping System	feedwater valves (not feedwater regulating valve)	65.83	32.92	44	2896.7	1G2 Forced Outage
Comanche 1S1	136	8/25/2021 13:57	8/25/2021 13:58	Inlet Air System and Compressors	other compressor problems	0.02	0.01	39	0.6	Derated due to 1G1 Trip.
Comanche 1S1	136	8/25/2021 13:58	8/25/2021 22:37	Inlet Air System and Compressors	other compressor problems	8.65	4.13	42	330.2	Derated due to 1G1 Trip.
Comanche 1S1	136	9/17/2021 8:00	9/19/2021 0:00	Inlet Air System and Compressors	other compressor problems	40	3.18	7	257.7	1G1 and 1G2 derated and ambient conditions
Comanche 1S1	136	9/18/2021 1:08	9/19/2021 0:00	Inlet Air System and Compressors	other compressor problems	22.87	8.58	33	694.6	1G1 Outage
Comanche 1S1	136	2/12/2021 13:55	2/12/2021 14:48	Miscellaneous (External)	other miscellaneous external problems	0.88	0.15	15	13.3	<OMC!> regulator slammed shut on gas line
Comanche 1S1	136	5/19/2021 8:17	5/19/2021 11:13	Miscellaneous (Gas Turbine)	gas turbine control system - hardware problems (including card failure)	2.93	1.4	42	117.6	1G1 tripped
Comanche 1S1	136	11/22/2021 21:05	11/22/2021 22:07	Miscellaneous (Gas Turbine)	hot end inspection	1.03	0.66	56	56.6	De-rated due to 1 by 1 (1G1 still in PO)
Comanche 1S1	136	11/22/2021 22:10	11/23/2021 6:00	Miscellaneous (Gas Turbine)	hot end inspection	7.83	1.51	17	130.1	1G1 Planned Outage
Comanche 1S1	136	11/23/2021 6:00	4/4/2022 0:00	Miscellaneous (Gas Turbine)	hot end inspection	930	454.43	43	39990	1G1 Planned Outage
Comanche 1S1	136	7/20/2021 12:05	7/20/2021 22:00	Miscellaneous (Gas Turbine)	other miscellaneous gas turbine problems	9.92	1.13	10	90.2	Ambient Temperature
Comanche 1S1	136	7/21/2021 15:36	7/21/2021 20:00	Miscellaneous (Gas Turbine)	other miscellaneous gas turbine problems	4.4	0.95	19	76	Thrust Bearing Temp
Comanche 1S1	136	7/29/2021 4:05	7/31/2021 0:00	Miscellaneous (Gas Turbine)	other miscellaneous gas turbine problems	43.92	4.99	10	399.3	1G1 and 1G2 derated and ambient conditions
Comanche 1S1	136	8/9/2021 13:10	8/9/2021 15:32	Miscellaneous (Gas Turbine)	other miscellaneous gas turbine problems	2.37	1.05	39	83.9	Outage on 1G1
Comanche 1S1	136	8/9/2021 16:04	8/11/2021 4:20	Miscellaneous (Gas Turbine)	other miscellaneous gas turbine problems	36.27	16.07	39	1285.8	Outage on 1G1

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Comanche 1S1	136	8/17/2021 6:45	8/23/2021 0:00	Miscellaneous (Gas Turbine)	other miscellaneous gas turbine problems	137.25	6.24	4	499.1	Due to 1G1 and 1G2 curtailments
Comanche 1S1	136	8/23/2021 0:15	9/17/2021 8:00	Miscellaneous (Gas Turbine)	other miscellaneous gas turbine problems	607.75	13.81	2	1118.9	1G1 and 1G2 derated and ambient conditions
Comanche 1S1	136	3/23/2021 19:04	3/24/2021 0:54	Turbine	thrust bearing	5.83	0.8	12	67.6	Thrust bearing temperatures high
Flint Creek 1	113	12/22/2021 15:36	12/22/2021 19:50	Boiler Air and Gas Systems	forced draft fan controls	4.23	1.12	136	575.9	'B' FD Fan inlet damper not responding to increase in demand. No AGC during this time.
Flint Creek 1	113	12/22/2021 19:50	12/22/2021 21:15	Boiler Air and Gas Systems	forced draft fan controls	1.42	1.21	441	624.9	Calibrating New FD Fan Drive Board
Flint Creek 1	113	8/13/2021 20:14	8/13/2021 23:38	Boiler Control Systems	desuperheater/attemperator controls	3.4	0.15	22	74.8	Troubleshooting South Primary Attemperator; bad ICOT valve positioner
Flint Creek 1	113	5/22/2021 18:07	5/22/2021 19:38	Boiler Fuel Supply from Bunkers to Boiler	pulverizer feeders	1.52	0.19	66	100.1	A Feeder - removed chunk of wet coal
Flint Creek 1	113	5/31/2021 0:30	5/31/2021 1:30	Boiler Fuel Supply from Bunkers to Boiler	pulverizer feeders	1	0.44	225	225	E" feeder tripped and we are unable to restore it. Going into feeder to troubleshoot. Unit limited to 250MWN. Broken belt."
Flint Creek 1	113	6/14/2021 17:28	6/14/2021 20:23	Boiler Fuel Supply from Bunkers to Boiler	pulverizer feeder coal scales	2.92	0.71	125	364.8	We need to take A" feeder out of service and repair - volumetric trouble alarms"
Flint Creek 1	113	11/17/2021 13:00	11/17/2021 14:55	Boiler Fuel Supply from Bunkers to Boiler	primary air flow instrumentation	1.92	0.15	41	78.4	B" Mill O/S to repair seal air differential sensing line"
Flint Creek 1	113	7/22/2021 6:00	7/23/2021 16:17	Boiler Fuel Supply from Bunkers to Boiler	foreign object in pulverizers mill	34.28	2.72	41	1405.6	'A' Mill OOS for internal inspection
Flint Creek 1	113	1/17/2021 22:42	1/17/2021 22:49	Boiler Fuel Supply from Bunkers to Boiler	pulverizer lube oil system	0.12	0.02	96	11.4	Pulverizer Trip
Flint Creek 1	113	1/17/2021 22:49	1/18/2021 3:06	Boiler Fuel Supply from Bunkers to Boiler	pulverizer lube oil system	4.28	0.71	86	368.4	Pulverizer Loss - Loss of lube oil pressure due to failed pump
Flint Creek 1	113	4/4/2021 0:00	4/9/2021 13:47	Boiler Fuel Supply from Bunkers to Boiler	pulverizer inspection	133.78	10.63	41	5485.1	F" Mill o/s for 3000 hour inspection."
Flint Creek 1	113	4/11/2021 0:00	4/16/2021 11:02	Boiler Fuel Supply from Bunkers to Boiler	pulverizer inspection	131.03	10.41	41	5372.6	C" Mill o/s for 3000 hour inspection"
Flint Creek 1	113	5/31/2021 0:00	6/4/2021 15:16	Boiler Fuel Supply from Bunkers to Boiler	pulverizer inspection	111.27	8.84	41	4562	D" Mill o/s"
Flint Creek 1	113	8/2/2021 15:18	8/2/2021 16:28	Boiler Fuel Supply from Bunkers to Boiler	pulverized fuel and air piping (from pulverizer to wind box) (see code 0898 for pulverizer reject sy	1.17	0.1	46	53.7	Lost a mill due to loss of burner swing valve open indication
Flint Creek 1	113	3/4/2021 21:25	3/4/2021 21:45	Boiler Fuel Supply from Bunkers to Boiler	light off (igniter) systems (including fuel supply)	0.33	0.03	46	15.5	Igniter Trip Valve will not open
Flint Creek 1	113	3/4/2021 21:45	3/4/2021 21:55	Boiler Fuel Supply from Bunkers to Boiler	light off (igniter) systems (including fuel supply)	0.17	0.02	46	7.7	Igniter Trip Valve will not open
Flint Creek 1	113	3/4/2021 21:55	3/5/2021 5:00	Boiler Fuel Supply from Bunkers to Boiler	light off (igniter) systems (including fuel supply)	7.08	0.63	46	325.6	Igniter Trip Valve will not open
Flint Creek 1	113	3/5/2021 5:00	3/5/2021 16:26	Boiler Fuel Supply from Bunkers to Boiler	light off (igniter) systems (including fuel supply)	11.43	1.02	46	525.8	Igniter Trip Valve will not open
Flint Creek 1	113	2/19/2021 1:15	2/19/2021 7:00	Boiler Fuel Supply to Bunker	bunker flow problems	5.75	0.74	66	379.3	B Feeder plugged with frozen coal
Flint Creek 1	113	2/19/2021 5:10	2/19/2021 5:54	Boiler Fuel Supply to Bunker	bunker flow problems	0.73	0.14	100	73.3	Pulv. C" O/s"
Flint Creek 1	113	2/19/2021 5:54	2/19/2021 7:00	Boiler Fuel Supply to Bunker	bunker flow problems	1.1	0.19	90	99.1	C" Feeder O/S"
Flint Creek 1	113	2/19/2021 7:00	2/19/2021 7:41	Boiler Fuel Supply to Bunker	bunker flow problems	0.68	0.29	216	147.6	A, B, C mills out of service due to wet/frozen coal
Flint Creek 1	113	2/19/2021 7:41	2/19/2021 9:14	Boiler Fuel Supply to Bunker	bunker flow problems	1.55	0.98	326	505.2	A & B feeders out of service due to wet/frozen coal
Flint Creek 1	113	2/19/2021 9:14	2/19/2021 9:44	Boiler Fuel Supply to Bunker	bunker flow problems	0.5	0.26	266	133.1	A & B feeders out of service due to wet/frozen coal
Flint Creek 1	113	2/19/2021 9:44	2/19/2021 15:29	Boiler Fuel Supply to Bunker	bunker flow problems	5.75	3.63	326	1874.6	A & B feeders out of service due to wet/frozen coal
Flint Creek 1	113	2/20/2021 2:27	2/20/2021 5:04	Boiler Fuel Supply to Bunker	bunker flow problems	2.62	0.34	66	172.9	'B' Feeder O/S
Flint Creek 1	113	2/20/2021 10:36	2/20/2021 11:51	Boiler Fuel Supply to Bunker	bunker flow problems	1.25	0.16	66	82.6	'B' Feeder O/S
Flint Creek 1	113	7/21/2021 3:00	7/21/2021 4:10	Boiler Piping System	desuperheater/attemperator valves	1.17	0.75	331	386	Reheat blocking valve not fully opening. Shaft seal has torn and will need replaced
Flint Creek 1	113	11/19/2021 22:10	11/20/2021 5:42	Boiler Piping System	desuperheater/attemperator valves	7.53	4.83	331	2493.3	RH Attemperator Valve Issues
Flint Creek 1	113	11/23/2021 11:07	11/23/2021 20:03	Boiler Piping System	desuperheater/attemperator valves	8.93	1.14	66	589.8	Reheat Spray Blocking Valve fail to open
Flint Creek 1	113	12/2/2021 10:25	12/2/2021 16:42	Boiler Piping System	desuperheater/attemperator valves	6.28	0.8	66	414.9	Repairing Reheat Attemperating Block Valve
Flint Creek 1	113	12/7/2021 10:00	12/7/2021 15:56	Boiler Piping System	desuperheater/attemperator valves	5.93	0.76	66	391.6	Repairing Reheat Attemperating Block Valve
Flint Creek 1	113	5/10/2021 4:25	5/10/2021 11:21	Boiler Water Condition	boiler water condition (not feedwater water quality)	6.93	1.76	131	908.2	Silica

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Flint Creek 1	113	5/10/2021 11:18	5/10/2021 11:54	Boiler Water Condition	boiler water condition (not feedwater water quality)	0.6	0.09	81	44.4	Silica
Flint Creek 1	113	11/15/2021 16:00	11/15/2021 19:05	Boiler Water Condition	boiler water condition (not feedwater water quality)	3.08	1.08	181	558.3	Silica Hold
Flint Creek 1	113	11/15/2021 19:05	11/16/2021 4:05	Boiler Water Condition	boiler water condition (not feedwater water quality)	9	2.29	131	1179.1	Silica Hold
Flint Creek 1	113	11/16/2021 4:05	11/16/2021 6:10	Boiler Water Condition	boiler water condition (not feedwater water quality)	2.08	0.33	81	168.7	Silica Hold
Flint Creek 1	113	11/16/2021 6:10	11/16/2021 6:55	Boiler Water Condition	boiler water condition (not feedwater water quality)	0.75	0.05	31	23.2	Silica Hold
Flint Creek 1	113	11/16/2021 6:55	11/16/2021 15:10	Boiler Water Condition	boiler water condition (not feedwater water quality)	8.25	0.66	41	338.5	Silica Hold
Flint Creek 1	113	12/16/2021 16:00	12/16/2021 16:26	Boiler Water Condition	boiler water condition (not feedwater water quality)	0.43	0.02	26	11.4	Silica
Flint Creek 1	113	6/9/2021 13:01	6/10/2021 5:00	Condensing System	condenser tube fouling tube side	15.98	0	0	0	Aux condenser back psi running high.
Flint Creek 1	113	6/10/2021 0:00	6/10/2021 6:00	Condensing System	condenser tube fouling tube side	6	3.85	331	1986.1	Aux condenser back psi is running in alarm or close to alarm. Need to clean condenser.
Flint Creek 1	113	9/20/2021 0:00	9/20/2021 8:24	Controls	hydraulic system pipes and valves	8.4	5.39	331	2780.2	#1 Intercept Valve i/r - hydraulic servo valve plugged
Flint Creek 1	113	12/12/2021 13:45	12/12/2021 19:09	Controls	hydraulic system pipes and valves	5.4	1.74	166	896.3	EHC Leak on # 1 Control valve
Flint Creek 1	113	12/14/2021 4:51	12/16/2021 4:36	Economic	reserve shutdown	47.75	0	0	0	dnr
Flint Creek 1	113	7/14/2021 5:00	7/14/2021 9:00	Electrical	4000-7000 volt circuit breakers	4	3.23	416	1664.1	Remove 4KV Bus 1B from service to repair D2 Conveyor breaker.
Flint Creek 1	113	7/14/2021 9:00	7/14/2021 11:00	Electrical	4000-7000 volt circuit breakers	2	1.65	426	851.9	Remove 4KV Bus 1B from service to repair D2 Conveyor breaker.
Flint Creek 1	113	7/14/2021 11:01	7/14/2021 17:58	Electrical	4000-7000 volt circuit breakers	6.95	5.94	441	3065	Remove 4KV Bus 1B from service to repair D2 Conveyor breaker.
Flint Creek 1	113	9/10/2021 1:11	9/10/2021 8:10	Electrical	4000-7000 volt circuit breakers	6.98	0.56	41	286.4	"F' pulverizer motor has shown a fault and is unavailable for service. Unit limited to 475. F" Pulverizer 4kV circuit breaker problem."
Flint Creek 1	113	10/4/2021 21:00	10/8/2021 22:00	Exciter	other exciter problems	97	12.41	66	6402	Generator Ground - field ground
Flint Creek 1	113	5/16/2021 13:00	5/16/2021 15:58	Fuel Quality	wet coal (not omc)	2.97	0.14	25	74.3	Coal Quality
Flint Creek 1	113	5/18/2021 16:05	5/18/2021 16:49	Fuel Quality	wet coal (not omc)	0.73	0.01	10	7.2	Plugged feeder
Flint Creek 1	113	3/18/2021 2:43	3/18/2021 4:39	Heater Drain Systems	heater level control	1.93	0.21	56	108.4	Isolating HP Heater due to Possible Leak
Flint Creek 1	113	3/18/2021 4:39	3/18/2021 14:18	Heater Drain Systems	heater level control	9.65	1.05	56	540.3	HP Heater O/S
Flint Creek 1	113	7/31/2021 12:53	7/31/2021 19:23	Heater Drain Systems	heater drain valves	6.5	0.58	46	298.8	F Heater Extraction valve failed to open and F Heater normal level controller work
Flint Creek 1	113	8/22/2021 15:05	8/22/2021 16:21	Heater Drain Systems	heater drain valves	1.27	0.08	31	39.2	HP Heater Problem; F" HP Heater normal drain regulator failure"
Flint Creek 1	113	8/23/2021 18:24	8/24/2021 16:07	Heater Drain Systems	heater drain valves	21.72	0.93	22	477.8	F High pressure heater normal drip regulator out of service, using emergency regulator to control heater level.
Flint Creek 1	113	5/21/2021 7:00	5/21/2021 8:16	Miscellaneous (Boiler)	boiler safety valve test	1.27	0.42	171	216.7	Set Safety Valves - Sootblower Safety Valve Test
Flint Creek 1	113	9/7/2021 11:30	9/7/2021 12:00	Valves	miscellaneous drain and vent valves	0.5	0.16	166	83.1	Ventilator Valve and Turbine Valve Issues
Flint Creek 1	113	9/7/2021 12:16	9/7/2021 19:16	Valves	miscellaneous drain and vent valves	7	2.59	191	1337	Ventilator Valve and Turbine Valve Issues
Flint Creek 1	113	9/8/2021 7:00	9/8/2021 9:24	Valves	miscellaneous drain and vent valves	2.4	0.77	166	398.4	Troubleshoot issues with Turbine valves and ventilator valve
Flint Creek 1	113	1/3/2021 0:00	1/3/2021 1:18	Valves	control valve testing	1.3	0.54	216	280.7	Valve Check
Flint Creek 1	113	1/16/2021 16:00	1/16/2021 16:41	Valves	control valve testing	0.68	0.22	166	113.5	Weekly Valve Checks
Flint Creek 1	113	1/22/2021 20:00	1/22/2021 20:49	Valves	control valve testing	0.82	0.46	291	237.9	Weekly Valve Checks
Flint Creek 1	113	1/29/2021 21:00	1/29/2021 22:20	Valves	control valve testing	1.33	0.43	166	221.4	Weekly Valve Checks
Flint Creek 1	113	2/5/2021 21:00	2/5/2021 21:54	Valves	control valve testing	0.9	0.46	266	239.4	Valve Check
Flint Creek 1	113	2/21/2021 2:00	2/21/2021 3:23	Valves	control valve testing	1.38	0.45	166	229.6	Weekly Valve Checks
Flint Creek 1	113	2/26/2021 21:00	2/26/2021 21:38	Valves	control valve testing	0.63	0.3	241	152.7	Weekly Valve Checks
Flint Creek 1	113	3/5/2021 20:00	3/5/2021 21:21	Valves	control valve testing	1.35	0.43	166	223.9	Weekly Valve Checks
Flint Creek 1	113	3/12/2021 21:00	3/12/2021 21:48	Valves	control valve testing	0.8	0.45	291	232.7	Weekend valve checks
Flint Creek 1	113	3/19/2021 22:00	3/19/2021 23:29	Valves	control valve testing	1.48	0.84	291	431.9	Weekly Valve Checks
Flint Creek 1	113	3/26/2021 20:00	3/26/2021 20:39	Valves	control valve testing	0.65	0.21	166	107.8	Weekly Valve Checks
Flint Creek 1	113	4/2/2021 20:00	4/2/2021 20:56	Valves	control valve testing	0.93	0.49	271	252.8	Weekly Valve Checks
Flint Creek 1	113	5/21/2021 21:00	5/21/2021 21:50	Valves	control valve testing	0.83	0.27	166	138.3	Valve check
Flint Creek 1	113	5/29/2021 8:00	5/29/2021 8:20	Valves	control valve testing	0.33	0.19	291	97	Weekly valve Checks
Flint Creek 1	113	6/4/2021 23:00	6/4/2021 23:40	Valves	control valve testing	0.67	0.21	166	110.4	Weekly Valve Checks
Flint Creek 1	113	6/12/2021 0:52	6/12/2021 1:34	Valves	control valve testing	0.7	0.31	228	159.4	Weekly Valve Checks
Flint Creek 1	113	7/4/2021 1:00	7/4/2021 2:18	Valves	control valve testing	1.3	0.42	166	215.7	Weekly Valve Checks
Flint Creek 1	113	7/17/2021 1:00	7/17/2021 1:51	Valves	control valve testing	0.85	0.36	216	183.7	Weekly Valve Checks
Flint Creek 1	113	8/1/2021 3:00	8/1/2021 4:00	Valves	control valve testing	1	0.32	166	166.2	valve check
Flint Creek 1	113	8/7/2021 2:00	8/7/2021 3:14	Valves	control valve testing	1.23	0.4	166	204.9	Weekly Valve Checks
Flint Creek 1	113	8/15/2021 1:00	8/15/2021 2:09	Valves	control valve testing	1.15	0.37	166	190.9	Weekly Valve Checks
Flint Creek 1	113	8/22/2021 2:00	8/22/2021 2:57	Valves	control valve testing	0.95	0.31	166	157.9	Weekly Valve Checks
Flint Creek 1	113	9/5/2021 2:00	9/5/2021 3:18	Valves	control valve testing	1.3	0.42	166	215.7	valve check
Flint Creek 1	113	9/11/2021 0:00	9/11/2021 1:16	Valves	control valve testing	1.27	0.41	166	210	Weekly Valve Checks
Flint Creek 1	113	9/18/2021 22:00	9/18/2021 23:15	Valves	control valve testing	1.25	0.4	166	207.4	Weekly Valve Checks
Flint Creek 1	113	9/25/2021 4:00	9/25/2021 4:35	Valves	control valve testing	0.58	0.22	191	111.5	Weekly Valve Checks
Flint Creek 1	113	10/3/2021 2:00	10/3/2021 3:10	Valves	control valve testing	1.17	0.38	166	193.5	Weekly Valve Checks
Flint Creek 1	113	11/21/2021 1:00	11/21/2021 1:45	Valves	control valve testing	0.75	0.24	166	124.4	Weekly Valve Checks
Flint Creek 1	113	11/26/2021 22:00	11/26/2021 22:39	Valves	control valve testing	0.65	0.21	166	107.8	Weekly Valve Checks

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Flint Creek 1	113	12/3/2021 22:00	12/3/2021 23:13	Valves	control valve testing	1.22	0.51	216	262.6	Weekly Valve Checks
Flint Creek 1	113	12/25/2021 20:00	12/25/2021 20:50	Valves	control valve testing	0.83	0.35	216	180.1	Weekly Valve Checks
Flint Creek 1	113	12/31/2021 19:00	12/31/2021 19:37	Valves	control valve testing	0.62	0.2	166	102.2	Weekly Valve Checks
Knox Lee 5	109	2/15/2021 7:14	2/15/2021 8:00	Boiler Fuel Supply from Bunkers to Boiler	igniters	0.77	0.08	34	26.1	Burner Problems
Knox Lee 5	109	2/15/2021 8:00	2/15/2021 13:45	Boiler Fuel Supply from Bunkers to Boiler	igniters	5.75	0.74	44	252.8	Burner Problems
Knox Lee 5	109	2/22/2021 8:53	2/22/2021 11:00	Boiler Water Condition	boiler water condition (not feedwater water quality)	2.12	1.67	271	573.4	Chemistry Issues
Knox Lee 5	109	12/15/2021 0:48	1/25/2022 15:50	Condensate System	condensate/hotwell pump motor	407.2	111.27	94	38277	5C condensate pump is out of service due to a bad motor.
Knox Lee 5	109	6/16/2021 16:57	6/28/2021 8:05	Condensing System	condenser tube and water box cleaning (including circulating water flow reversal)	279.13	38.95	48	13165	Main condenser fouling
Knox Lee 5	109	7/22/2021 13:03	7/22/2021 13:13	Condensing System	expansion joint	0.17	0.06	113	18.6	Main Condenser Backpressure
Knox Lee 5	109	7/22/2021 13:13	7/23/2021 0:00	Condensing System	expansion joint	10.78	3.7	118	1250.3	Main Condenser Backpressure
Knox Lee 5	109	7/26/2021 13:01	7/31/2021 23:11	Condensing System	expansion joint	130.17	52.22	138	17650	back pressure
Knox Lee 5	109	8/6/2021 12:43	8/9/2021 13:00	Condensing System	expansion joint	72.28	29	138	9801	back pressure
Knox Lee 5	109	8/9/2021 13:00	8/27/2021 11:45	Condensing System	expansion joint	430.75	191.58	153	64755	back pressure
Knox Lee 5	109	8/27/2021 11:45	8/27/2021 15:00	Condensing System	expansion joint	3.25	1.6	169	539.8	High backpressure
Knox Lee 5	109	8/27/2021 15:00	9/9/2021 0:00	Condensing System	expansion joint	297	161.44	178	54567	High backpressure
Knox Lee 5	109	1/10/2021 6:38	1/17/2021 22:00	Economic	reserve shutdown	183.37	0	0	0	Reason Unknown
Knox Lee 5	109	1/21/2021 18:02	2/8/2021 18:56	Economic	reserve shutdown	432.89	0	0	0	DNR
Knox Lee 5	109	2/20/2021 13:40	2/22/2021 5:21	Economic	reserve shutdown	39.68	0	0	0	DNR
Knox Lee 5	109	2/24/2021 7:37	2/25/2021 7:03	Economic	reserve shutdown	23.43	0	0	0	DNR
Knox Lee 5	109	2/27/2021 10:40	3/8/2021 10:55	Economic	reserve shutdown	216.24	0	0	0	DNR
Knox Lee 5	109	3/11/2021 12:39	3/29/2021 2:28	Economic	reserve shutdown	420.82	0	0	0	DNR
Knox Lee 5	109	4/2/2021 12:42	4/2/2021 22:00	Economic	reserve shutdown	9.3	0	0	0	DNR
Knox Lee 5	109	6/13/2021 0:45	6/14/2021 9:27	Economic	reserve shutdown	32.7	0	0	0	DNR
Knox Lee 5	109	6/18/2021 0:39	6/30/2021 8:08	Economic	reserve shutdown	295.48	0	0	0	dnr
Knox Lee 5	109	7/2/2021 21:11	7/6/2021 11:04	Economic	reserve shutdown	85.88	0	0	0	DNR
Knox Lee 5	109	7/8/2021 21:35	7/16/2021 14:21	Economic	reserve shutdown	184.77	0	0	0	DNR
Knox Lee 5	109	7/19/2021 0:37	7/20/2021 10:07	Economic	reserve shutdown	33.5	0	0	0	DNR
Knox Lee 5	109	7/23/2021 0:38	7/24/2021 9:35	Economic	reserve shutdown	32.95	0	0	0	DNR
Knox Lee 5	109	7/30/2021 18:55	8/1/2021 0:00	Economic	reserve shutdown	29.08	0	0	0	dnr
Knox Lee 5	109	8/5/2021 0:00	8/5/2021 11:34	Economic	reserve shutdown	11.57	0	0	0	DNR
Knox Lee 5	109	8/8/2021 0:36	8/9/2021 10:01	Economic	reserve shutdown	33.42	0	0	0	DNR
Knox Lee 5	109	8/14/2021 0:32	8/16/2021 8:54	Economic	reserve shutdown	56.37	0	0	0	DNR
Knox Lee 5	109	8/18/2021 19:29	8/25/2021 8:01	Economic	reserve shutdown	156.53	0	0	0	DNR
Knox Lee 5	109	8/27/2021 17:51	8/30/2021 11:00	Economic	reserve shutdown	65.15	0	0	0	DNR
Knox Lee 5	109	9/2/2021 0:35	9/9/2021 0:00	Economic	reserve shutdown	167.42	0	0	0	DNR
Knox Lee 5	109	9/16/2021 21:11	10/8/2021 10:40	Economic	reserve shutdown	517.48	0	0	0	DNR
Knox Lee 5	109	10/11/2021 0:45	10/12/2021 9:00	Economic	reserve shutdown	32.25	0	0	0	DNR
Knox Lee 5	109	10/12/2021 13:38	10/21/2021 6:38	Economic	reserve shutdown	209	0	0	0	DNR
Knox Lee 5	109	10/23/2021 18:34	10/29/2021 17:53	Economic	reserve shutdown	143.32	0	0	0	DNR
Knox Lee 5	109	11/2/2021 23:32	11/3/2021 0:00	Economic	reserve shutdown	0.47	0	0	0	dnr
Knox Lee 5	109	11/4/2021 0:00	11/4/2021 9:08	Economic	reserve shutdown	9.13	0	0	0	dnr
Knox Lee 5	109	11/6/2021 13:29	11/9/2021 0:08	Economic	reserve shutdown	59.65	0	0	0	DNR
Knox Lee 5	109	11/11/2021 8:19	11/15/2021 6:31	Economic	reserve shutdown	94.2	0	0	0	DNR
Knox Lee 5	109	11/17/2021 9:41	11/23/2021 5:13	Economic	reserve shutdown	139.53	0	0	0	DNR
Knox Lee 5	109	11/25/2021 8:43	2/21/2022 6:00	Economic	reserve shutdown	879.28	0	0	0	DNR
Knox Lee 5	109	12/18/2020 14:43	1/8/2021 4:05	Economic	reserve shutdown	172.08	0	0	0	DNR
Knox Lee 5	109	2/11/2021 10:10	2/12/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	22.83	4.58	69	1575.5	Fuel Limit
Knox Lee 5	109	2/12/2021 13:12	2/12/2021 16:57	Economic	lack of fuel: contract or tariff allows for interruption	3.75	0.75	69	258.7	Fuel limits
Knox Lee 5	109	2/12/2021 16:57	2/13/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	16.05	3.22	69	1107.3	Fuel limits
Knox Lee 5	109	2/13/2021 9:45	2/14/2021 8:10	Economic	lack of fuel: contract or tariff allows for interruption	22.42	4.5	69	1546.6	fuel limit
Knox Lee 5	109	2/15/2021 11:13	2/16/2021 4:00	Economic	lack of fuel: contract or tariff allows for interruption	16.78	1.71	35	587.6	Gulf South Gas Restriction
Knox Lee 5	109	2/16/2021 1:15	2/16/2021 4:00	Economic	lack of fuel: contract or tariff allows for interruption	2.75	0.63	79	217.4	Natural Gas Supply restriction
Knox Lee 5	109	2/16/2021 4:00	2/16/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	5	1.66	114	570	Natural Gas Supply restriction
Knox Lee 5	109	2/16/2021 11:43	2/16/2021 13:45	Economic	lack of fuel: contract or tariff allows for interruption	2.03	0.63	106	215.7	Natural Gas Supply restriction
Knox Lee 5	109	2/16/2021 13:45	2/16/2021 14:45	Economic	lack of fuel: contract or tariff allows for interruption	1	0.79	271	271.1	Natural Gas Supply restriction

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Knox Lee 5	109	2/16/2021 14:45	2/16/2021 20:00	Economic	lack of fuel: contract or tariff allows for interruption	5.25	4.72	309	1622.3	Natural Gas Supply restriction.
Knox Lee 5	109	2/16/2021 20:00	2/16/2021 21:00	Economic	lack of fuel: contract or tariff allows for interruption	1	0.71	244	243.9	Natural Gas Supply restriction.
Knox Lee 5	109	2/16/2021 21:00	2/17/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	12	9.14	262	3144.2	Natural Gas Supply restriction.
Knox Lee 5	109	2/17/2021 9:00	2/17/2021 21:15	Economic	lack of fuel: contract or tariff allows for interruption	12.25	4.77	134	1641.6	Natural Gas Supply restriction.
Knox Lee 5	109	2/17/2021 21:15	2/18/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	11.75	6.8	199	2338.2	Natural Gas Supply restriction.
Knox Lee 5	109	2/18/2021 9:00	2/19/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	24	15.98	229	5496.1	Natural Gas Supply restriction.
Knox Lee 5	109	2/19/2021 9:00	2/20/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	24	9.7	139	3336.1	Natural Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Knox Lee 5	109	12/18/2020 9:00	1/17/2021 22:00	Valves	control valves	406	3.54	3	1218.1	Anticipated Throttle Pressure Limitations
Lieberman 3	102	8/10/2021 14:40	8/11/2021 5:00	Boiler Fuel Supply from Bunkers to Boiler	burner instruments and controls (except light off)	14.33	3.16	24	344	Burner Problem
Lieberman 3	102	10/24/2021 16:18	10/25/2021 7:45	Boiler Fuel Supply from Bunkers to Boiler	light off (igniter) systems (including fuel supply)	15.45	3.12	22	339.9	Pilot lighter issues
Lieberman 3	102	10/25/2021 7:45	10/25/2021 8:10	Boiler Fuel Supply from Bunkers to Boiler	light off (igniter) systems (including fuel supply)	0.42	0.03	9	3.7	Pilot lighter issues
Lieberman 3	102	11/3/2021 18:59	11/4/2021 0:00	Boiler Fuel Supply from Bunkers to Boiler	light off (igniter) systems (including fuel supply)	5.02	0.83	18	90.3	burner issue/
Lieberman 3	102	2/20/2021 9:09	4/4/2021 16:36	Economic	reserve shutdown	1038.45	0	0	0	DNR
Lieberman 3	102	4/8/2021 14:15	4/26/2021 15:24	Economic	reserve shutdown	433.15	0	0	0	DNR
Lieberman 3	102	4/29/2021 0:40	5/25/2021 0:00	Economic	reserve shutdown	623.33	0	0	0	DNR
Lieberman 3	102	5/27/2021 16:10	5/31/2021 0:00	Economic	reserve shutdown	79.83	0	0	0	DNR
Lieberman 3	102	6/2/2021 19:00	6/7/2021 0:00	Economic	reserve shutdown	101	0	0	0	DNR
Lieberman 3	102	6/9/2021 19:48	6/14/2021 11:00	Economic	reserve shutdown	111.2	0	0	0	DNR
Lieberman 3	102	6/16/2021 18:24	6/28/2021 9:08	Economic	reserve shutdown	278.73	0	0	0	DNR
Lieberman 3	102	6/30/2021 0:46	7/24/2021 10:48	Economic	reserve shutdown	586.03	0	0	0	DNR
Lieberman 3	102	7/30/2021 19:26	8/9/2021 8:49	Economic	reserve shutdown	229.38	0	0	0	dnr
Lieberman 3	102	8/14/2021 0:24	8/16/2021 8:27	Economic	reserve shutdown	56.05	0	0	0	DNR
Lieberman 3	102	8/18/2021 11:29	8/25/2021 7:01	Economic	reserve shutdown	163.53	0	0	0	dnr
Lieberman 3	102	8/27/2021 21:05	10/18/2021 7:00	Economic	reserve shutdown	1233.92	0	0	0	DNR
Lieberman 3	102	10/21/2021 9:06	10/24/2021 10:00	Economic	reserve shutdown	72.9	0	0	0	Cover Maintenance Release to Parallel of 3d938457-6039-4567-8e80-d3c3611ee6c9
Lieberman 3	102	10/26/2021 20:15	10/27/2021 9:00	Economic	reserve shutdown	12.75	0	0	0	DNR
Lieberman 3	102	10/29/2021 18:00	11/2/2021 6:46	Economic	reserve shutdown	84.77	0	0	0	DNR
Lieberman 3	102	11/4/2021 16:06	11/9/2021 0:50	Economic	reserve shutdown	105.73	0	0	0	DNR
Lieberman 3	102	11/11/2021 3:05	11/15/2021 6:00	Economic	reserve shutdown	98.92	0	0	0	DNR
Lieberman 3	102	11/19/2021 13:00	2/24/2022 14:40	Economic	reserve shutdown	1019	0	0	0	dnr
Lieberman 3	102	11/24/2020 6:55	2/9/2021 7:56	Economic	reserve shutdown	943.93	0	0	0	DNR
Lieberman 3	102	2/12/2021 8:29	2/13/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	24.52	16.64	74	1814.2	fuel limit
Lieberman 3	102	2/13/2021 9:00	2/17/2021 0:30	Economic	lack of fuel: contract or tariff allows for interruption	87.5	59.4	74	6475	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 3	102	2/17/2021 0:30	2/17/2021 6:00	Economic	lack of fuel: contract or tariff allows for interruption	5.5	1.97	39	214.5	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 3	102	2/17/2021 6:00	2/17/2021 14:14	Economic	lack of fuel: contract or tariff allows for interruption	8.23	2.95	39	321.1	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 3	102	2/17/2021 14:14	2/18/2021 0:56	Economic	lack of fuel: contract or tariff allows for interruption	10.7	2.26	23	246.1	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 3	102	2/18/2021 0:56	2/18/2021 23:26	Economic	lack of fuel: contract or tariff allows for interruption	22.5	15.28	74	1665	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Lieberman 3	102	2/18/2021 23:26	2/19/2021 5:30	Economic	lack of fuel: contract or tariff allows for interruption	6.07	2.17	39	236.6	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 3	102	2/19/2021 5:30	2/19/2021 10:23	Economic	lack of fuel: contract or tariff allows for interruption	4.88	3.32	74	361.3	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 3	102	2/19/2021 10:23	2/19/2021 10:45	Economic	lack of fuel: contract or tariff allows for interruption	0.37	0.22	66	24.2	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 3	102	2/19/2021 10:57	2/20/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	22.05	14.97	74	1631.7	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 4	103	11/3/2021 18:59	11/3/2021 21:39	Boiler Fuel Supply from Bunkers to Boiler	light off (igniter) systems (including fuel supply)	2.67	0.32	13	34.7	burner issue
Lieberman 4	103	2/20/2021 9:00	2/21/2021 0:24	Boiler Tube Leaks	waterwall (furnace wall)	15.4	10.41	73	1124.2	Running with a tube leak
Lieberman 4	103	2/26/2021 13:00	4/5/2021 4:01	Economic	reserve shutdown	902.02	0	0	0	DNR
Lieberman 4	103	4/7/2021 6:23	5/31/2021 0:00	Economic	reserve shutdown	1289.62	0	0	0	DNR
Lieberman 4	103	6/2/2021 19:00	6/6/2021 0:00	Economic	reserve shutdown	77	0	0	0	DNR
Lieberman 4	103	6/10/2021 17:47	6/14/2021 13:31	Economic	reserve shutdown	91.73	0	0	0	DNR
Lieberman 4	103	6/16/2021 18:38	6/29/2021 9:45	Economic	reserve shutdown	303.12	0	0	0	dnr
Lieberman 4	103	6/30/2021 18:55	7/27/2021 7:07	Economic	reserve shutdown	636.2	0	0	0	DNR
Lieberman 4	103	7/30/2021 18:42	8/9/2021 12:54	Economic	reserve shutdown	234.2	0	0	0	dnr
Lieberman 4	103	8/14/2021 0:41	8/25/2021 10:25	Economic	reserve shutdown	273.73	0	0	0	DNR
Lieberman 4	103	8/27/2021 18:43	10/8/2021 10:07	Economic	reserve shutdown	999.4	0	0	0	DNR
Lieberman 4	103	10/11/2021 0:12	10/18/2021 7:00	Economic	reserve shutdown	174.79	0	0	0	DNR
Lieberman 4	103	10/21/2021 9:06	10/24/2021 14:02	Economic	reserve shutdown	76.93	0	0	0	Cover Maintenance Release to Parallel of d9730d64-ab9c-495c-b53b-66a549e55b7d
Lieberman 4	103	10/26/2021 20:35	11/1/2021 9:14	Economic	reserve shutdown	132.65	0	0	0	DNR
Lieberman 4	103	11/3/2021 21:40	11/9/2021 8:04	Economic	reserve shutdown	131.4	0	0	0	DNR
Lieberman 4	103	11/23/2020 13:15	2/9/2021 4:05	Economic	reserve shutdown	940.08	0	0	0	DNR
Lieberman 4	103	12/9/2021 14:30	12/13/2021 17:10	Economic	reserve shutdown	98.67	0	0	0	DNR
Lieberman 4	103	12/13/2021 17:10	2/24/2022 14:40	Economic	reserve shutdown	438.83	0	0	0	DNR
Lieberman 4	103	2/12/2021 8:32	2/12/2021 15:20	Economic	lack of fuel: contract or tariff allows for interruption	6.8	3.09	49	333.2	fuel limit
Lieberman 4	103	2/12/2021 15:20	2/13/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	17.67	8.02	49	865.6	fuel limit
Lieberman 4	103	2/13/2021 9:00	2/17/2021 0:30	Economic	lack of fuel: contract or tariff allows for interruption	87.5	59.14	73	6387.6	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 4	103	2/18/2021 0:56	2/18/2021 23:26	Economic	lack of fuel: contract or tariff allows for interruption	22.5	15.21	73	1642.5	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 4	103	2/19/2021 7:42	2/19/2021 10:22	Economic	lack of fuel: contract or tariff allows for interruption	2.67	1.8	73	194.6	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 4	103	2/19/2021 10:45	2/20/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	22.25	15.04	73	1624.2	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Lieberman 4	103	4/22/2021 6:00	5/31/2021 0:00	Feedwater System	feedwater pump	930	112.67	13	12168	LBM 4 Reduced Load Capacity Due to 4A Boiler Feed Pump Outboard Pump Seal Failure.
Lieberman 4	103	6/2/2021 19:00	6/6/2021 0:00	Feedwater System	feedwater pump	77	9.27	13	1001.1	4A Boiler Feed Pump Outboard Pump Seal Failure.
Lieberman 4	103	6/10/2021 17:47	6/25/2021 15:41	Feedwater System	feedwater pump	357.9	43.08	13	4652.7	4A Boiler Feed Pump Outboard Pump Seal Failure.
Lieberman 4	103	4/5/2021 12:23	4/6/2021 9:00	Miscellaneous (Boiler)	boiler, miscellaneous	20.62	2.1	11	226.8	Secondary air duct leak
Mattson 1	311	1/11/2021 17:00	1/12/2021 8:36	Economic	reserve shutdown	15.6	0	0	0	DNR
Mattson 1	311	1/12/2021 12:55	2/9/2021 2:40	Economic	reserve shutdown	661.75	0	0	0	dnr
Mattson 1	311	2/9/2021 16:16	2/10/2021 5:36	Economic	reserve shutdown	13.33	0	0	0	DNR
Mattson 1	311	2/10/2021 15:12	2/11/2021 4:35	Economic	reserve shutdown	13.37	0	0	0	DNR
Mattson 1	311	2/11/2021 13:13	2/11/2021 16:41	Economic	reserve shutdown	3.47	0	0	0	dnr
Mattson 1	311	2/11/2021 23:29	2/12/2021 2:35	Economic	reserve shutdown	3.1	0	0	0	DNR
Mattson 1	311	2/22/2021 7:00	3/15/2021 6:00	Economic	reserve shutdown	502	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Mattson 1	311	3/26/2021 15:20	5/26/2021 8:00	Economic	reserve shutdown	1456.67	0	0	0	DNR
Mattson 1	311	5/27/2021 16:40	7/27/2021 10:17	Economic	reserve shutdown	1457.62	0	0	0	DNR
Mattson 1	311	7/27/2021 20:11	7/29/2021 13:39	Economic	reserve shutdown	41.45	0	0	0	DNR
Mattson 1	311	7/30/2021 18:41	8/11/2021 8:57	Economic	reserve shutdown	278.26	0	0	0	dnr
Mattson 1	311	8/11/2021 16:12	8/13/2021 13:41	Economic	reserve shutdown	45.47	0	0	0	DNR
Mattson 1	311	8/14/2021 18:45	8/26/2021 11:32	Economic	reserve shutdown	280.78	0	0	0	DNR
Mattson 1	311	8/27/2021 18:40	9/6/2021 22:00	Economic	reserve shutdown	243.33	0	0	0	DNR
Mattson 1	311	10/3/2021 16:00	10/5/2021 9:36	Economic	reserve shutdown	41.6	0	0	0	DNR
Mattson 1	311	10/5/2021 20:11	10/15/2021 22:00	Economic	reserve shutdown	241.82	0	0	0	DNR
Mattson 1	311	11/1/2021 12:45	11/3/2021 16:42	Economic	reserve shutdown	51.95	0	0	0	DNR
Mattson 1	311	11/3/2021 21:44	11/4/2021 5:40	Economic	reserve shutdown	7.93	0	0	0	dnr
Mattson 1	311	11/4/2021 15:14	11/9/2021 8:39	Economic	reserve shutdown	114.41	0	0	0	DNR
Mattson 1	311	11/9/2021 16:13	12/13/2021 9:00	Economic	reserve shutdown	808.78	0	0	0	dnr
Mattson 1	311	11/22/2020 21:35	1/11/2021 8:00	Economic	reserve shutdown	248	0	0	0	DNR
Mattson 1	311	12/16/2021 10:10	12/20/2021 4:37	Economic	reserve shutdown	90.45	0	0	0	DNR
Mattson 1	311	12/20/2021 15:15	1/6/2022 14:36	Economic	reserve shutdown	272.75	0	0	0	DNR
Mattson 1	311	2/15/2021 8:50	2/15/2021 17:34	Economic	lack of fuel: contract or tariff allows for interruption	8.73	1.9	17	146.5	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Mattson 2	312	1/11/2021 17:00	1/12/2021 8:36	Economic	reserve shutdown	15.6	0	0	0	DNR
Mattson 2	312	1/12/2021 12:55	2/9/2021 2:40	Economic	reserve shutdown	661.75	0	0	0	dnr
Mattson 2	312	2/9/2021 16:16	2/10/2021 5:36	Economic	reserve shutdown	13.33	0	0	0	DNR
Mattson 2	312	2/10/2021 15:12	2/11/2021 4:35	Economic	reserve shutdown	13.38	0	0	0	DNR
Mattson 2	312	2/11/2021 13:13	2/11/2021 16:41	Economic	reserve shutdown	3.45	0	0	0	dnr
Mattson 2	312	2/11/2021 23:29	2/12/2021 2:35	Economic	reserve shutdown	3.1	0	0	0	DNR
Mattson 2	312	2/20/2021 9:13	3/15/2021 6:00	Economic	reserve shutdown	547.78	0	0	0	DNR
Mattson 2	312	3/26/2021 15:20	4/28/2021 11:35	Economic	reserve shutdown	788.25	0	0	0	DNR
Mattson 2	312	4/29/2021 0:14	4/29/2021 7:39	Economic	reserve shutdown	7.42	0	0	0	DNR
Mattson 2	312	4/29/2021 16:12	5/12/2021 8:00	Economic	reserve shutdown	303.79	0	0	0	DNR
Mattson 2	312	5/12/2021 10:33	5/26/2021 8:00	Economic	reserve shutdown	333.45	0	0	0	DNR
Mattson 2	312	5/27/2021 16:40	7/27/2021 13:32	Economic	reserve shutdown	1460.87	0	0	0	DNR
Mattson 2	312	7/28/2021 20:43	8/12/2021 8:56	Economic	reserve shutdown	348.2	0	0	0	DNR
Mattson 2	312	8/12/2021 15:11	9/6/2021 22:00	Economic	reserve shutdown	606.81	0	0	0	DNR
Mattson 2	312	10/3/2021 16:00	10/6/2021 9:37	Economic	reserve shutdown	65.62	0	0	0	DNR
Mattson 2	312	10/6/2021 20:12	10/15/2021 22:00	Economic	reserve shutdown	217.8	0	0	0	DNR
Mattson 2	312	11/1/2021 16:43	11/3/2021 16:44	Economic	reserve shutdown	48.02	0	0	0	DNR
Mattson 2	312	11/3/2021 21:44	11/4/2021 5:40	Economic	reserve shutdown	7.93	0	0	0	dnr
Mattson 2	312	11/4/2021 15:14	11/9/2021 8:39	Economic	reserve shutdown	114.4	0	0	0	DNR
Mattson 2	312	11/9/2021 16:13	12/13/2021 9:00	Economic	reserve shutdown	808.78	0	0	0	dnr
Mattson 2	312	11/22/2020 21:35	1/11/2021 8:00	Economic	reserve shutdown	248	0	0	0	DNR
Mattson 2	312	12/16/2021 10:10	12/20/2021 4:37	Economic	reserve shutdown	90.45	0	0	0	DNR
Mattson 2	312	12/20/2021 15:15	1/6/2022 14:36	Economic	reserve shutdown	272.75	0	0	0	DNR
Mattson 2	312	2/17/2021 9:35	2/18/2021 9:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	23.42	5.1	17	393	<OMC!> Gas supply restrictions.
Mattson 2	312	2/18/2021 9:00	2/19/2021 9:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	24	5.23	17	402.8	<OMC!> Gas supply restrictions.
Mattson 2	312	2/15/2021 8:50	2/15/2021 17:34	Economic	lack of fuel: contract or tariff allows for interruption	8.73	1.9	17	146.5	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Mattson 2	312	2/15/2021 22:30	2/16/2021 7:46	Economic	lack of fuel: contract or tariff allows for interruption	9.27	2.02	17	155.5	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Mattson 2	312	2/16/2021 7:46	2/16/2021 9:18	Economic	lack of fuel: contract or tariff allows for interruption	1.53	0.73	37	56	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Mattson 2	312	2/18/2021 9:00	2/19/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	24	6.15	20	473.9	Gas supply restrictions.
Mattson 3	313	2/22/2021 7:00	3/15/2021 6:00	Economic	reserve shutdown	502	0	0	0	DNR
Mattson 3	313	3/26/2021 18:21	4/26/2021 14:32	Economic	reserve shutdown	740.18	0	0	0	DNR
Mattson 3	313	4/27/2021 15:00	4/30/2021 5:37	Economic	reserve shutdown	62.62	0	0	0	DNR
Mattson 3	313	4/30/2021 15:11	5/4/2021 6:38	Economic	reserve shutdown	87.44	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Mattison 3	313	5/4/2021 14:10	5/26/2021 8:00	Economic	reserve shutdown	521.83	0	0	0	DNR
Mattison 3	313	5/27/2021 16:40	6/9/2021 13:36	Economic	reserve shutdown	308.93	0	0	0	DNR
Mattison 3	313	6/9/2021 20:37	7/24/2021 14:36	Economic	reserve shutdown	1073.98	0	0	0	DNR
Mattison 3	313	7/24/2021 21:47	7/27/2021 13:32	Economic	reserve shutdown	63.75	0	0	0	DNR
Mattison 3	313	7/27/2021 20:41	7/29/2021 9:58	Economic	reserve shutdown	37.28	0	0	0	DNR
Mattison 3	313	7/29/2021 20:50	8/13/2021 13:39	Economic	reserve shutdown	352.82	0	0	0	DNR
Mattison 3	313	8/13/2021 20:12	8/21/2021 13:41	Economic	reserve shutdown	185.48	0	0	0	DNR
Mattison 3	313	8/21/2021 20:25	8/22/2021 14:41	Economic	reserve shutdown	18.26	0	0	0	DNR
Mattison 3	313	8/22/2021 21:45	8/23/2021 13:38	Economic	reserve shutdown	15.87	0	0	0	DNR
Mattison 3	313	8/23/2021 20:10	8/24/2021 13:36	Economic	reserve shutdown	17.43	0	0	0	dnr
Mattison 3	313	8/24/2021 23:39	8/25/2021 12:38	Economic	reserve shutdown	12.98	0	0	0	dnr
Mattison 3	313	8/25/2021 19:09	8/26/2021 10:37	Economic	reserve shutdown	15.46	0	0	0	dnr
Mattison 3	313	8/26/2021 19:09	9/6/2021 22:00	Economic	reserve shutdown	266.84	0	0	0	dnr
Mattison 3	313	10/3/2021 16:00	10/7/2021 9:35	Economic	reserve shutdown	89.58	0	0	0	DNR
Mattison 3	313	10/7/2021 20:11	10/8/2021 11:37	Economic	reserve shutdown	15.43	0	0	0	DNR
Mattison 3	313	10/8/2021 18:10	10/9/2021 11:38	Economic	reserve shutdown	17.46	0	0	0	DNR
Mattison 3	313	10/9/2021 19:11	10/15/2021 22:00	Economic	reserve shutdown	146.81	0	0	0	dnr
Mattison 3	313	10/28/2020 12:36	2/12/2021 15:31	Economic	reserve shutdown	1023.52	0	0	0	DNR
Mattison 3	313	11/2/2021 12:44	12/13/2021 9:00	Economic	reserve shutdown	981.27	0	0	0	DNR
Mattison 3	313	12/16/2021 10:10	3/25/2022 22:00	Economic	reserve shutdown	373.83	0	0	0	DNR
Mattison 4	314	3/5/2021 14:28	3/15/2021 6:00	Economic	reserve shutdown	230.53	0	0	0	DNR
Mattison 4	314	3/26/2021 18:21	4/26/2021 12:37	Economic	reserve shutdown	738.27	0	0	0	DNR
Mattison 4	314	4/27/2021 0:54	4/28/2021 7:41	Economic	reserve shutdown	30.78	0	0	0	DNR
Mattison 4	314	4/28/2021 23:10	4/30/2021 6:37	Economic	reserve shutdown	31.45	0	0	0	DNR
Mattison 4	314	5/1/2021 0:12	5/4/2021 7:37	Economic	reserve shutdown	79.41	0	0	0	DNR
Mattison 4	314	5/4/2021 14:10	5/26/2021 8:00	Economic	reserve shutdown	521.83	0	0	0	DNR
Mattison 4	314	5/27/2021 16:40	6/9/2021 13:36	Economic	reserve shutdown	308.93	0	0	0	DNR
Mattison 4	314	6/9/2021 20:37	7/24/2021 14:36	Economic	reserve shutdown	1073.98	0	0	0	DNR
Mattison 4	314	7/24/2021 21:47	7/27/2021 13:32	Economic	reserve shutdown	63.75	0	0	0	DNR
Mattison 4	314	7/27/2021 20:41	7/29/2021 13:37	Economic	reserve shutdown	40.93	0	0	0	DNR
Mattison 4	314	7/29/2021 20:41	7/30/2021 9:58	Economic	reserve shutdown	13.28	0	0	0	DNR
Mattison 4	314	7/30/2021 20:11	7/31/2021 13:38	Economic	reserve shutdown	17.45	0	0	0	dnr
Mattison 4	314	7/31/2021 20:10	8/13/2021 13:39	Economic	reserve shutdown	305.48	0	0	0	dnr
Mattison 4	314	8/13/2021 20:12	8/20/2021 10:37	Economic	reserve shutdown	158.41	0	0	0	DNR
Mattison 4	314	8/20/2021 17:11	8/21/2021 13:41	Economic	reserve shutdown	20.5	0	0	0	DNR
Mattison 4	314	8/21/2021 20:25	8/22/2021 14:41	Economic	reserve shutdown	18.26	0	0	0	DNR
Mattison 4	314	8/22/2021 22:09	8/23/2021 13:38	Economic	reserve shutdown	15.48	0	0	0	DNR
Mattison 4	314	8/23/2021 21:10	8/24/2021 10:36	Economic	reserve shutdown	13.42	0	0	0	dnr
Mattison 4	314	8/26/2021 10:05	9/6/2021 22:00	Economic	reserve shutdown	275.92	0	0	0	DNR
Mattison 4	314	10/3/2021 16:00	10/8/2021 7:59	Economic	reserve shutdown	111.98	0	0	0	DNR
Mattison 4	314	10/8/2021 18:10	10/9/2021 11:37	Economic	reserve shutdown	17.44	0	0	0	dnr
Mattison 4	314	10/9/2021 19:11	10/15/2021 22:00	Economic	reserve shutdown	146.81	0	0	0	dnr
Mattison 4	314	11/2/2021 16:41	12/13/2021 9:00	Economic	reserve shutdown	977.32	0	0	0	dnr
Mattison 4	314	12/10/2020 14:38	2/12/2021 15:32	Economic	reserve shutdown	1023.53	0	0	0	DNR
Mattison 4	314	12/20/2021 15:48	3/25/2022 22:00	Economic	reserve shutdown	272.2	0	0	0	DNR
Mattison 4	314	2/15/2021 22:30	2/16/2021 7:46	Economic	lack of fuel: contract or tariff allows for interruption	9.27	2.7	23	210.4	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Mattison 4	314	2/16/2021 7:46	2/16/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	1.23	0.59	38	46.3	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Mattison 4	314	4/28/2021 7:41	4/29/2021 16:19	Inlet Air System and Compressors	inlet bleed heat valve	32.63	4.96	12	361.9	Inlet Bleed Heat Valve Positioner Linkage Broken
Northeastern 1A	309	2/23/2021 13:24	2/24/2021 12:00	Economic	reserve shutdown	22.6	0	0	0	DNR
Northeastern 1A	309	4/11/2021 17:39	4/12/2021 23:23	Economic	reserve shutdown	29.73	0	0	0	DNR
Northeastern 1A	309	5/8/2021 0:55	5/9/2021 5:50	Economic	reserve shutdown	28.92	0	0	0	DNR
Northeastern 1A	309	5/14/2021 2:51	5/15/2021 4:23	Economic	reserve shutdown	25.53	0	0	0	DNR
Northeastern 1A	309	5/27/2021 0:47	6/1/2021 8:53	Economic	reserve shutdown	128.09	0	0	0	DNR
Northeastern 1A	309	7/21/2021 3:19	7/21/2021 9:27	Economic	reserve shutdown	6.13	0	0	0	DNR
Northeastern 1A	309	9/13/2021 22:26	9/15/2021 1:28	Economic	reserve shutdown	27.03	0	0	0	DNR
Northeastern 1A	309	9/16/2021 0:14	9/17/2021 1:06	Economic	reserve shutdown	24.87	0	0	0	DNR
Northeastern 1A	309	9/21/2021 23:19	9/22/2021 23:53	Economic	reserve shutdown	24.57	0	0	0	DNR
Northeastern 1A	309	10/22/2021 22:31	10/23/2021 0:00	Economic	reserve shutdown	1.48	0	0	0	DNR
Northeastern 1A	309	12/14/2021 2:46	12/15/2021 20:54	Economic	reserve shutdown	42.13	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 1A	309	10/20/2021 22:05	10/21/2021 8:14	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	10.15	2.03	33	304.5	<OMC!> Enable pipeline maintenance
Northeastern 1A	309	2/15/2021 18:55	2/17/2021 22:55	Economic	lack of fuel: contract or tariff allows for interruption	52	12.92	41	2080.3	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1A	309	2/19/2021 9:00	2/20/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	24	9.31	64	1498.7	Natural Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1A	309	6/11/2021 8:14	6/11/2021 10:24	Exhaust Systems	other exhaust problems (including high exhaust system temperature not attributable to a specific pro	2.17	0.36	27	51.1	Tuning
Northeastern 1A	309	1/27/2021 7:30	1/27/2021 8:25	Fuel, Ignition, and Combustion Systems	other fuel system problems	0.92	0.43	78	71.4	NOX/Emissions Compliance Testing
Northeastern 1A	309	1/27/2021 8:25	1/27/2021 9:30	Fuel, Ignition, and Combustion Systems	other fuel system problems	1.08	0.39	60	65	NOX/Emissions Compliance Testing
Northeastern 1A	309	1/27/2021 9:30	1/27/2021 9:53	Fuel, Ignition, and Combustion Systems	other fuel system problems	0.38	0.1	43	16.5	NOX/Emissions Compliance Testing
Northeastern 1A	309	9/17/2021 4:00	9/17/2021 6:15	Fuel, Ignition, and Combustion Systems	other fuel system problems	2.25	0.26	19	37.3	Enable Oklahoma Gas Pigging
Northeastern 1A	309	2/9/2021 2:09	2/9/2021 4:00	HRSG Boiler Control Systems	feedwater controls (report local controls - feedwater pump, feedwater regulator valve, etc., - with	1.85	0.56	50	90.3	Drum Excursions on 1S
Northeastern 1A	309	1/13/2021 7:00	1/15/2021 13:00	Miscellaneous (External)	other miscellaneous external problems	54	15.38	47	2538	<OMC!> Enable Oklahoma Gas Supply limitation
Northeastern 1A	309	1/9/2021 23:00	1/10/2021 0:00	Valves	reheat/intercept valve testing	1	0.29	48	48	Weekly Valve Checks
Northeastern 1A	309	1/15/2021 23:00	1/15/2021 23:50	Valves	reheat/intercept valve testing	0.83	0.24	48	39.9	Weekly Valve Checks
Northeastern 1A	309	1/22/2021 22:00	1/22/2021 23:00	Valves	reheat/intercept valve testing	1	0.46	75	75.1	Weekly Valve Checks
Northeastern 1A	309	3/27/2021 1:00	3/27/2021 1:59	Valves	reheat/intercept valve testing	0.98	0.23	38	35	Weekly Valve Checks
Northeastern 1A	309	4/3/2021 1:00	4/3/2021 2:01	Valves	reheat/intercept valve testing	1.02	0.2	33	30.5	Weekly Valve Checks
Northeastern 1A	309	4/17/2021 3:00	4/17/2021 4:19	Valves	reheat/intercept valve testing	1.32	0.26	33	39.5	Weekly valve checks
Northeastern 1A	309	4/23/2021 23:00	4/24/2021 0:00	Valves	reheat/intercept valve testing	1	0.2	33	30	Weekly Valve Checks
Northeastern 1A	309	5/1/2021 2:00	5/1/2021 2:58	Valves	reheat/intercept valve testing	0.97	0.18	31	26.9	Weekly Valve Checks
Northeastern 1A	309	5/21/2021 23:00	5/21/2021 23:50	Valves	reheat/intercept valve testing	0.83	0.16	31	23.2	Valve Check
Northeastern 1A	309	6/5/2021 1:00	6/5/2021 1:42	Valves	reheat/intercept valve testing	0.7	0.12	27	16.6	Weekly Valve Checks
Northeastern 1A	309	6/12/2021 1:00	6/12/2021 2:52	Valves	reheat/intercept valve testing	1.87	0.31	27	43.9	Weekly Valve Checks
Northeastern 1A	309	7/3/2021 2:00	7/3/2021 2:58	Valves	reheat/intercept valve testing	0.97	0.16	27	22.8	Weekly Valve Checks
Northeastern 1A	309	7/10/2021 4:00	7/10/2021 4:56	Valves	reheat/intercept valve testing	0.93	0.15	27	22	Weekly Valve Checks
Northeastern 1A	309	8/7/2021 3:00	8/7/2021 3:32	Valves	reheat/intercept valve testing	0.53	0.09	27	12.5	Weekly Valve Checks
Northeastern 1A	309	9/5/2021 3:00	9/5/2021 4:00	Valves	reheat/intercept valve testing	1	0.16	27	23.6	valve check
Northeastern 1A	309	9/10/2021 20:00	9/10/2021 21:18	Valves	reheat/intercept valve testing	1.3	0.21	27	30.7	Weekly Valve Checks
Northeastern 1A	309	10/29/2021 20:00	10/29/2021 21:09	Valves	reheat/intercept valve testing	1.15	0.23	33	34.5	Weekly Valve Checks
Northeastern 1A	309	11/14/2021 2:00	11/14/2021 3:00	Valves	reheat/intercept valve testing	1	0.26	42	40.5	Valve check
Northeastern 1A	309	11/20/2021 2:00	11/20/2021 3:00	Valves	reheat/intercept valve testing	1	0.26	42	40.5	Weekly Valve Checks
Northeastern 1A	309	11/26/2021 20:00	11/26/2021 20:53	Valves	reheat/intercept valve testing	0.88	0.23	42	35.8	Weekly Valve Checks
Northeastern 1A	309	12/3/2021 20:00	12/3/2021 21:09	Valves	reheat/intercept valve testing	1.15	0.34	48	55.3	Weekly Valve Checks
Northeastern 1A	309	12/10/2021 23:00	12/10/2021 23:46	Valves	reheat/intercept valve testing	0.77	0.22	48	36.8	Weekly Valve Checks
Northeastern 1A	309	12/24/2021 22:00	12/24/2021 23:02	Valves	reheat/intercept valve testing	1.03	0.3	48	49.7	Weekly Valve Checks
Northeastern 1A	309	12/31/2021 20:00	12/31/2021 21:00	Valves	reheat/intercept valve testing	1	0.29	48	48	Weekly Valve Checks
Northeastern 1B	310	2/22/2021 0:00	2/22/2021 1:38	Economic	reserve shutdown	1.63	0	0	0	DNR
Northeastern 1B	310	2/23/2021 13:07	2/24/2021 12:00	Economic	reserve shutdown	22.88	0	0	0	DNR
Northeastern 1B	310	4/11/2021 17:39	4/13/2021 4:56	Economic	reserve shutdown	35.28	0	0	0	DNR
Northeastern 1B	310	5/8/2021 0:15	5/9/2021 1:26	Economic	reserve shutdown	25.18	0	0	0	DNR
Northeastern 1B	310	5/14/2021 3:11	5/15/2021 9:38	Economic	reserve shutdown	30.45	0	0	0	DNR
Northeastern 1B	310	5/27/2021 0:15	5/31/2021 23:03	Economic	reserve shutdown	118.79	0	0	0	DNR
Northeastern 1B	310	7/21/2021 3:19	7/21/2021 14:00	Economic	reserve shutdown	10.68	0	0	0	DNR
Northeastern 1B	310	9/13/2021 22:26	9/15/2021 6:25	Economic	reserve shutdown	31.98	0	0	0	DNR
Northeastern 1B	310	9/16/2021 0:14	9/17/2021 7:00	Economic	reserve shutdown	30.77	0	0	0	DNR
Northeastern 1B	310	9/21/2021 23:19	9/23/2021 4:54	Economic	reserve shutdown	29.58	0	0	0	DNR
Northeastern 1B	310	10/22/2021 22:40	10/23/2021 0:00	Economic	reserve shutdown	1.32	0	0	0	DNR
Northeastern 1B	310	12/14/2021 2:12	12/15/2021 23:45	Economic	reserve shutdown	45.55	0	0	0	DNR
Northeastern 1B	310	10/20/2021 22:05	10/21/2021 8:14	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	10.15	2.03	33	304.5	<OMC!> Enable pipeline maintenance

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 1B	310	2/15/2021 18:55	2/16/2021 10:24	Economic	lack of fuel: contract or tariff allows for interruption	15.48	3.85	41	619.4	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1B	310	2/19/2021 15:41	2/20/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	17.32	6.61	63	1064.5	Natural Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1B	310	6/10/2021 12:48	6/11/2021 8:14	Exhaust Systems	other exhaust problems (including high exhaust system temperature not attributable to a specific pro	19.43	2.36	20	348.7	Exhaust Spread
Northeastern 1B	310	6/11/2021 8:14	6/11/2021 10:24	Exhaust Systems	other exhaust problems (including high exhaust system temperature not attributable to a specific pro	2.17	0.41	31	60.2	Tuning
Northeastern 1B	310	7/2/2021 12:06	7/2/2021 12:42	Exhaust Systems	other exhaust problems (including high exhaust system temperature not attributable to a specific pro	0.6	0.21	58	31.2	exhaust Pressure went high on indication - unit taken off AGC and reduced load
Northeastern 1B	310	1/27/2021 7:30	1/27/2021 8:25	Fuel, Ignition, and Combustion Systems	other fuel system problems	0.92	0.42	75	68.8	NOX/Emissions Compliance Testing
Northeastern 1B	310	1/27/2021 8:25	1/27/2021 9:30	Fuel, Ignition, and Combustion Systems	other fuel system problems	1.08	0.39	60	65	NOX/Emissions Compliance Testing
Northeastern 1B	310	1/27/2021 9:30	1/27/2021 9:53	Fuel, Ignition, and Combustion Systems	other fuel system problems	0.38	0.1	43	16.5	NOX/Emissions Compliance Testing
Northeastern 1B	310	9/17/2021 4:00	9/17/2021 6:15	Fuel, Ignition, and Combustion Systems	other fuel system problems	2.25	0.31	23	46.5	Enable Oklahoma Gas Pigging
Northeastern 1B	310	2/9/2021 2:09	2/9/2021 4:00	HRSG Boiler Control Systems	feedwater controls (report local controls - feedwater pump, feedwater regulator valve, etc., - with	1.85	0.56	50	90.3	Drum Excursions on 1S
Northeastern 1B	310	12/17/2021 5:01	12/17/2021 11:53	HRSG Boiler Control Systems	other boiler instrumentation and control problems	6.87	6.03	145	995.6	High Pressure Drum Transmitter Erratic
Northeastern 1B	310	1/13/2021 7:00	1/15/2021 13:00	Miscellaneous (External)	other miscellaneous external problems	54	15.38	47	2538	<OMC!> Enable Oklahoma Gas Supply limitation
Northeastern 1B	310	1/9/2021 23:00	1/10/2021 0:00	Valves	reheat/intercept valve testing	1	0.29	48	48	Weekly Valve Checks
Northeastern 1B	310	1/15/2021 23:00	1/15/2021 23:50	Valves	reheat/intercept valve testing	0.83	0.24	48	39.9	Weekly Valve Checks
Northeastern 1B	310	1/22/2021 22:00	1/22/2021 23:00	Valves	reheat/intercept valve testing	1	0.46	75	75.1	Weekly Valve Checks
Northeastern 1B	310	3/27/2021 1:00	3/27/2021 1:59	Valves	reheat/intercept valve testing	0.98	0.23	38	35	Weekly Valve Checks
Northeastern 1B	310	4/3/2021 1:00	4/3/2021 2:01	Valves	reheat/intercept valve testing	1.02	0.2	33	30.5	Weekly Valve Checks
Northeastern 1B	310	4/17/2021 3:00	4/17/2021 4:17	Valves	reheat/intercept valve testing	1.28	0.26	33	38.6	Weekly valve checks
Northeastern 1B	310	4/23/2021 23:00	4/24/2021 0:00	Valves	reheat/intercept valve testing	1	0.2	33	30	Weekly Valve Checks
Northeastern 1B	310	5/1/2021 2:00	5/1/2021 2:58	Valves	reheat/intercept valve testing	0.97	0.18	31	26.9	Weekly Valve Checks
Northeastern 1B	310	5/21/2021 23:00	5/21/2021 23:50	Valves	reheat/intercept valve testing	0.83	0.16	31	23.2	Valve Check
Northeastern 1B	310	6/5/2021 1:00	6/5/2021 1:42	Valves	reheat/intercept valve testing	0.7	0.13	31	19.5	Weekly Valve Checks
Northeastern 1B	310	6/12/2021 1:00	6/12/2021 2:52	Valves	reheat/intercept valve testing	1.87	0.35	31	51.9	Weekly Valve Checks
Northeastern 1B	310	7/3/2021 2:00	7/3/2021 2:58	Valves	reheat/intercept valve testing	0.97	0.18	31	26.9	Weekly Valve Checks
Northeastern 1B	310	7/10/2021 4:00	7/10/2021 4:56	Valves	reheat/intercept valve testing	0.93	0.18	31	25.9	Weekly Valve Checks
Northeastern 1B	310	8/7/2021 3:00	8/7/2021 3:32	Valves	reheat/intercept valve testing	0.53	0.1	31	14.8	Weekly Valve Checks
Northeastern 1B	310	9/5/2021 3:00	9/5/2021 4:00	Valves	reheat/intercept valve testing	1	0.19	31	27.8	valve check
Northeastern 1B	310	9/10/2021 20:00	9/10/2021 21:18	Valves	reheat/intercept valve testing	1.3	0.24	31	36.1	Weekly Valve Checks
Northeastern 1B	310	10/29/2021 20:00	10/29/2021 21:10	Valves	reheat/intercept valve testing	1.17	0.23	33	35	Weekly Valve Checks
Northeastern 1B	310	11/14/2021 2:00	11/14/2021 3:00	Valves	reheat/intercept valve testing	1	0.24	40	38	Valve check
Northeastern 1B	310	11/20/2021 2:00	11/20/2021 3:00	Valves	reheat/intercept valve testing	1	0.24	40	38	Weekly Valve Checks
Northeastern 1B	310	11/26/2021 20:00	11/26/2021 20:53	Valves	reheat/intercept valve testing	0.88	0.21	40	33.6	Weekly Valve Checks
Northeastern 1B	310	12/3/2021 20:00	12/3/2021 21:09	Valves	reheat/intercept valve testing	1.15	0.34	48	55.3	Weekly Valve Checks
Northeastern 1B	310	12/10/2021 23:00	12/10/2021 23:46	Valves	reheat/intercept valve testing	0.77	0.22	48	36.8	Weekly Valve Checks
Northeastern 1B	310	12/24/2021 22:00	12/24/2021 23:02	Valves	reheat/intercept valve testing	1.03	0.3	48	49.7	Weekly Valve Checks
Northeastern 1B	310	12/31/2021 20:00	12/31/2021 21:00	Valves	reheat/intercept valve testing	1	0.29	48	48	Weekly Valve Checks
Northeastern 1S	137	2/22/2021 0:00	2/22/2021 0:06	Economic	reserve shutdown	0.1	0	0	0	DNR
Northeastern 1S	137	2/23/2021 13:32	2/24/2021 12:00	Economic	reserve shutdown	22.47	0	0	0	DNR
Northeastern 1S	137	4/11/2021 17:39	4/13/2021 2:52	Economic	reserve shutdown	33.22	0	0	0	DNR
Northeastern 1S	137	5/8/2021 1:00	5/9/2021 5:04	Economic	reserve shutdown	28.07	0	0	0	DNR
Northeastern 1S	137	5/14/2021 2:54	5/15/2021 8:34	Economic	reserve shutdown	29.67	0	0	0	DNR
Northeastern 1S	137	5/27/2021 0:50	6/1/2021 5:52	Economic	reserve shutdown	125.03	0	0	0	DNR
Northeastern 1S	137	7/21/2021 3:19	7/21/2021 13:09	Economic	reserve shutdown	9.83	0	0	0	DNR
Northeastern 1S	137	9/13/2021 22:26	9/15/2021 4:49	Economic	reserve shutdown	30.38	0	0	0	DNR
Northeastern 1S	137	9/16/2021 0:14	9/17/2021 4:35	Economic	reserve shutdown	28.35	0	0	0	DNR
Northeastern 1S	137	9/21/2021 23:19	9/23/2021 3:24	Economic	reserve shutdown	28.08	0	0	0	DNR
Northeastern 1S	137	10/22/2021 22:44	10/23/2021 0:00	Economic	reserve shutdown	1.26	0	0	0	DNR
Northeastern 1S	137	12/14/2021 2:49	12/15/2021 23:45	Economic	reserve shutdown	44.93	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 1S	137	10/20/2021 22:05	10/21/2021 8:14	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	10.15	2.32	32	320.2	<OMC!> Enable pipeline maintenance
Northeastern 1S	137	10/21/2021 8:14	10/22/2021 9:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	24.77	0.89	5	122.1	<OMC!> Enable pipeline maintenance
Northeastern 1S	137	10/22/2021 9:00	10/23/2021 0:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	15	0.54	5	74	<OMC!> Enable pipeline maintenance
Northeastern 1S	137	2/15/2021 18:55	2/16/2021 10:24	Economic	lack of fuel: contract or tariff allows for interruption	15.48	3.32	30	464.5	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1S	137	2/16/2021 10:24	2/18/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	37.6	7.52	28	1052.8	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1S	137	2/16/2021 10:24	2/19/2021 15:41	Economic	lack of fuel: contract or tariff allows for interruption	77.28	38.64	70	5409.9	NE1B Outage
Northeastern 1S	137	2/19/2021 9:00	2/20/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	24	4.33	35	606.1	Natural Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Northeastern 1S	137	6/9/2021 14:56	6/9/2021 22:00	Exhaust Systems	other exhaust problems (including high exhaust system temperature not attributable to a specific pro	7.07	0.51	10	65.7	Ambient Temp
Northeastern 1S	137	6/10/2021 12:05	6/10/2021 12:48	Exhaust Systems	other exhaust problems (including high exhaust system temperature not attributable to a specific pro	0.72	0.33	65	43.3	Loss of 1B
Northeastern 1S	137	6/11/2021 8:14	6/11/2021 10:24	Exhaust Systems	other exhaust problems (including high exhaust system temperature not attributable to a specific pro	2.17	1.3	84	169	Tuning
Northeastern 1S	137	1/27/2021 7:30	1/27/2021 8:25	Fuel, Ignition, and Combustion Systems	other fuel system problems	0.92	0.26	39	35.7	NOX/Emissions Compliance Testing
Northeastern 1S	137	1/27/2021 8:25	1/27/2021 9:30	Fuel, Ignition, and Combustion Systems	other fuel system problems	1.08	0.26	33	35.7	NOX/Emissions Compliance Testing
Northeastern 1S	137	1/27/2021 9:30	1/27/2021 9:53	Fuel, Ignition, and Combustion Systems	other fuel system problems	0.38	0.07	27	10.4	NOX/Emissions Compliance Testing
Northeastern 1S	137	2/9/2021 2:09	2/9/2021 4:00	HRSG Boiler Control Systems	feedwater controls (report local controls - feedwater pump, feedwater regulator valve, etc., - with	1.85	0.4	30	55.4	Drum Excursions
Northeastern 1S	137	2/14/2021 13:24	2/14/2021 14:43	HRSG Boiler Control Systems	feedwater controls (report local controls - feedwater pump, feedwater regulator valve, etc., - with	1.32	0.83	88	115.9	1 a trip
Northeastern 1S	137	8/6/2021 18:00	8/6/2021 19:47	HRSG Boiler Control Systems	desuperheater/attemperator controls	1.78	0.26	20	33.2	Attemperator issues
Northeastern 1S	137	1/29/2021 11:34	1/30/2021 16:41	Inlet Air System and Compressors	inlet air vanes/nozzles	29.12	14.56	70	2038.1	CT 1A Outage
Northeastern 1S	137	9/3/2021 14:22	9/3/2021 15:19	Lube Oil	lube oil coolers	0.95	0.12	18	15.9	Turbine Oil Temp
Northeastern 1S	137	1/13/2021 7:00	1/15/2021 13:00	Miscellaneous (External)	other miscellaneous external problems	54	8.1	21	1134	<OMC!> Enable Oklahoma Gas Supply limitation
Northeastern 1S	137	1/9/2021 23:00	1/10/2021 0:00	Valves	reheat/intercept valve testing	1	0.67	94	93.9	Weekly Valve Checks
Northeastern 1S	137	1/15/2021 23:00	1/15/2021 23:50	Valves	reheat/intercept valve testing	0.83	0.53	89	74.2	Weekly Valve Checks
Northeastern 1S	137	1/22/2021 22:00	1/22/2021 23:00	Valves	reheat/intercept valve testing	1	0.25	35	35	Weekly Valve Checks
Northeastern 1S	137	3/27/2021 1:00	3/27/2021 1:59	Valves	reheat/intercept valve testing	0.98	0.65	92	89.1	Weekly Valve Checks
Northeastern 1S	137	4/3/2021 1:00	4/3/2021 2:01	Valves	reheat/intercept valve testing	1.02	0.67	92	92.2	Weekly Valve Checks
Northeastern 1S	137	4/17/2021 3:00	4/17/2021 4:17	Valves	reheat/intercept valve testing	1.28	0.84	92	116.3	Weekly valve checks
Northeastern 1S	137	4/23/2021 23:00	4/24/2021 0:00	Valves	reheat/intercept valve testing	1	0.66	92	90.7	Weekly valve Checks
Northeastern 1S	137	5/1/2021 2:00	5/1/2021 2:58	Valves	reheat/intercept valve testing	0.97	0.62	90	84.5	Weekly Valve Checks
Northeastern 1S	137	5/21/2021 23:00	5/21/2021 23:50	Valves	reheat/intercept valve testing	0.83	0.54	90	72.9	Valve Check
Northeastern 1S	137	6/5/2021 1:00	6/5/2021 1:42	Valves	reheat/intercept valve testing	0.7	0.42	84	54.6	Weekly Valve Checks
Northeastern 1S	137	6/12/2021 1:00	6/12/2021 2:51	Valves	reheat/intercept valve testing	1.85	1.11	84	144.3	Weekly Valve Checks
Northeastern 1S	137	7/3/2021 2:00	7/3/2021 2:58	Valves	reheat/intercept valve testing	0.97	0.58	84	75.4	Weekly Valve Checks
Northeastern 1S	137	7/10/2021 4:00	7/10/2021 4:55	Valves	reheat/intercept valve testing	0.92	0.55	84	71.5	Weekly Valve Checks
Northeastern 1S	137	8/7/2021 3:00	8/7/2021 3:32	Valves	reheat/intercept valve testing	0.53	0.32	84	41.6	Weekly Valve Checks
Northeastern 1S	137	9/5/2021 3:00	9/5/2021 4:00	Valves	reheat/intercept valve testing	1	0.6	84	78	valve check
Northeastern 1S	137	9/10/2021 20:00	9/10/2021 21:18	Valves	reheat/intercept valve testing	1.3	0.78	84	101.4	Weekly Valve Checks
Northeastern 1S	137	10/29/2021 20:00	10/29/2021 21:10	Valves	reheat/intercept valve testing	1.17	0.77	92	105.8	Weekly Valve Checks
Northeastern 1S	137	11/14/2021 2:00	11/14/2021 3:00	Valves	reheat/intercept valve testing	1	0.67	94	93.9	Valve check
Northeastern 1S	137	11/20/2021 2:00	11/20/2021 3:00	Valves	reheat/intercept valve testing	1	0.67	94	93.9	Weekly Valve Checks

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 1S	137	11/26/2021 20:00	11/26/2021 20:53	Valves	reheat/intercept valve testing	0.88	0.59	94	83	Weekly Valve Checks
Northeastern 1S	137	12/3/2021 20:00	12/3/2021 21:09	Valves	reheat/intercept valve testing	1.15	0.77	94	108.1	Weekly Valve Checks
Northeastern 1S	137	12/10/2021 23:00	12/10/2021 23:46	Valves	reheat/intercept valve testing	0.77	0.52	94	72.1	Weekly Valve Checks
Northeastern 1S	137	12/24/2021 22:00	12/24/2021 23:02	Valves	reheat/intercept valve testing	1.03	0.69	94	97.2	Weekly Valve Checks
Northeastern 1S	137	12/31/2021 20:00	12/31/2021 21:00	Valves	reheat/intercept valve testing	1	0.67	94	93.9	Weekly Valve Checks
Northeastern 2	102	4/21/2021 1:55	4/21/2021 7:27	Boiler Control Systems	feedwater controls (report local controls - feedwater pump, feedwater regulator valve, etc. - with	5.53	3.75	294	1626.6	Boiler Feed Pump Valve Problem
Northeastern 2	102	4/20/2021 16:33	4/20/2021 20:07	Controls	generator voltage control	3.57	3.45	420	1498.2	Unit can not ramp up while AVR is out of service
Northeastern 2	102	3/1/2021 0:00	4/20/2021 15:02	Economic	reserve shutdown	1214.03	0	0	0	DNR
Northeastern 2	102	4/25/2021 1:13	4/20/2021 10:00	Economic	reserve shutdown	32.78	0	0	0	DNR
Northeastern 2	102	4/26/2021 14:34	4/26/2021 6:08	Economic	reserve shutdown	39.57	0	0	0	DNR
Northeastern 2	102	5/1/2021 13:51	4/28/2021 6:00	Economic	reserve shutdown	10.15	0	0	0	DNR
Northeastern 2	102	5/7/2021 18:00	5/2/2021 0:00	Economic	reserve shutdown	783.55	0	0	0	DNR
Northeastern 2	102	6/19/2021 19:46	6/9/2021 9:33	Economic	reserve shutdown	34.73	0	0	0	DNR
Northeastern 2	102	6/21/2021 21:16	6/21/2021 6:30	Economic	reserve shutdown	81.73	0	0	0	DNR
Northeastern 2	102	7/2/2021 18:00	6/25/2021 7:00	Economic	reserve shutdown	544.23	0	0	0	DNR
Northeastern 2	102	8/6/2021 19:25	7/25/2021 10:14	Economic	reserve shutdown	58.57	0	0	0	DNR
Northeastern 2	102	8/9/2021 15:35	8/9/2021 6:00	Economic	reserve shutdown	1096.42	0	0	0	DNR
Northeastern 2	102	9/24/2021 16:00	9/24/2021 8:00	Economic	reserve shutdown	166.78	0	0	0	DNR
Northeastern 2	102	10/22/2021 21:08	10/1/2021 14:47	Economic	reserve shutdown	252.57	0	0	0	dnr
Northeastern 2	102	11/5/2021 16:35	11/2/2021 9:42	Economic	reserve shutdown	112.41	0	0	0	DNR
Northeastern 2	102	11/10/2021 11:38	11/10/2021 8:00	Economic	reserve shutdown	90.37	0	0	0	DNR
Northeastern 2	102	11/19/2021 21:30	11/14/2021 6:00	Economic	reserve shutdown	632.5	0	0	0	DNR
Northeastern 2	102	11/25/2020 18:00	12/16/2021 7:00	Economic	reserve shutdown	583	0	0	0	DNR
Northeastern 2	102	12/17/2021 20:00	1/25/2021 7:35	Economic	reserve shutdown	340	0	0	0	DNR
Northeastern 2	102	10/3/2021 10:00	2/2/2022 3:35	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	0.53	0.25	204	108.9	<OMC!> Fuel Limitations from Enable
Northeastern 2	102	10/3/2021 15:50	10/3/2021 10:32	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	17	4.86	124	2107.9	<OMC!> Gas Control and/or Gas Flow issues
Northeastern 2	102	4/23/2021 7:00	10/4/2021 8:50	Miscellaneous (Boiler)	boiler safety valve test	8.33	0.65	34	283.4	Safety Relief Valve testing
Northeastern 2	102	6/16/2021 16:00	4/23/2021 15:20	Performance	total unit performance testing (use appropriate codes for individual component testing)	2	0	0	0	Summer capability testing
Northeastern 2	102	6/12/2021 0:33	6/16/2021 18:00	Valves	reheat/intercept valve testing	1.1	0.34	134	147.6	Weekly Valve Checks
Northeastern 2	102	8/1/2021 2:00	6/12/2021 1:39	Valves	reheat/intercept valve testing	0.98	0.3	134	131.9	valve check
Northeastern 2	102	10/10/2021 3:00	8/1/2021 2:59	Valves	reheat/intercept valve testing	0.82	0.35	184	150.2	Valve check
Northeastern 3	103	4/26/2021 9:16	10/10/2021 3:49	Boiler Air and Gas Systems	forced draft fan lubrication system	1.23	0.31	115	141.8	FD fan main line oil leak
Northeastern 3	103	1/25/2021 9:20	4/26/2021 10:30	Boiler Air and Gas Systems	induced draft fan controls	1.12	0.07	30	33.5	South ID Fan
Northeastern 3	103	6/27/2021 19:16	1/25/2021 10:27	Boiler Air and Gas Systems	induced draft fan controls	2.13	0.68	148	315.7	Fan Issues
Northeastern 3	103	6/27/2021 21:24	6/27/2021 21:24	Boiler Air and Gas Systems	induced draft fan controls	0.72	0.19	120	86	Fan Issues
Northeastern 3	103	1/4/2021 17:50	6/27/2021 22:07	Boiler Fuel Supply from Bunkers to Boiler	pulverizer feeders	3.02	0.88	135	407.3	Pulverizer Controls Errors
Northeastern 3	103	7/17/2021 23:32	1/4/2021 20:51	Boiler Fuel Supply from Bunkers to Boiler	pulverizer mills	0.43	0.11	115	49.8	No Mill to put in
Northeastern 3	103	6/22/2021 1:43	7/17/2021 23:58	Boiler Fuel Supply from Bunkers to Boiler	pulverizer system puff	11.93	2.95	115	1372.2	E Mill puffed on fire, needs inspected
Northeastern 3	103	11/7/2021 12:12	6/22/2021 13:39	Boiler Fuel Supply from Bunkers to Boiler	pulverizer system puff	9.93	2.46	115	1142.5	B mill puffed when we were taking out the mill, since E mill is also not available we will be limited to 350 MW
Northeastern 3	103	8/15/2021 2:00	11/7/2021 22:08	Boiler Fuel Supply from Bunkers to Boiler	other pulverizer problems	1	0.25	115	114.9	Mills are still cooling after multiple AGC band changes
Northeastern 3	103	8/20/2021 12:10	8/15/2021 3:00	Boiler Fuel Supply from Bunkers to Boiler	other pulverizer problems	1.55	0.38	115	178.1	Waiting for a mill to cool off
Northeastern 3	103	10/17/2021 17:54	8/20/2021 13:43	Boiler Fuel Supply from Bunkers to Boiler	other pulverizer problems	1.35	0.29	100	134.9	Mills Unavailable due to High Outlet Temperature
Northeastern 3	103	4/22/2021 7:32	10/17/2021 19:15	Boiler Piping System	cold reheat steam piping up to boiler	4.18	1.66	185	773.8	Steam leak oncold reheat line. If the leak gets worse the unit may need to come offline
Northeastern 3	103	8/22/2021 0:00	4/22/2021 11:43	Boiler Tube Fireside Slagging or Fouling	other tube slagging or fouling	4	1.85	215	859.8	Boiler Deslag. To clean boiler up from burning low BTU coal
Northeastern 3	103	8/24/2021 0:00	8/22/2021 4:00	Boiler Tube Fireside Slagging or Fouling	other tube slagging or fouling	4	1.85	215	859.8	Boiler Deslag
Northeastern 3	103	8/25/2021 0:00	8/24/2021 4:00	Boiler Tube Fireside Slagging or Fouling	other tube slagging or fouling	4	1.85	215	859.8	Boiler Deslag
Northeastern 3	103	8/26/2021 0:00	8/25/2021 4:00	Boiler Tube Fireside Slagging or Fouling	other tube slagging or fouling	4	1.85	215	859.8	Boiler Deslag
Northeastern 3	103		8/26/2021 4:00							

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 3	103	8/27/2021 0:00	8/27/2021 4:00	Boiler Tube Fireside Slagging or Fouling	other tube slagging or fouling	4	1.85	215	859.8	Boiler Deslag
Northeastern 3	103	8/30/2021 0:00	8/30/2021 4:00	Boiler Tube Fireside Slagging or Fouling	other tube slagging or fouling	4	1.85	215	859.8	Boiler Deslag
Northeastern 3	103	9/7/2021 23:10	9/8/2021 4:00	Boiler Tube Fireside Slagging or Fouling	other tube slagging or fouling	4.83	2.24	215	1039.3	Boiler Deslag
Northeastern 3	103	9/6/2021 0:00	9/6/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.85	215	859.8	Boiler Deslag
Northeastern 3	103	9/18/2021 0:00	9/18/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.85	215	859.8	Deslag boiler
Northeastern 3	103	9/23/2021 0:00	9/23/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.85	215	859.8	Deslag boiler
Northeastern 3	103	9/28/2021 0:00	9/28/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.85	215	859.8	Deslag boiler
Northeastern 3	103	10/2/2021 0:00	10/2/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.85	215	859.8	Deslag Boiler
Northeastern 3	103	10/7/2021 0:00	10/7/2021 3:55	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	3.92	1.81	215	842.1	Deslag Boiler
Northeastern 3	103	10/12/2021 0:00	10/12/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.85	215	859.8	Deslag Boiler
Northeastern 3	103	10/16/2021 0:00	10/16/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.85	215	859.8	Deslag Boiler
Northeastern 3	103	10/21/2021 0:00	10/21/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.76	205	819.8	Deslag Boiler
Northeastern 3	103	10/26/2021 0:00	10/26/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.76	205	819.8	Deslag
Northeastern 3	103	11/4/2021 0:00	11/4/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.72	200	799.8	Boiler Deslag
Northeastern 3	103	11/9/2021 0:00	11/9/2021 4:00	Boiler Tube Fireside Slagging or Fouling	operation at reduced power to avoid slagging or fouling (use codes 1100 to 1190 to report power redu	4	1.76	205	819.8	Boiler deslag
Northeastern 3	103	7/26/2021 12:45	7/26/2021 22:00	Circulating Water Systems	cooling tower efficiency below design	9.25	0.1	5	46	Back Pressure is getting high! Need tp drop Load to get out of alarm.
Northeastern 3	103	9/17/2021 1:00	9/17/2021 3:30	Condensate System	condensate/hotwell pumps	2.5	1.16	215	537.5	Clean condensate pump strainer
Northeastern 3	103	8/9/2021 12:15	8/9/2021 20:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	7.75	0.17	10	77.7	back pressure issue
Northeastern 3	103	8/10/2021 15:56	8/10/2021 20:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	4.07	0.13	15	60.9	back pressure high limit
Northeastern 3	103	8/12/2021 11:06	8/12/2021 23:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	11.9	0.26	10	119	Backpressure
Northeastern 3	103	8/19/2021 11:43	8/20/2021 0:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	12.28	0.26	10	122.8	Backpressure
Northeastern 3	103	8/20/2021 14:59	8/20/2021 16:52	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	1.88	0.1	25	47	Backpressure
Northeastern 3	103	8/20/2021 16:53	8/20/2021 17:07	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	0.23	0.07	135	31.6	Backpressure
Northeastern 3	103	8/20/2021 17:08	8/20/2021 21:55	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	4.78	0.36	35	167.4	Backpressure
Northeastern 3	103	8/21/2021 13:40	8/21/2021 16:10	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	2.5	0.05	10	25.1	Backpressure

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 3	103	8/21/2021 16:10	8/21/2021 21:31	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	5.35	0.23	20	107	Backpressure
Northeastern 3	103	8/22/2021 13:21	8/22/2021 14:15	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	0.9	0.01	5	4.7	Backpressure
Northeastern 3	103	8/22/2021 14:15	8/22/2021 21:50	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	7.58	0.25	15	113.9	Backpressure
Northeastern 3	103	8/24/2021 15:20	8/24/2021 15:35	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	0.25	0.01	10	2.3	Backpressure Issues
Northeastern 3	103	8/24/2021 15:35	8/24/2021 17:13	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	1.63	0.05	15	24.6	Backpressure Issues
Northeastern 3	103	8/25/2021 14:26	8/25/2021 22:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	7.57	0.16	10	75.8	High Backpressure
Northeastern 3	103	8/26/2021 11:10	8/26/2021 22:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	10.83	0.35	15	162.3	Anticipated high backpressure
Northeastern 3	103	8/27/2021 11:45	8/27/2021 22:08	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	10.38	0.22	10	103.7	Backpressure
Northeastern 3	103	8/29/2021 16:10	8/29/2021 22:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	5.83	0.13	10	58.1	Back Pressure Alarm
Northeastern 3	103	8/30/2021 14:17	8/30/2021 15:16	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	0.98	0.02	7	7	Back pressure
Northeastern 3	103	8/30/2021 15:16	8/30/2021 22:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	6.73	0.29	20	134.9	Back Pressure
Northeastern 3	103	9/1/2021 11:48	9/1/2021 12:24	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	0.6	0.01	10	6	back pressure
Northeastern 3	103	9/1/2021 12:24	9/1/2021 22:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	9.6	0.31	15	144.2	back pressure
Northeastern 3	103	9/2/2021 13:13	9/2/2021 22:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	8.78	0.19	10	87.9	Back Pressure
Northeastern 3	103	9/3/2021 11:11	9/3/2021 22:00	Condensing System	loss of vacuum not attributable to a particular component such as air ejectors or valves, or high ba	10.82	0.23	10	108.3	Backpressure
Northeastern 3	103	11/24/2021 9:32	11/24/2021 11:46	Controls	automatic turbine control systems - electro-hydraulic - analog	2.23	0.94	195	435.7	EHC Power Lost
Northeastern 3	103	9/15/2021 6:10	9/15/2021 10:54	Controls	other turbine instrument and control problems	4.73	0.36	35	165.5	Throttle Pressure / Steam Chest Pressure Differential
Northeastern 3	103	1/28/2021 13:40	1/29/2021 8:00	Economic	reserve shutdown	18.33	0	0	0	DNR
Northeastern 3	103	1/29/2021 12:45	1/31/2021 11:54	Economic	reserve shutdown	47.15	0	0	0	DNR
Northeastern 3	103	3/4/2021 13:19	3/5/2021 8:00	Economic	reserve shutdown	18.68	0	0	0	Reserve Shutdown
Northeastern 3	103	3/6/2021 10:42	3/17/2021 0:00	Economic	reserve shutdown	252.3	0	0	0	DNR
Northeastern 3	103	4/27/2021 9:25	4/27/2021 18:56	Economic	reserve shutdown	9.52	0	0	0	DNR
Northeastern 3	103	5/30/2021 20:00	6/2/2021 7:26	Economic	reserve shutdown	59.43	0	0	0	DNR
Northeastern 3	103	7/4/2021 12:11	7/4/2021 21:29	Economic	reserve shutdown	9.3	0	0	0	DNR
Northeastern 3	103	12/2/2021 4:46	12/3/2021 0:00	Economic	reserve shutdown	19.23	0	0	0	DNR
Northeastern 3	103	12/6/2021 15:01	1/1/2022 5:39	Economic	reserve shutdown	608.98	0	0	0	DNR
Northeastern 3	103	9/1/2021 0:00	9/1/2021 4:00	Economic	fuel conservation	4	1.85	215	859.8	Boiler Deslag
Northeastern 3	103	9/3/2021 0:00	9/3/2021 4:00	Economic	fuel conservation	4	1.85	215	859.8	Boiler Deslag
Northeastern 3	103	9/21/2021 0:00	9/21/2021 4:00	Economic	fuel conservation	4	1.85	215	859.8	Deslag boiler
Northeastern 3	103	9/25/2021 0:00	9/25/2021 4:00	Economic	fuel conservation	4	1.85	215	859.8	Deslag boiler
Northeastern 3	103	9/30/2021 0:00	9/30/2021 4:00	Economic	fuel conservation	4	1.85	215	859.8	Deslag boiler
Northeastern 3	103	10/5/2021 0:00	10/5/2021 4:00	Economic	fuel conservation	4	1.85	215	859.8	Deslag Boiler
Northeastern 3	103	10/9/2021 0:00	10/9/2021 4:00	Economic	fuel conservation	4	1.85	215	859.8	Deslag Boiler
Northeastern 3	103	10/14/2021 0:00	10/14/2021 4:00	Economic	fuel conservation	4	1.85	215	859.8	Deslag Boiler
Northeastern 3	103	10/18/2021 0:00	10/18/2021 4:00	Economic	fuel conservation	4	1.85	215	859.8	Deslag Boiler
Northeastern 3	103	10/23/2021 0:00	10/23/2021 4:00	Economic	fuel conservation	4	1.76	205	819.8	Deslag Boiler
Northeastern 3	103	10/30/2021 0:00	10/30/2021 3:57	Economic	fuel conservation	3.95	1.7	200	790	Boiler Deslag

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 3	103	11/6/2021 0:00	11/6/2021 4:00	Economic	fuel conservation	4	1.72	200	799.8	Boiler Deslag
Northeastern 3	103	2/16/2021 17:28	2/16/2021 20:00	Feedwater System	feedwater pump	2.53	0.03	5	12.6	Feedwater flow issues
Northeastern 3	103	11/28/2021 10:08	11/29/2021 10:00	Feedwater System	other high pressure heater problems (see condensate system for lp and ip heater codes)	23.87	0.51	10	238.5	Condensate flow issues
Northeastern 3	103	8/31/2021 18:11	8/31/2021 22:00	Fuel Quality	low btu coal (not omc)	3.82	0.04	5	19.1	Poor Fuel Quality
Northeastern 3	103	1/1/2021 18:37	1/1/2021 22:44	Fuel Quality	wet coal (not omc)	4.12	1.2	135	555.7	Mill Issue
Northeastern 3	103	1/2/2021 3:38	1/2/2021 13:00	Fuel Quality	wet coal (not omc)	9.37	2.72	135	1264.3	Mill Issue
Northeastern 3	103	1/2/2021 19:33	1/3/2021 17:42	Fuel Quality	wet coal (not omc)	22.15	6.43	135	2990.4	Mill Issue
Northeastern 3	103	1/13/2021 3:40	1/13/2021 5:28	Fuel Quality	wet coal (not omc)	1.8	0.06	15	27	Coal Quality
Northeastern 3	103	1/13/2021 4:05	1/13/2021 5:28	Fuel Quality	wet coal (not omc)	1.38	0.36	120	166	C Coal Feeder plugged
Northeastern 3	103	1/13/2021 16:41	1/13/2021 17:00	Fuel Quality	wet coal (not omc)	0.32	0.08	115	36.3	Mill Problem
Northeastern 3	103	5/5/2021 15:00	5/6/2021 4:54	Fuel Quality	wet coal (not omc)	13.9	0.75	25	347.4	Mill o/s
Northeastern 3	103	5/15/2021 14:00	5/16/2021 0:00	Fuel Quality	wet coal (not omc)	10	3.29	153	1529.9	Plugged Feeders
Northeastern 3	103	6/28/2021 8:50	6/28/2021 18:00	Fuel Quality	wet coal (not omc)	9.17	0.2	10	91.6	Wet Fuel off pile
Northeastern 3	103	6/29/2021 7:09	6/29/2021 8:43	Fuel Quality	wet coal (not omc)	1.57	0.39	115	180	Clean plugged pulverizer feeders
Northeastern 3	103	6/29/2021 8:43	6/29/2021 11:00	Fuel Quality	wet coal (not omc)	2.28	0.61	125	285.5	Clean plugged pulverizer feeders
Northeastern 3	103	6/29/2021 11:00	6/29/2021 12:29	Fuel Quality	wet coal (not omc)	1.48	0.43	135	200.4	Clean plugged pulverizer feeders
Northeastern 3	103	6/29/2021 13:29	6/29/2021 13:45	Fuel Quality	wet coal (not omc)	0.27	0.08	135	35.8	Plugged coal feeder and wet coal issues
Northeastern 3	103	6/29/2021 15:06	6/29/2021 18:39	Fuel Quality	wet coal (not omc)	3.55	0.12	15	53.5	Wet Coal
Northeastern 3	103	6/29/2021 18:39	6/29/2021 20:46	Fuel Quality	wet coal (not omc)	2.12	0.64	140	296.2	Wet Coal
Northeastern 3	103	6/29/2021 20:46	6/30/2021 11:21	Fuel Quality	wet coal (not omc)	14.58	0.78	25	364.6	Wet Coal
Northeastern 3	103	6/12/2021 5:04	6/12/2021 15:30	Miscellaneous (Pollution Control Equipment)	baghouse systems, general	10.43	4.82	215	2243.2	DSI feed lost
Northeastern 3	103	7/2/2021 10:36	7/2/2021 10:37	Slag and Ash Removal	soot blowers - steam	0.02	0	105	1.9	sip blower issues
Northeastern 3	103	7/2/2021 10:50	7/2/2021 14:32	Slag and Ash Removal	soot blowers - steam	3.7	1.71	215	795.6	sip blower issue
Northeastern 3	103	7/23/2021 3:43	7/23/2021 4:00	Slag and Ash Removal	soot blower controls	0.28	0.13	215	60.9	Soot blowing valve will not open
Northeastern 3	103	7/29/2021 13:00	7/29/2021 22:00	Stack Emission	co stack emissions - fossil	9	0.1	5	45.1	CO testing
Northeastern 3	103	5/3/2021 5:05	5/3/2021 9:02	Valves	main stop valves	3.95	0.55	65	256.7	South main steam stop valve went closed last night for an unknown reason. Technicians will trouble shoot the issue this morning. Would need to stay below 400 MW until problem is solved in case the stop valve tries to go closed again.
Northeastern 3	103	5/5/2021 1:00	5/5/2021 1:16	Valves	main stop valves	0.27	0.04	65	17.2	Mid Week Valve Tests
Northeastern 3	103	5/7/2021 20:00	5/7/2021 20:40	Valves	main stop valves	0.67	0.09	65	43.2	Weekly Valve Checks
Northeastern 3	103	5/20/2021 1:00	5/20/2021 1:10	Valves	main stop valves	0.17	0.02	65	10.7	Valve checks
Northeastern 3	103	5/26/2021 1:00	5/26/2021 1:04	Valves	main stop valves	0.07	0.01	65	4.2	mid-week valve test
Northeastern 3	103	1/6/2021 2:00	1/6/2021 2:11	Valves	main stop valve testing	0.18	0.03	65	12.1	Mid-Week Valve Checks
Northeastern 3	103	1/8/2021 23:00	1/8/2021 23:40	Valves	main stop valve testing	0.67	0.09	65	43.2	Weekly Valve Checks
Northeastern 3	103	1/15/2021 19:00	1/15/2021 19:49	Valves	main stop valve testing	0.82	0.11	65	53	Weekly Valve Checks
Northeastern 3	103	1/22/2021 19:00	1/22/2021 20:00	Valves	main stop valve testing	1	0.14	65	65.1	Weekly Valve Checks
Northeastern 3	103	1/27/2021 2:00	1/27/2021 2:09	Valves	main stop valve testing	0.15	0.02	65	9.8	Mid-Week Valve Checks
Northeastern 3	103	2/6/2021 20:00	2/6/2021 21:00	Valves	main stop valve testing	1	0.14	65	65.1	Valve Check
Northeastern 3	103	2/20/2021 22:00	2/20/2021 23:34	Valves	main stop valve testing	1.57	0.22	65	101.8	Weekly Valve Checks
Northeastern 3	103	2/26/2021 18:00	2/26/2021 18:58	Valves	main stop valve testing	0.97	0.14	65	62.8	Weekly Valve Checks
Northeastern 3	103	4/30/2021 22:00	4/30/2021 22:59	Valves	main stop valve testing	0.98	0.14	65	63.7	Weekly Valve Checks
Northeastern 3	103	6/11/2021 22:00	6/11/2021 22:58	Valves	main stop valve testing	0.97	0.14	65	62.8	Weekly Valve Checks
Northeastern 3	103	6/16/2021 1:00	6/16/2021 1:10	Valves	main stop valve testing	0.17	0.02	65	10.7	Turbine Valve tests
Northeastern 3	103	6/23/2021 1:00	6/23/2021 1:08	Valves	main stop valve testing	0.13	0.02	65	8.8	Mid week valve checks
Northeastern 3	103	6/26/2021 23:00	6/26/2021 23:14	Valves	main stop valve testing	0.23	0.03	65	14	valve check
Northeastern 3	103	7/10/2021 0:00	7/10/2021 0:56	Valves	main stop valve testing	0.93	0.13	65	60.5	Weekly Valve Checks
Northeastern 3	103	7/14/2021 1:00	7/14/2021 1:12	Valves	main stop valve testing	0.2	0.03	65	13	Mid-week valve tests
Northeastern 3	103	7/16/2021 21:00	7/16/2021 21:42	Valves	main stop valve testing	0.7	0.1	65	45.6	Weekly Valve Checks
Northeastern 3	103	7/21/2021 1:00	7/21/2021 1:14	Valves	main stop valve testing	0.23	0.03	65	15.3	Mid-week valve tests
Northeastern 3	103	7/31/2021 21:00	7/31/2021 21:37	Valves	main stop valve testing	0.62	0.09	65	40	valve check
Northeastern 3	103	8/6/2021 23:00	8/6/2021 23:39	Valves	main stop valve testing	0.65	0.09	65	42.3	Weekly Valve Checks
Northeastern 3	103	8/13/2021 20:00	8/13/2021 20:58	Valves	main stop valve testing	0.97	0.14	65	62.8	Weekly valve test
Northeastern 3	103	8/18/2021 1:00	8/18/2021 1:12	Valves	main stop valve testing	0.2	0.03	65	13	Mid-week valve tests
Northeastern 3	103	8/20/2021 21:00	8/20/2021 21:43	Valves	main stop valve testing	0.72	0.05	30	21.4	Weekly Valve Checks
Northeastern 3	103	8/27/2021 22:08	8/27/2021 22:54	Valves	main stop valve testing	0.77	0.11	65	49.8	Weekly valve test
Northeastern 3	103	9/1/2021 1:00	9/1/2021 1:08	Valves	main stop valve testing	0.13	0	0	0	Mid Week Valve Test. Unit need to be under 400 MW.
Northeastern 3	103	9/3/2021 22:00	9/3/2021 22:46	Valves	main stop valve testing	0.77	0.11	65	49.8	Valve Check
Northeastern 3	103	9/7/2021 23:00	9/7/2021 23:10	Valves	main stop valve testing	0.17	0.02	65	10.7	Mid week valve test
Northeastern 3	103	9/11/2021 20:00	9/11/2021 20:58	Valves	main stop valve testing	0.97	0.14	65	62.8	Weekly Valve Checks
Northeastern 3	103	9/17/2021 20:50	9/17/2021 21:36	Valves	main stop valve testing	0.77	0.11	65	49.8	Weekly Valve Checks
Northeastern 3	103	9/24/2021 23:00	9/24/2021 23:55	Valves	main stop valve testing	0.92	0.13	65	59.5	Weekly Valve Checks
Northeastern 3	103	10/2/2021 6:00	10/2/2021 6:53	Valves	main stop valve testing	0.88	0.12	65	57.2	Weekly Valve Checks
Northeastern 3	103	10/10/2021 2:00	10/10/2021 3:00	Valves	main stop valve testing	1	0.14	65	65.1	Valve check
Northeastern 3	103	10/13/2021 1:00	10/13/2021 1:14	Valves	main stop valve testing	0.23	0.03	65	15.3	Mid-Week Valve Checks
Northeastern 3	103	10/15/2021 20:04	10/15/2021 20:47	Valves	main stop valve testing	0.72	0.1	65	46.5	Weekly Valve Checks

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Northeastern 3	103	10/22/2021 21:00	10/22/2021 21:59	Valves	main stop valve testing	0.98	0.14	65	63.7	Weekly Valve Checks
Northeastern 3	103	10/27/2021 1:00	10/27/2021 1:22	Valves	main stop valve testing	0.37	0.05	65	23.7	MID WEEK VALVE CHECKS
Northeastern 3	103	10/29/2021 19:00	10/29/2021 19:52	Valves	main stop valve testing	0.87	0.12	65	56.3	Weekly Valve Checks
Northeastern 3	103	11/27/2021 14:00	11/27/2021 14:52	Valves	main stop valve testing	0.87	0.12	65	56.3	Weekly Valve Checks
Northeastern 3	103	12/1/2021 1:00	12/1/2021 1:08	Valves	main stop valve testing	0.13	0.06	215	28.8	Midweek Valve checks
Pirkey 1	117	6/7/2021 14:38	6/22/2021 0:00	Boiler Air and Gas Systems	induced draft fan motors and drives	345.37	12.79	25	8633.9	ID Fan Motor Amps are approaching their limits at full load due to exccesive air in leakage.
Pirkey 1	117	2/12/2021 21:10	2/13/2021 1:30	Boiler Control Systems	boiler drum gage glasses / level indicator	4.33	0.32	50	216.7	Drum Level Controls, soottblowers may be contributing
Pirkey 1	117	3/23/2021 3:25	3/23/2021 4:24	Boiler Control Systems	boiler drum gage glasses / level indicator	0.98	0.02	15	14.9	Drum levels are swinging due to soot blowers
Pirkey 1	117	6/9/2021 17:54	6/10/2021 6:44	Boiler Control Systems	other boiler instrumentation and control problems	12.83	0.95	50	641.9	Drum level transmitter issues
Pirkey 1	117	6/10/2021 6:44	6/10/2021 13:33	Boiler Control Systems	other boiler instrumentation and control problems	6.82	0.51	50	340.9	Drum level transmitter issues
Pirkey 1	117	6/10/2021 13:33	6/12/2021 11:00	Boiler Control Systems	other boiler instrumentation and control problems	45.45	1.68	25	1136	Drum level transmitter issues
Pirkey 1	117	6/12/2021 11:00	6/12/2021 14:30	Boiler Control Systems	other boiler instrumentation and control problems	3.5	0.26	50	174.8	Drum level transmitter issues
Pirkey 1	117	6/12/2021 14:30	6/13/2021 15:55	Boiler Control Systems	other boiler instrumentation and control problems	25.42	3.77	100	2541.4	Drum level transmitter issues
Pirkey 1	117	6/13/2021 15:55	6/22/2021 0:00	Boiler Control Systems	other boiler instrumentation and control problems	200.08	14.82	50	10004	Drum level transmitter issues
Pirkey 1	117	6/30/2021 13:39	6/30/2021 16:12	Boiler Control Systems	other boiler instrumentation and control problems	2.55	0.26	75	172.8	Drum level transmitter issues
Pirkey 1	117	1/12/2021 18:05	1/13/2021 13:25	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	19.33	3.58	125	2416.5	Loss of B Feeder/ silo plugged
Pirkey 1	117	1/13/2021 5:34	1/13/2021 13:25	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	7.85	1.51	130	1020.6	Loss of 'A' Mill / silo plugged
Pirkey 1	117	1/13/2021 13:25	1/13/2021 19:00	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	5.58	1.57	190	1061.1	silo pluggage problems
Pirkey 1	117	1/14/2021 7:50	1/14/2021 16:30	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	8.67	2.89	225	1950.1	Wet Coal/ Silo Plugged
Pirkey 1	117	1/14/2021 13:38	1/14/2021 14:14	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	0.6	0.04	45	27	Loss of Pulverizer, Plugged Feeder
Pirkey 1	117	1/14/2021 16:30	1/15/2021 14:35	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	22.08	3.27	100	2208.6	Wet Coal/ Silo Plugged
Pirkey 1	117	1/14/2021 18:00	1/14/2021 18:01	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	0.02	0	125	2	Feeder Tripped/ Silo Plugged
Pirkey 1	117	1/14/2021 18:01	1/14/2021 19:00	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	0.98	0.07	50	49.3	'A' Feeder Tripped/ Silo Plugged
Pirkey 1	117	1/14/2021 23:40	1/15/2021 1:15	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	1.58	0.12	50	79	'A' Feeder Tripped/ Silo Plugged
Pirkey 1	117	1/15/2021 1:42	1/15/2021 14:35	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	12.88	0.95	50	644	'A' Feeder Tripped/ Silo Plugged
Pirkey 1	117	1/15/2021 14:35	1/15/2021 19:00	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	4.42	0.33	50	220.7	Wet Coal/ Silo Plugged
Pirkey 1	117	1/15/2021 19:00	1/15/2021 21:12	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	2.2	0.08	25	54.7	Wet Coal/ Silo Plugged
Pirkey 1	117	1/20/2021 19:20	1/20/2021 21:49	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	2.48	0.79	215	533.9	A Feeder Tripped/ Silo Plugged
Pirkey 1	117	2/3/2021 10:45	2/3/2021 13:00	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	2.25	0.37	110	247.7	A silo plugged, mill tripped
Pirkey 1	117	2/3/2021 19:04	2/3/2021 19:24	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	0.33	0.07	145	48.6	A silo plugged, will empty out
Pirkey 1	117	2/3/2021 19:24	2/3/2021 21:25	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	2.02	0.43	145	292.3	A silo plugged, will empty out
Pirkey 1	117	2/3/2021 21:25	2/4/2021 7:25	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	10	2.22	150	1499.9	A silo plugged, will empy out
Pirkey 1	117	2/4/2021 7:25	2/4/2021 8:55	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	1.5	0.28	125	187.7	A silo plugged, will empty out
Pirkey 1	117	2/4/2021 8:55	2/4/2021 17:01	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	8.1	1.32	110	891	A silo plugged, will empty out
Pirkey 1	117	2/6/2021 11:12	2/7/2021 13:43	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	26.52	3.93	100	2651.4	A silo plugged
Pirkey 1	117	2/7/2021 13:43	2/8/2021 18:07	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	28.4	5.26	125	3549.8	A silo plugged
Pirkey 1	117	2/18/2021 9:51	2/18/2021 13:55	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	4.07	3.01	499	2029.1	Silo Plugged, frozen coal
Pirkey 1	117	2/18/2021 13:55	2/18/2021 16:22	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	2.45	1.69	465	1139.4	Silo Plugged, frozen coal

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Pirkey 1	117	2/18/2021 16:22	2/19/2021 9:01	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	16.65	11.96	485	8075	Silo Plugged, frozen coal
Pirkey 1	117	2/19/2021 9:01	2/20/2021 15:47	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	30.77	20.06	440	13537	Silo Plugged, frozen coal
Pirkey 1	117	3/26/2021 16:27	3/26/2021 23:15	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	6.8	0.6	60	407.7	C" mill tripped
Pirkey 1	117	3/26/2021 23:45	3/27/2021 5:53	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	6.13	0.55	60	367.9	C" mill tripped
Pirkey 1	117	4/10/2021 5:25	4/10/2021 8:23	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	2.97	0.2	45	133.7	C silo plugged, having to wash out.
Pirkey 1	117	1/25/2021 0:42	1/25/2021 12:33	Boiler Fuel Supply from Bunkers to Boiler	pulverizer feeders	11.85	1.76	100	1185.3	B Coal Feeder Belt Torn/ needs replaced
Pirkey 1	117	3/13/2021 3:10	3/13/2021 6:45	Boiler Fuel Supply from Bunkers to Boiler	pulverizer feeders	3.58	1.26	237	849.2	G feeder top gate would not open mechanically.
Pirkey 1	117	4/16/2021 13:00	4/16/2021 22:00	Boiler Fuel Supply from Bunkers to Boiler	pulverizer feeders	9	1	75	675	G" mill o/s to repair coal feeder isolation gate."
Pirkey 1	117	2/5/2021 14:42	2/5/2021 16:29	Boiler Fuel Supply from Bunkers to Boiler	primary air heater	1.78	0.2	75	133.7	Primary air heater seal shoe system faulted, gap needs resetting.
Pirkey 1	117	2/26/2021 5:40	2/26/2021 7:42	Boiler Fuel Supply from Bunkers to Boiler	primary air heater	2.03	0.2	65	132.3	PA Heater seal shoe faulted, had to reset.
Pirkey 1	117	2/26/2021 15:55	2/26/2021 17:27	Boiler Fuel Supply from Bunkers to Boiler	primary air flow instrumentation	1.53	0.44	195	299	'G' mill Pri Air flow problems
Pirkey 1	117	10/4/2021 16:39	10/4/2021 18:23	Boiler Fuel Supply from Bunkers to Boiler	pulverizer mills	1.73	0.4	155	268.7	A mill full of raw coal, will need to be cleaned out.
Pirkey 1	117	10/4/2021 18:23	10/6/2021 22:12	Boiler Fuel Supply from Bunkers to Boiler	pulverizer mills	51.82	10.36	135	6995	A mill full of raw coal, will need to be cleaned out.
Pirkey 1	117	9/29/2021 12:25	9/29/2021 12:45	Boiler Fuel Supply from Bunkers to Boiler	pulverizer control systems (temperature and pressure)	0.33	0.07	150	50	Pulverizer seal air pressure low, pressure checked out good.
Pirkey 1	117	1/10/2021 22:00	1/11/2021 0:30	Boiler Fuel Supply from Bunkers to Boiler	other pulverizer problems	2.5	0.41	110	274.7	D Pulverizer O/s due to upper flange leak on pyrite box
Pirkey 1	117	1/11/2021 0:30	1/15/2021 21:12	Boiler Fuel Supply from Bunkers to Boiler	other pulverizer problems	116.7	21.61	125	14587	D Pulverizer O/s due to upper flange leak on pyrite box
Pirkey 1	117	1/18/2021 9:40	1/18/2021 11:25	Boiler Fuel Supply from Bunkers to Boiler	pulverizer pyrite removal system	1.75	0.3	115	201.2	D Pulverizer pyrite inspection
Pirkey 1	117	1/18/2021 11:25	1/19/2021 15:55	Boiler Fuel Supply from Bunkers to Boiler	pulverizer pyrite removal system	28.5	4.86	115	3277.8	D Pulverizer pyrite inspection
Pirkey 1	117	1/19/2021 15:55	1/20/2021 19:00	Boiler Fuel Supply from Bunkers to Boiler	pulverizer pyrite removal system	27.08	5.02	125	3385.1	D Pulverizer pyrite inspection
Pirkey 1	117	12/2/2021 6:00	12/2/2021 11:38	Boiler Fuel Supply from Bunkers to Boiler	pulverizer pyrite removal system	5.63	0.96	115	648	G Pulv pyrite box has a leak and needs to be repaired.
Pirkey 1	117	6/9/2021 11:28	6/9/2021 12:22	Boiler Fuel Supply from Bunkers to Boiler	pulverized fuel and air piping (from pulverizer to wind box) (see code 0898 for pulverizer reject sy	0.9	0.13	100	89.8	Coal pipe leak
Pirkey 1	117	11/26/2021 11:44	11/26/2021 12:49	Boiler Fuel Supply from Bunkers to Boiler	light off (igniter) systems (including fuel supply)	1.08	0.04	25	27	Loss of ignitor gas supply temporarily
Pirkey 1	117	3/13/2021 0:00	3/13/2021 0:06	Boiler Fuel Supply from Bunkers to Boiler	igniters	0.1	0.05	325	32.4	Igniter gas header issue, regulator leaking by.
Pirkey 1	117	3/13/2021 0:06	3/13/2021 2:32	Boiler Fuel Supply from Bunkers to Boiler	igniters	2.43	0.99	275	668.9	Igniter gas header issue, regulator leaking by.
Pirkey 1	117	2/12/2021 16:19	2/12/2021 17:12	Boiler Piping System	other miscellaneous piping system problems	0.88	0.49	375	331.4	Boiler drain line leak, ssh inlet header drain line ruptured, closed pri vlv.
Pirkey 1	117	10/3/2021 20:53	10/3/2021 23:54	Circulating Water Systems	traveling screens	3.02	0.78	175	527.9	Traveling screen B has had a failure and Diff has come in alarm. Need to Drop load and monitor back pressure before taking circulator out of service. Starting at 500 mw net and may have to go lower.
Pirkey 1	117	1/26/2021 16:25	1/26/2021 17:40	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	1.25	0.69	375	468.5	Silica Hold
Pirkey 1	117	4/5/2021 14:00	4/5/2021 15:26	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	1.43	0.8	375	537.3	Silica Hold
Pirkey 1	117	4/5/2021 15:26	4/5/2021 15:45	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	0.32	0.14	300	95.2	Silica Hold
Pirkey 1	117	4/5/2021 15:45	4/5/2021 17:00	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	1.25	0.46	250	312.5	Silica Hold

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Pirkey 1	117	4/5/2021 17:00	4/5/2021 18:00	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	1	0.33	225	224.8	Silica Hold
Pirkey 1	117	4/5/2021 18:00	4/5/2021 20:00	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	2	0.37	125	249.8	Silica Hold
Pirkey 1	117	4/5/2021 20:00	4/5/2021 22:28	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	2.47	0.33	90	222.1	Silica Hold
Pirkey 1	117	6/2/2021 12:03	6/2/2021 13:09	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	1.1	0.61	375	412.4	Silica
Pirkey 1	117	6/30/2021 18:08	6/30/2021 20:49	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	2.68	1.49	375	1006.4	Silica Hold
Pirkey 1	117	7/15/2021 11:30	7/15/2021 11:39	Condensate System	feedwater chemistry (not specific to condenser, polishers, or chemical addition)	0.15	0.08	375	56	Silica
Pirkey 1	117	10/4/2021 7:58	10/4/2021 9:52	Condensing System	other miscellaneous condensing system problems	1.9	0.17	60	114.1	Backpressure being checked out, holding load due to one circ pump OOS.
Pirkey 1	117	11/21/2021 6:10	11/21/2021 7:18	Controls	generator metering devices	1.13	0.58	348	394.2	Normal frequency indication was lost, had to revert to backup indication.
Pirkey 1	117	2/24/2021 17:07	2/25/2021 16:33	Economic	reserve shutdown	23.43	0	0	0	DNR
Pirkey 1	117	5/7/2021 18:00	5/21/2021 9:59	Economic	reserve shutdown	327.98	0	0	0	DNR
Pirkey 1	117	5/28/2021 2:52	6/2/2021 7:13	Economic	reserve shutdown	124.35	0	0	0	DNR
Pirkey 1	117	12/10/2021 8:00	1/1/2022 8:17	Economic	reserve shutdown	519.99	0	0	0	DNR
Pirkey 1	117	3/13/2021 6:45	3/13/2021 10:05	Electrical	4000-7000 volt circuit breakers	3.33	0.74	150	500.2	B pulv breaker would not close, had to adjust.
Pirkey 1	117	9/7/2021 11:57	9/7/2021 23:57	Electrical	12-15kv transformers	12	6.67	375	4500.2	Loss of 480V Aux Transformers ST-A and ST-B
Pirkey 1	117	1/2/2021 5:22	1/2/2021 16:00	Fuel Quality	other fuel quality problems (not omc)	10.63	0.39	25	266	Derate to 650 MWN due to poor fuel quality
Pirkey 1	117	1/4/2021 8:09	1/4/2021 11:35	Fuel Quality	other fuel quality problems (not omc)	3.43	0.13	25	85.7	Unit controls / Fuel Quality
Pirkey 1	117	1/12/2021 5:12	1/13/2021 13:25	Fuel Quality	other fuel quality problems (not omc)	32.22	1.19	25	805.3	Low btu fuel/ poor fuel Quality
Pirkey 1	117	1/13/2021 19:00	1/13/2021 20:15	Fuel Quality	other fuel quality problems (not omc)	1.25	0.28	150	187.7	Fuel Quality/ low btus
Pirkey 1	117	1/13/2021 20:15	1/13/2021 21:42	Fuel Quality	other fuel quality problems (not omc)	1.45	0.27	125	181.6	Fuel Quality/ low btus
Pirkey 1	117	1/14/2021 4:58	1/14/2021 6:40	Fuel Quality	other fuel quality problems (not omc)	1.7	0.04	15	25.7	Wet Coal
Pirkey 1	117	1/14/2021 6:40	1/14/2021 6:41	Fuel Quality	other fuel quality problems (not omc)	0.02	0	15	0	Wet Coal
Pirkey 1	117	1/14/2021 6:41	1/14/2021 6:49	Fuel Quality	other fuel quality problems (not omc)	0.13	0.01	25	3.4	Wet Coal
Pirkey 1	117	1/14/2021 6:49	1/14/2021 7:50	Fuel Quality	other fuel quality problems (not omc)	1.02	0.06	40	40.5	Wet Coal
Pirkey 1	117	1/18/2021 8:18	1/19/2021 15:55	Fuel Quality	other fuel quality problems (not omc)	31.62	2.11	45	1422.9	Poor Fuel Quality/ Low Btu Fuel
Pirkey 1	117	1/21/2021 17:00	1/21/2021 17:50	Fuel Quality	other fuel quality problems (not omc)	0.83	0.03	20	16.9	Poor Fuel Quality/ Low Btu
Pirkey 1	117	1/21/2021 17:50	1/22/2021 12:40	Fuel Quality	other fuel quality problems (not omc)	18.83	0.7	25	471.2	Poor Fuel Quality/ Low Btu
Pirkey 1	117	1/22/2021 12:40	1/25/2021 5:33	Fuel Quality	other fuel quality problems (not omc)	64.88	4.81	50	3244.1	Poor Fuel Quality/ Low Btu
Pirkey 1	117	1/27/2021 12:00	1/27/2021 15:12	Fuel Quality	other fuel quality problems (not omc)	3.2	0.12	25	80.3	Poor Fuel Quality/ Low Btu
Pirkey 1	117	2/1/2021 16:54	2/1/2021 22:40	Fuel Quality	other fuel quality problems (not omc)	5.77	0.43	50	288.2	Low Btu/ poor fuel quality
Pirkey 1	117	2/1/2021 22:40	2/2/2021 0:28	Fuel Quality	other fuel quality problems (not omc)	1.8	0.11	40	72.2	Low Btu/ poor fuel quality
Pirkey 1	117	2/3/2021 7:18	2/3/2021 14:08	Fuel Quality	other fuel quality problems (not omc)	6.83	0.25	25	170.8	Low Btu/ poor fuel quality
Pirkey 1	117	2/14/2021 23:03	2/15/2021 3:44	Fuel Quality	other fuel quality problems (not omc)	4.68	0.42	60	280.8	Low Btus/ Poor fuel quality
Pirkey 1	117	2/15/2021 3:44	2/15/2021 6:09	Fuel Quality	other fuel quality problems (not omc)	2.42	0.2	55	133	Low Btu/ Poor fuel quality
Pirkey 1	117	2/17/2021 14:31	2/18/2021 16:22	Fuel Quality	other fuel quality problems (not omc)	25.85	2.27	60	1532.3	Anticipated fuel quality issues - low BTU fuel.
Pirkey 1	117	2/26/2021 21:00	2/27/2021 4:00	Fuel Quality	other fuel quality problems (not omc)	7	0.26	25	174.8	Low Btu/ Poor fuel quality
Pirkey 1	117	2/27/2021 4:00	2/27/2021 15:50	Fuel Quality	other fuel quality problems (not omc)	11.83	0.79	45	532.6	Low Btu/ Poor fuel quality
Pirkey 1	117	2/27/2021 15:50	3/1/2021 7:01	Fuel Quality	other fuel quality problems (not omc)	39.18	1.71	25	1154.9	Low Btu/ Poor fuel quality
Pirkey 1	117	8/31/2021 11:09	8/31/2021 14:52	Fuel Quality	other fuel quality problems (not omc)	3.72	0.14	25	93.2	Low Btu/ Poor Fuel Quality
Pirkey 1	117	9/27/2021 14:30	9/28/2021 10:00	Fuel Quality	other fuel quality problems (not omc)	19.5	0.72	25	487.4	Poor Fuel Quality/ Low BTU
Pirkey 1	117	9/28/2021 13:05	9/28/2021 22:00	Fuel Quality	other fuel quality problems (not omc)	8.92	0.33	25	222.8	Poor Fuel Quality/ Low BTU
Pirkey 1	117	12/6/2021 8:32	12/6/2021 14:35	Fuel Quality	other fuel quality problems (not omc)	6.05	0.22	25	151.2	Low btu/ poor fuel quality
Pirkey 1	117	1/15/2021 21:50	1/16/2021 1:49	Miscellaneous (Balance of Plant)	dcs - logic problems	3.98	0.89	150	597.4	D' Mill DCS Logic issues
Pirkey 1	117	1/20/2021 21:52	1/20/2021 23:00	Miscellaneous (Balance of Plant)	dcs - logic problems	1.13	0.21	125	141.8	D pulverizer- Will not step up, DCS issues
Pirkey 1	117	2/26/2021 8:45	2/26/2021 10:03	Miscellaneous (Balance of Plant)	dcs - logic problems	1.3	0.07	35	45.2	DCS controls, tuning ID Fans for full load.
Pirkey 1	117	2/26/2021 10:03	2/26/2021 11:35	Miscellaneous (Balance of Plant)	dcs - logic problems	1.53	0.06	25	38.5	DCS controls, tuning ID Fans for full load.
Pirkey 1	117	12/7/2021 23:47	12/8/2021 23:00	Miscellaneous (Pollution Control Equipment)	ash handling system and hoppers	23.22	9.46	275	6384.8	A fly ash system has high hoppers, will have to vacuum out transport line
Pirkey 1	117	3/13/2021 11:25	3/14/2021 13:00	Precipitators	other precipitator problems	24.58	4.55	125	3072.6	B side opacity running higher than normal.
Pirkey 1	117	3/14/2021 13:00	3/14/2021 15:05	Precipitators	other precipitator problems	2.08	0.23	75	155.9	B side opacity runnng higher than normal.
Pirkey 1	117	3/14/2021 15:05	3/15/2021 11:00	Precipitators	other precipitator problems	19.92	3.69	125	2489.4	B side opacity running higher than normal.
Pirkey 1	117	3/15/2021 11:00	3/15/2021 11:04	Precipitators	other precipitator problems	0.07	0.01	75	4.7	B side opacity running higher than normal.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Pirkey 1	117	6/21/2021 19:53	6/21/2021 23:03	Stack Emission	opacity - fossil	3.17	0.24	50	158.6	Opacity Issues. A side opacity reaching limit
Pirkey 1	117	6/30/2021 22:33	7/1/2021 12:00	Stack Emission	opacity - fossil	13.45	2.83	75	1908.9	opacity issues
Pirkey 1	117	7/1/2021 12:56	7/1/2021 14:00	Stack Emission	opacity - fossil	1.07	0.04	25	27	opacity issues
Pirkey 1	117	7/1/2021 14:00	7/1/2021 15:51	Stack Emission	opacity - fossil	1.85	0.14	50	92.5	opacity issues
Pirkey 1	117	7/1/2021 15:51	7/2/2021 23:59	Stack Emission	opacity - fossil	32.13	2.38	50	1606.5	opacity issues
Pirkey 1	117	7/3/2021 2:58	7/3/2021 15:50	Stack Emission	opacity - fossil	12.87	0.48	25	322	opacity issues
Pirkey 1	117	7/3/2021 12:31	7/3/2021 12:32	Stack Emission	opacity - fossil	0.02	0	20	0	opacity issues
Pirkey 1	117	7/3/2021 12:37	7/3/2021 14:39	Stack Emission	opacity - fossil	2.03	0.15	50	101.9	opacity issues
Pirkey 1	117	7/3/2021 14:39	7/3/2021 15:51	Stack Emission	opacity - fossil	1.2	0.18	100	120.2	opacity issues
Pirkey 1	117	7/3/2021 15:51	7/3/2021 16:23	Stack Emission	opacity - fossil	0.53	0.12	150	80.3	opacity issues
Pirkey 1	117	7/3/2021 16:07	7/3/2021 21:42	Stack Emission	opacity - fossil	5.58	0.41	50	279.5	opacity issues
Pirkey 1	117	7/3/2021 21:42	7/4/2021 13:48	Stack Emission	opacity - fossil	16.1	1.79	75	1207.6	opacity issues
Pirkey 1	117	7/4/2021 13:49	7/4/2021 14:23	Stack Emission	opacity - fossil	0.57	0.11	125	70.9	opacity issues
Pirkey 1	117	7/4/2021 14:24	7/4/2021 15:59	Stack Emission	opacity - fossil	1.58	0.53	225	356.4	opacity issues
Pirkey 1	117	7/4/2021 15:59	7/4/2021 20:15	Stack Emission	opacity - fossil	4.27	1.26	200	853.2	opacity issues
Pirkey 1	117	7/4/2021 20:15	7/5/2021 12:45	Stack Emission	opacity - fossil	16.5	1.83	75	1237.3	opacity issues
Pirkey 1	117	7/5/2021 12:45	7/5/2021 16:35	Stack Emission	opacity - fossil	3.83	0.57	100	383.4	opacity issues
Pirkey 1	117	7/5/2021 16:35	7/6/2021 0:00	Stack Emission	opacity - fossil	7.42	1.37	125	926.8	opacity issues
Pirkey 1	117	7/6/2021 0:00	7/6/2021 9:22	Stack Emission	opacity - fossil	9.37	1.74	125	1171.1	opacity issues
Pirkey 1	117	7/6/2021 9:22	7/7/2021 0:00	Stack Emission	opacity - fossil	14.63	2.71	125	1829.3	opacity issues
Pirkey 1	117	7/6/2021 9:22	7/6/2021 20:30	Stack Emission	opacity - fossil	11.13	0.83	50	556.9	opacity issues
Pirkey 1	117	7/7/2021 9:52	7/7/2021 12:45	Stack Emission	opacity - fossil	2.88	0.17	40	115.4	opacity issues
Pirkey 1	117	7/7/2021 13:39	7/8/2021 0:00	Stack Emission	opacity - fossil	10.35	0.77	50	517.7	opacity issues
Pirkey 1	117	7/8/2021 11:55	7/9/2021 0:01	Stack Emission	opacity - fossil	12.1	0.45	25	302.4	opacity issues
Pirkey 1	117	7/9/2021 11:01	7/10/2021 2:39	Stack Emission	opacity - fossil	15.63	1.16	50	781.7	opacity issues
Pirkey 1	117	7/15/2021 13:41	7/15/2021 14:35	Stack Emission	opacity - fossil	0.9	0.23	175	157.3	opacity issues
Pirkey 1	117	7/15/2021 14:35	7/15/2021 15:12	Stack Emission	opacity - fossil	0.62	0.22	240	147.8	opacity issues
Pirkey 1	117	7/15/2021 15:12	7/16/2021 16:45	Stack Emission	opacity - fossil	25.55	10.41	275	7026.1	opacity issues
Pirkey 1	117	7/16/2021 16:45	7/16/2021 17:07	Stack Emission	opacity - fossil	0.37	0.16	300	110	opacity issues
Pirkey 1	117	7/16/2021 17:08	7/16/2021 17:36	Stack Emission	opacity - fossil	0.47	0.23	325	151.9	opacity issues
Pirkey 1	117	7/16/2021 17:37	7/16/2021 20:53	Stack Emission	opacity - fossil	3.27	1.82	375	1225.1	opacity issues
Pirkey 1	117	7/16/2021 20:54	7/18/2021 14:37	Stack Emission	opacity - fossil	41.72	21.63	350	14601	opacity issues
Pirkey 1	117	7/18/2021 14:37	7/20/2021 15:02	Stack Emission	opacity - fossil	48.43	21.52	300	14527	opacity issues
Pirkey 1	117	7/20/2021 15:02	7/22/2021 9:42	Stack Emission	opacity - fossil	42.67	1.58	25	1066.5	opacity issues
Pirkey 1	117	7/22/2021 9:42	7/22/2021 13:14	Stack Emission	opacity - fossil	3.53	1.31	250	883.6	opacity issues
Pirkey 1	117	7/22/2021 13:15	7/23/2021 13:04	Stack Emission	opacity - fossil	23.82	6.18	175	4168.1	opacity issues
Pirkey 1	117	7/23/2021 13:04	7/23/2021 14:54	Stack Emission	opacity - fossil	1.83	0.61	225	412.4	opacity issues
Pirkey 1	117	7/23/2021 14:54	7/25/2021 14:16	Stack Emission	opacity - fossil	47.37	12.28	175	8289	opacity issues
Pirkey 1	117	7/25/2021 14:17	7/26/2021 11:55	Stack Emission	opacity - fossil	21.63	4.81	150	3244.7	opacity issues
Pirkey 1	117	7/26/2021 11:56	7/26/2021 13:41	Stack Emission	opacity - fossil	1.75	0.32	125	218.7	opacity issues
Pirkey 1	117	7/26/2021 13:42	7/26/2021 14:24	Stack Emission	opacity - fossil	0.7	0.12	115	80.3	opacity issues
Pirkey 1	117	7/26/2021 14:25	7/26/2021 18:16	Stack Emission	opacity - fossil	3.85	0.54	95	365.9	opacity issues
Pirkey 1	117	7/26/2021 18:16	7/26/2021 20:28	Stack Emission	opacity - fossil	2.2	0.41	125	274.7	opacity issues
Pirkey 1	117	7/26/2021 20:28	7/26/2021 22:25	Stack Emission	opacity - fossil	1.95	0.58	200	390.2	opacity issues
Pirkey 1	117	7/26/2021 22:25	7/27/2021 9:42	Stack Emission	opacity - fossil	11.28	2.93	175	1974.4	opacity issues
Pirkey 1	117	7/27/2021 9:43	7/27/2021 10:02	Stack Emission	opacity - fossil	0.32	0.07	150	47.3	opacity issues
Pirkey 1	117	7/27/2021 10:03	7/27/2021 10:44	Stack Emission	opacity - fossil	0.68	0.13	125	85.7	opacity issues
Pirkey 1	117	7/27/2021 10:44	7/29/2021 18:15	Stack Emission	opacity - fossil	55.52	9.05	110	6106.7	opacity issues
Pirkey 1	117	7/29/2021 18:15	7/29/2021 21:44	Stack Emission	opacity - fossil	3.48	0.67	130	452.9	opacity issues
Pirkey 1	117	7/29/2021 21:44	7/31/2021 0:00	Stack Emission	opacity - fossil	26.27	5.84	150	3940	opacity issues
Pirkey 1	117	9/19/2021 15:06	9/19/2021 16:24	Stack Emission	opacity - fossil	1.3	0.14	75	97.2	Opacity Issues
Pirkey 1	117	9/19/2021 16:24	9/19/2021 17:08	Stack Emission	opacity - fossil	0.73	0.05	50	36.5	Opacity Issues
Pirkey 1	117	7/6/2021 20:30	7/10/2021 2:39	Valves	control valves	78.15	8.29	75	5598.5	Steam leak on #7 Governor valve,HP steam leak-off flange or pipe
Pirkey 1	117	1/10/2021 2:00	1/10/2021 3:26	Valves	control valve testing	1.43	0.27	125	178.9	Weekly Valve Checks
Pirkey 1	117	1/23/2021 1:00	1/23/2021 2:00	Valves	control valve testing	1	0.47	317	317.3	Weekly Valve Checks
Pirkey 1	117	1/30/2021 2:00	1/30/2021 3:22	Valves	control valve testing	1.37	0.41	200	273.4	Weekly Valve Checks
Pirkey 1	117	3/19/2021 23:00	3/20/2021 0:47	Valves	control valve testing	1.78	0.24	90	160.7	Weekly Valve Checks
Pirkey 1	117	3/27/2021 3:00	3/27/2021 3:47	Valves	control valve testing	0.78	0.02	20	15.5	Weekly Valve Checks
Pirkey 1	117	4/3/2021 0:00	4/3/2021 1:38	Valves	control valve testing	1.63	0.32	130	212.6	Weekly Valve Checks
Pirkey 1	117	6/12/2021 0:00	6/12/2021 1:02	Valves	control valve testing	1.03	0.5	325	336.2	Weekly Valve Checks
Pirkey 1	117	8/15/2021 3:00	8/15/2021 4:09	Valves	control valve testing	1.15	0.21	125	143.8	Weekly Valve Checks
Pirkey 1	117	8/21/2021 1:00	8/21/2021 1:50	Valves	control valve testing	0.83	0.22	175	145.8	Weekly Valve Checks
Pirkey 1	117	8/28/2021 6:30	8/28/2021 6:58	Valves	control valve testing	0.47	0.09	125	58.1	Weekly Valve Checks
Pirkey 1	117	9/4/2021 2:00	9/4/2021 3:00	Valves	control valve testing	1	0.26	175	174.8	Valve Check
Pirkey 1	117	9/11/2021 1:00	9/11/2021 1:54	Valves	control valve testing	0.9	0.5	375	337.5	Weekly Valve Checks
Pirkey 1	117	9/18/2021 1:00	9/18/2021 2:14	Valves	control valve testing	1.23	0.23	125	153.9	Weekly Valve Checks
Pirkey 1	117	9/25/2021 5:00	9/25/2021 5:41	Valves	control valve testing	0.68	0.38	375	256.5	Weekly Valve Checks
Pirkey 1	117	10/1/2021 23:00	10/2/2021 0:43	Valves	control valve testing	1.72	0.32	125	214.7	Weekly Valve Checks
Pirkey 1	117	11/21/2021 2:00	11/21/2021 3:10	Valves	control valve testing	1.17	0.22	125	145.8	Weekly Valve Checks

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Pirkey 1	117	11/24/2021 6:14	11/24/2021 6:29	Valves	control valve testing	0.25	0.05	125	31.1	Change out solenoid on Reheat stop and intercept valves right side. Did not go closed during ORM valve checks on 11/21/21 Vlv tested good, did not change solenoid.
Pirkey 1	117	11/28/2021 2:00	11/28/2021 3:11	Valves	control valve testing	1.18	0.22	125	147.8	Weekly Valve Checks
Pirkey 1	117	12/4/2021 2:00	12/4/2021 3:15	Valves	control valve testing	1.25	0.32	175	218.7	Weekly Valve Checks
Pirkey 1	117	3/25/2021 4:00	3/25/2021 5:04	Valves	reheat/intercept valve testing	1.07	0.13	80	85.1	Right Hand Upper Intercept Valve calibration
Pirkey 1	117	2/6/2021 9:16	2/6/2021 22:00	Wet Scrubbers	scrubber/absorber tower or module	12.73	0.76	40	509.6	Scrubber tower showing early signs of pluggage, ID fans amps increasing.
Pirkey 1	117	3/15/2021 11:04	3/15/2021 18:30	Wet Scrubbers	scrubber/absorber tower or module	7.43	0.55	50	371.9	Scrubber towers inlet pressure at the limits.
Pirkey 1	117	3/15/2021 18:30	3/16/2021 0:14	Wet Scrubbers	scrubber/absorber tower or module	5.73	0.47	55	315.2	Scrubber towers inlet pressure at the limits.
Pirkey 1	117	3/16/2021 0:14	3/16/2021 20:21	Wet Scrubbers	scrubber/absorber tower or module	20.12	1.64	55	1106.3	Scrubber towers inlet pressure at the limits.
Pirkey 1	117	3/16/2021 20:21	3/17/2021 21:30	Wet Scrubbers	scrubber/absorber tower or module	25.15	1.3	35	880.2	Scrubber towers inlet pressure at the limits.
Pirkey 1	117	3/17/2021 21:30	3/18/2021 0:43	Wet Scrubbers	scrubber/absorber tower or module	3.22	0.12	25	80.3	Scrubber towers inlet pressure at the limits.
Pirkey 1	117	3/18/2021 0:43	3/23/2021 6:30	Wet Scrubbers	scrubber/absorber tower or module	125.78	6.52	35	4402.4	Scrubber towers inlet pressure at the limits.
Pirkey 1	117	3/23/2021 6:30	4/3/2021 17:59	Wet Scrubbers	scrubber/absorber tower or module	275.48	18.8	45	12689	Scrubber towers inlet pressure at the limits.
Pirkey 1	117	3/30/2021 21:20	3/31/2021 0:35	Wet Scrubbers	scrubber/absorber tower or module	3.25	0.05	10	32.4	Scrubber towers inlet pressure at the limits.
Pirkey 1	117	4/5/2021 22:29	4/9/2021 14:20	Wet Scrubbers	scrubber/absorber tower or module	87.85	5.86	45	3953.5	Scrubber towers inlet pressure at their limits.
Pirkey 1	117	4/9/2021 14:20	4/14/2021 6:55	Wet Scrubbers	scrubber/absorber tower or module	112.58	10.01	60	6754.7	Scrubber towers inlet pressure at their limits.
Pirkey 1	117	4/14/2021 6:55	4/16/2021 22:00	Wet Scrubbers	scrubber/absorber tower or module	63.08	7.01	75	4731.1	Scrubber towers inlet pressure at their limits.
Southwestern 1	121	10/24/2021 15:38	10/25/2021 10:51	Boiler Air and Gas Systems	forced draft fans	19.22	1.03	3	57.6	Maxed on fan amps
Southwestern 1	121	7/27/2021 14:07	7/27/2021 15:24	Boiler Air and Gas Systems	air supply dampers from fd fan	1.28	0.69	30	38.5	fd fan issue
Southwestern 1	121	3/5/2021 16:45	3/18/2021 14:51	Boiler Piping System	other miscellaneous piping system problems	309.1	110.39	20	6182	One boiler o/s for line repair
Southwestern 1	121	6/15/2021 15:00	6/18/2021 5:13	Controls	other generator controls and metering problems	62.22	0	0	0	SWS1 is experiencing MW swinging when load is near the top of the Emergency Max and the top range of the AGC. SWS is requesting that the top limit for AGC be 48 MW. This should help alleviate the load swing near the top of the load range but still allow the unit to go to Emergency max when needed.
Southwestern 1	121	3/5/2021 16:45	4/30/2021 4:17	Economic	reserve shutdown	1330.53	0	0	0	DNR
Southwestern 1	121	5/2/2021 7:14	5/5/2021 7:00	Economic	reserve shutdown	71.76	0	0	0	DNR
Southwestern 1	121	5/7/2021 12:21	6/14/2021 9:07	Economic	reserve shutdown	908.77	0	0	0	DNR
Southwestern 1	121	6/17/2021 0:12	7/13/2021 22:03	Economic	reserve shutdown	645.84	0	0	0	dnr
Southwestern 1	121	7/16/2021 0:08	7/27/2021 7:03	Economic	reserve shutdown	270.92	0	0	0	DNR
Southwestern 1	121	7/30/2021 18:44	8/9/2021 8:04	Economic	reserve shutdown	229.32	0	0	0	dnr
Southwestern 1	121	8/14/2021 0:26	8/15/2021 11:09	Economic	reserve shutdown	34.71	0	0	0	DNR
Southwestern 1	121	8/18/2021 0:21	8/19/2021 11:11	Economic	reserve shutdown	34.82	0	0	0	DNR
Southwestern 1	121	8/26/2021 0:32	9/1/2021 10:10	Economic	reserve shutdown	153.63	0	0	0	dnr
Southwestern 1	121	9/4/2021 0:13	9/16/2021 22:00	Economic	reserve shutdown	309.78	0	0	0	dnr
Southwestern 1	121	10/7/2021 19:22	10/19/2021 0:00	Economic	reserve shutdown	268.63	0	0	0	DNR
Southwestern 1	121	10/22/2021 12:56	10/24/2021 7:01	Economic	reserve shutdown	42.08	0	0	0	DNR
Southwestern 1	121	10/26/2021 9:06	11/9/2021 2:07	Economic	reserve shutdown	330.01	0	0	0	DNR
Southwestern 1	121	11/11/2021 4:09		Economic	reserve shutdown	1219.85	0	0	0	DNR
Southwestern 1	121	12/8/2020 16:58	2/9/2021 7:37	Economic	reserve shutdown	943.62	0	0	0	DNR
Southwestern 2	122	2/20/2021 9:26	2/20/2021 10:40	Economic	reserve shutdown	1.23	0	0	0	DNR
Southwestern 2	122	2/23/2021 0:00	2/25/2021 5:08	Economic	reserve shutdown	53.13	0	0	0	DNR
Southwestern 2	122	2/27/2021 7:11	3/1/2021 8:00	Economic	reserve shutdown	48.81	0	0	0	DNR
Southwestern 2	122	3/1/2021 17:00	3/5/2021 18:15	Economic	reserve shutdown	97.25	0	0	0	DNR
Southwestern 2	122	3/7/2021 20:48	3/28/2021 7:01	Economic	reserve shutdown	489.21	0	0	0	DNR
Southwestern 2	122	3/30/2021 9:00	4/10/2021 15:03	Economic	reserve shutdown	270.05	0	0	0	DNR
Southwestern 2	122	4/13/2021 0:12	4/14/2021 3:03	Economic	reserve shutdown	26.85	0	0	0	DNR
Southwestern 2	122	4/16/2021 11:10	4/17/2021 7:00	Economic	reserve shutdown	19.83	0	0	0	DNR
Southwestern 2	122	4/24/2021 8:44	4/28/2021 3:05	Economic	reserve shutdown	90.35	0	0	0	DNR
Southwestern 2	122	5/1/2021 0:15	6/3/2021 13:30	Economic	reserve shutdown	805.24	0	0	0	DNR
Southwestern 2	122	6/5/2021 19:40	6/7/2021 11:08	Economic	reserve shutdown	39.46	0	0	0	DNR
Southwestern 2	122	6/10/2021 0:22	6/12/2021 13:01	Economic	reserve shutdown	60.65	0	0	0	DNR
Southwestern 2	122	6/18/2021 0:12	6/19/2021 11:58	Economic	reserve shutdown	35.77	0	0	0	dnr
Southwestern 2	122	6/22/2021 0:35	6/29/2021 13:02	Economic	reserve shutdown	180.45	0	0	0	DNR
Southwestern 2	122	7/2/2021 0:09	7/3/2021 11:04	Economic	reserve shutdown	34.91	0	0	0	DNR
Southwestern 2	122	7/7/2021 0:45	7/8/2021 11:03	Economic	reserve shutdown	34.29	0	0	0	DNR
Southwestern 2	122	7/14/2021 16:19	7/16/2021 10:04	Economic	reserve shutdown	41.75	0	0	0	DNR
Southwestern 2	122	7/21/2021 0:22	7/23/2021 11:03	Economic	reserve shutdown	58.67	0	0	0	DNR
Southwestern 2	122	8/1/2021 0:47	8/2/2021 11:02	Economic	reserve shutdown	34.24	0	0	0	dnr
Southwestern 2	122	8/7/2021 0:09	8/8/2021 11:03	Economic	reserve shutdown	34.89	0	0	0	DNR
Southwestern 2	122	8/18/2021 0:22	8/19/2021 10:03	Economic	reserve shutdown	33.67	0	0	0	DNR
Southwestern 2	122	8/28/2021 0:09	8/29/2021 11:02	Economic	reserve shutdown	34.88	0	0	0	DNR
Southwestern 2	122	9/6/2021 0:27	9/7/2021 11:37	Economic	reserve shutdown	35.16	0	0	0	dnr
Southwestern 2	122	9/10/2021 0:08	9/12/2021 13:17	Economic	reserve shutdown	61.14	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Southwestern 2	122	9/15/2021 0:09	9/16/2021 11:05	Economic	reserve shutdown	34.93	0	0	0	DNR
Southwestern 2	122	9/18/2021 19:06	9/30/2021 18:03	Economic	reserve shutdown	286.95	0	0	0	DNR
Southwestern 2	122	10/3/2021 0:03	10/4/2021 10:02	Economic	reserve shutdown	33.98	0	0	0	DNR
Southwestern 2	122	10/12/2021 0:06	10/13/2021 6:29	Economic	reserve shutdown	30.38	0	0	0	DNR
Southwestern 2	122	10/23/2021 0:11	10/24/2021 22:00	Economic	reserve shutdown	45.82	0	0	0	DNR
Southwestern 2	122	10/27/2021 17:05	10/29/2021 18:06	Economic	reserve shutdown	49.02	0	0	0	DNR
Southwestern 2	122	11/7/2021 0:09	11/8/2021 13:07	Economic	reserve shutdown	37.96	0	0	0	DNR
Southwestern 2	122	11/10/2021 15:02	11/15/2021 7:03	Economic	reserve shutdown	112	0	0	0	dnr
Southwestern 2	122	11/20/2021 0:17	1/2/2022 4:20	Economic	reserve shutdown	1007.72	0	0	0	DNR
Southwestern 2	122	12/7/2020 18:15	2/9/2021 5:50	Economic	reserve shutdown	941.83	0	0	0	DNR
Southwestern 2	122	9/13/2021 7:00	9/13/2021 14:55	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	7.92	6.92	69	546.3	<OMC!> OGT pipeline pigging
Southwestern 2	122	2/13/2021 9:00	2/16/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	63	43.06	54	3402	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Southwestern 2	122	2/16/2021 0:00	2/20/2021 10:40	Economic	lack of fuel: contract or tariff allows for interruption	106.67	72.91	54	5760	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Southwestern 2	122	10/11/2021 15:24	10/11/2021 15:32	Heater Drain Systems	heater level control	0.13	0.02	12	1.6	Extraction on a heater is not working
Southwestern 2	122	10/11/2021 15:32	10/11/2021 16:21	Heater Drain Systems	heater level control	0.82	0.18	17	13.9	Extraction on a heater is not working
Southwestern 2	122	8/14/2021 20:00	8/14/2021 20:20	Valves	control valve testing	0.33	0.23	54	18	Weekly Valve Checks but I'm not sure why a cause code is required for this one
Southwestern 3	123	8/13/2021 15:56	8/13/2021 16:07	Boiler Air and Gas Systems	other induced draft fan problems	0.18	0	3	0.6	Out of air
Southwestern 3	123	7/25/2021 17:42	7/25/2021 21:00	Boiler Air and Gas Systems	other miscellaneous boiler air and gas system problems	3.3	0.12	11	36.4	Due to temps
Southwestern 3	123	7/26/2021 13:32	7/26/2021 22:36	Boiler Air and Gas Systems	other miscellaneous boiler air and gas system problems	9.07	0.18	6	54.4	air quality
Southwestern 3	123	7/27/2021 15:06	7/27/2021 22:00	Boiler Air and Gas Systems	other miscellaneous boiler air and gas system problems	6.9	0.09	4	27.7	air temps
Southwestern 3	123	9/19/2021 16:10	9/19/2021 17:00	Condensate System	condensate system controls and instrumentation (not hotwell level, heater level, or deaerator level	0.83	0.14	51	42.6	Feedwater Valve Issues
Southwestern 3	123	9/19/2021 17:00	9/19/2021 19:29	Condensate System	condensate system controls and instrumentation (not hotwell level, heater level, or deaerator level	2.48	0.53	66	163.9	Feedwater Valve Issues
Southwestern 3	123	6/12/2021 13:21	6/12/2021 19:00	Controls	other generator controls and metering problems	5.65	5.2	286	1616	Unable to Swap Auxiliary Load
Southwestern 3	123	1/13/2021 12:26	1/16/2021 4:02	Economic	reserve shutdown	63.6	0	0	0	DNR
Southwestern 3	123	2/2/2021 17:00	2/4/2021 14:03	Economic	reserve shutdown	45.05	0	0	0	DNR
Southwestern 3	123	2/20/2021 10:01	2/20/2021 10:40	Economic	reserve shutdown	0.65	0	0	0	DNR
Southwestern 3	123	2/22/2021 0:00	2/22/2021 5:00	Economic	reserve shutdown	5	0	0	0	DNR
Southwestern 3	123	2/23/2021 15:50	2/25/2021 7:21	Economic	reserve shutdown	39.52	0	0	0	DNR
Southwestern 3	123	2/27/2021 9:32	3/1/2021 3:03	Economic	reserve shutdown	41.51	0	0	0	DNR
Southwestern 3	123	3/4/2021 0:17	3/5/2021 19:09	Economic	reserve shutdown	42.86	0	0	0	DNR
Southwestern 3	123	3/8/2021 0:24	3/15/2021 14:03	Economic	reserve shutdown	180.65	0	0	0	DNR
Southwestern 3	123	3/18/2021 4:56	3/19/2021 4:00	Economic	reserve shutdown	23.06	0	0	0	Reserve shut down (DNR)
Southwestern 3	123	3/21/2021 10:52	3/24/2021 9:04	Economic	reserve shutdown	70.2	0	0	0	DNR
Southwestern 3	123	3/27/2021 10:54	4/8/2021 5:03	Economic	reserve shutdown	282.14	0	0	0	DNR
Southwestern 3	123	4/12/2021 2:50	4/15/2021 9:09	Economic	reserve shutdown	78.32	0	0	0	DNR
Southwestern 3	123	4/22/2021 0:43	4/23/2021 3:03	Economic	reserve shutdown	26.32	0	0	0	DNR
Southwestern 3	123	4/29/2021 1:16	4/30/2021 2:05	Economic	reserve shutdown	24.82	0	0	0	DNR
Southwestern 3	123	5/2/2021 4:26	5/3/2021 8:05	Economic	reserve shutdown	27.64	0	0	0	DNR
Southwestern 3	123	5/7/2021 0:22	5/12/2021 7:02	Economic	reserve shutdown	126.67	0	0	0	DNR
Southwestern 3	123	5/15/2021 0:16	5/17/2021 5:02	Economic	reserve shutdown	52.77	0	0	0	DNR
Southwestern 3	123	6/5/2021 0:34	6/7/2021 8:03	Economic	reserve shutdown	55.48	0	0	0	DNR
Southwestern 3	123	6/14/2021 22:14	6/15/2021 0:00	Economic	reserve shutdown	1.76	0	0	0	dnr
Southwestern 3	123	9/2/2021 9:26	9/3/2021 9:05	Economic	reserve shutdown	23.65	0	0	0	DNR
Southwestern 3	123	9/21/2021 0:14	9/22/2021 22:02	Economic	reserve shutdown	45.8	0	0	0	DNR
Southwestern 3	123	10/8/2021 20:45	10/8/2021 22:00	Economic	reserve shutdown	1.24	0	0	0	dnr
Southwestern 3	123	11/6/2021 15:28	11/8/2021 10:03	Economic	reserve shutdown	43.58	0	0	0	DNR
Southwestern 3	123	11/11/2021 0:18	11/12/2021 11:02	Economic	reserve shutdown	34.73	0	0	0	DNR
Southwestern 3	123	11/17/2021 0:20	11/18/2021 3:02	Economic	reserve shutdown	26.69	0	0	0	DNR
Southwestern 3	123	11/24/2021 0:39	11/28/2021 8:10	Economic	reserve shutdown	103.51	0	0	0	DNR
Southwestern 3	123	12/1/2021 0:17	12/6/2021 3:05	Economic	reserve shutdown	122.79	0	0	0	DNR
Southwestern 3	123	12/9/2021 2:00	12/16/2021 4:03	Economic	reserve shutdown	170.04	0	0	0	DNR
Southwestern 3	123	12/23/2021 2:17	12/25/2021 14:03	Economic	reserve shutdown	59.76	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Southwestern 3	123	12/28/2020 0:12	1/8/2021 10:11	Economic	reserve shutdown	178.18	0	0	0	DNR
Southwestern 3	123	12/28/2021 0:23	12/29/2021 2:02	Economic	reserve shutdown	25.65	0	0	0	DNR
Southwestern 3	123	12/31/2021 4:07	1/1/2022 8:03	Economic	reserve shutdown	19.87	0	0	0	DNR
Southwestern 3	123	9/13/2021 7:00	9/13/2021 14:55	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	7.92	4.74	186	1472.6	<OMC!> OGT pipeline pigging
Southwestern 3	123	2/13/2021 9:00	2/13/2021 10:31	Economic	lack of fuel: contract or tariff allows for interruption	1.52	1.22	251	380.7	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available
Southwestern 3	123	2/13/2021 10:33	2/14/2021 23:28	Economic	lack of fuel: contract or tariff allows for interruption	36.92	27.42	231	8527.6	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available
Southwestern 3	123	2/14/2021 23:28	2/15/2021 3:00	Economic	lack of fuel: contract or tariff allows for interruption	3.53	2.52	222	784.3	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available
Southwestern 3	123	2/15/2021 3:00	2/15/2021 14:17	Economic	lack of fuel: contract or tariff allows for interruption	11.28	7.04	194	2188.8	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available
Southwestern 3	123	2/15/2021 14:17	2/15/2021 15:31	Economic	lack of fuel: contract or tariff allows for interruption	1.23	0.81	203	250.4	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available
Southwestern 3	123	2/15/2021 15:31	2/17/2021 11:10	Economic	lack of fuel: contract or tariff allows for interruption	43.65	32.42	231	10083	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available
Southwestern 3	123	2/17/2021 11:51	2/19/2021 16:00	Economic	lack of fuel: contract or tariff allows for interruption	52.15	33.71	201	10482	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available
Southwestern 3	123	2/19/2021 16:00	2/20/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	17	13.72	251	4266.9	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available
Southwestern 3	123	2/20/2021 9:00	2/20/2021 10:40	Economic	lack of fuel: contract or tariff allows for interruption	1.67	1.35	251	418.3	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available
Southwestern 3	123	2/22/2021 0:00	2/22/2021 5:00	Economic	lack of fuel: contract or tariff allows for interruption	5	1.7	106	529.9	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available
Southwestern 3	123	9/3/2021 13:52	9/3/2021 14:10	Feedwater System	other feedwater valves	0.3	0.13	131	39.2	Reheat Stop Valve Stuck
Southwestern 3	123	9/7/2021 17:26	9/7/2021 22:00	High Pressure Turbine	bearings	4.57	0.09	6	27.4	#2 Bearing Hot
Southwestern 3	123	8/6/2021 20:00	8/6/2021 20:21	Valves	control valve testing	0.35	0.27	236	82.7	Weekly Valve Checks
Southwestern 3	123	8/13/2021 21:00	8/13/2021 21:31	Valves	control valve testing	0.52	0.37	221	114.1	Weekly Valve Checks
Southwestern 3	123	8/20/2021 22:00	8/20/2021 22:27	Valves	control valve testing	0.45	0.32	221	99.5	Weekly Valve Checks
Southwestern 3	123	8/28/2021 22:00	8/28/2021 22:28	Valves	control valve testing	0.47	0.33	221	103.3	Valve checks
Southwestern 3	123	9/11/2021 9:00	9/11/2021 9:22	Valves	control valve testing	0.37	0.28	236	86.5	Weekly Valve Checks
Southwestern 3	123	9/17/2021 21:25	9/17/2021 21:47	Valves	control valve testing	0.37	0.28	236	86.5	Weekly Valve Checks
Southwestern 3	123	5/28/2021 22:00	5/28/2021 22:51	Valves	reheat/intercept valve testing	0.85	0.6	221	187.8	Weekly valve Checks
Southwestern 4	313	1/4/2021 8:13	1/5/2021 5:37	Economic	reserve shutdown	21.4	0	0	0	DNR
Southwestern 4	313	1/5/2021 10:15	1/7/2021 8:45	Economic	reserve shutdown	46.5	0	0	0	DNR
Southwestern 4	313	1/7/2021 22:15	1/8/2021 6:42	Economic	reserve shutdown	8.45	0	0	0	DNR
Southwestern 4	313	1/8/2021 17:30	1/9/2021 5:22	Economic	reserve shutdown	11.87	0	0	0	DNR
Southwestern 4	313	1/9/2021 18:44	1/11/2021 4:32	Economic	reserve shutdown	33.8	0	0	0	DNR
Southwestern 4	313	1/11/2021 11:13	1/11/2021 16:39	Economic	reserve shutdown	5.43	0	0	0	DNR
Southwestern 4	313	1/11/2021 21:15	1/12/2021 4:32	Economic	reserve shutdown	7.28	0	0	0	DNR
Southwestern 4	313	1/12/2021 16:01	1/16/2021 5:35	Economic	reserve shutdown	85.57	0	0	0	DNR
Southwestern 4	313	1/16/2021 12:14	1/17/2021 16:30	Economic	reserve shutdown	28.27	0	0	0	DNR
Southwestern 4	313	1/17/2021 20:14	1/20/2021 5:36	Economic	reserve shutdown	57.37	0	0	0	DNR
Southwestern 4	313	1/20/2021 10:47	1/21/2021 23:37	Economic	reserve shutdown	36.83	0	0	0	DNR
Southwestern 4	313	1/22/2021 19:45	1/28/2021 4:36	Economic	reserve shutdown	128.85	0	0	0	DNR
Southwestern 4	313	1/28/2021 13:24	1/28/2021 16:38	Economic	reserve shutdown	3.23	0	0	0	DNR
Southwestern 4	313	1/28/2021 19:17	1/29/2021 5:27	Economic	reserve shutdown	10.16	0	0	0	dnr
Southwestern 4	313	1/29/2021 11:47	2/1/2021 4:34	Economic	reserve shutdown	64.78	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Southwestern 4	313	2/1/2021 12:13	2/4/2021 17:37	Economic	reserve shutdown	77.4	0	0	0	dnr
Southwestern 4	313	2/4/2021 22:27	2/7/2021 10:07	Economic	reserve shutdown	59.66	0	0	0	DNR
Southwestern 4	313	2/7/2021 20:12	2/8/2021 3:37	Economic	reserve shutdown	7.41	0	0	0	dnr
Southwestern 4	313	2/8/2021 13:45	2/9/2021 16:38	Economic	reserve shutdown	26.87	0	0	0	DNR
Southwestern 4	313	2/9/2021 23:02	2/10/2021 3:36	Economic	reserve shutdown	4.57	0	0	0	DNR
Southwestern 4	313	2/10/2021 10:14	2/10/2021 16:31	Economic	reserve shutdown	6.28	0	0	0	DNR
Southwestern 4	313	2/10/2021 21:20	2/12/2021 5:32	Economic	reserve shutdown	32.2	0	0	0	DNR
Southwestern 4	313	2/20/2021 13:31	2/22/2021 0:00	Economic	reserve shutdown	34.48	0	0	0	DNR
Southwestern 4	313	2/22/2021 5:00	3/2/2021 4:37	Economic	reserve shutdown	191.62	0	0	0	DNR
Southwestern 4	313	3/2/2021 18:15	3/6/2021 4:36	Economic	reserve shutdown	82.35	0	0	0	DNR (reserve shut down)
Southwestern 4	313	3/6/2021 11:16	3/12/2021 10:56	Economic	reserve shutdown	143.67	0	0	0	DNR
Southwestern 4	313	3/12/2021 17:12	3/15/2021 17:41	Economic	reserve shutdown	71.48	0	0	0	DNR
Southwestern 4	313	3/15/2021 21:33	3/18/2021 18:18	Economic	reserve shutdown	68.74	0	0	0	DNR
Southwestern 4	313	3/18/2021 21:14	3/19/2021 5:32	Economic	reserve shutdown	8.29	0	0	0	DNR
Southwestern 4	313	3/19/2021 12:24	3/20/2021 6:00	Economic	reserve shutdown	17.59	0	0	0	DNR
Southwestern 4	313	3/29/2021 16:45	3/31/2021 18:14	Economic	reserve shutdown	49.48	0	0	0	DNR
Southwestern 4	313	4/1/2021 12:17	4/11/2021 17:36	Economic	reserve shutdown	245.31	0	0	0	DNR
Southwestern 4	313	4/11/2021 21:13	4/12/2021 14:34	Economic	reserve shutdown	17.35	0	0	0	DNR
Southwestern 4	313	4/12/2021 21:33	4/19/2021 6:40	Economic	reserve shutdown	153.12	0	0	0	DNR
Southwestern 4	313	4/19/2021 12:13	4/21/2021 4:37	Economic	reserve shutdown	40.39	0	0	0	DNR
Southwestern 4	313	4/21/2021 11:24	5/9/2021 0:00	Economic	reserve shutdown	420.59	0	0	0	DNR
Southwestern 4	313	5/11/2021 16:44	5/13/2021 7:47	Economic	reserve shutdown	39.05	0	0	0	DNR
Southwestern 4	313	5/13/2021 11:13	5/20/2021 10:42	Economic	reserve shutdown	167.48	0	0	0	DNR
Southwestern 4	313	5/20/2021 18:12	5/25/2021 13:48	Economic	reserve shutdown	115.6	0	0	0	DNR
Southwestern 4	313	5/25/2021 18:14	5/27/2021 10:34	Economic	reserve shutdown	40.32	0	0	0	DNR
Southwestern 4	313	5/27/2021 20:12	6/3/2021 13:11	Economic	reserve shutdown	160.97	0	0	0	DNR
Southwestern 4	313	6/3/2021 22:22	6/7/2021 15:25	Economic	reserve shutdown	89.04	0	0	0	DNR
Southwestern 4	313	6/7/2021 20:57	6/9/2021 13:33	Economic	reserve shutdown	40.6	0	0	0	DNR
Southwestern 4	313	6/9/2021 20:41	6/14/2021 14:35	Economic	reserve shutdown	113.9	0	0	0	DRN
Southwestern 4	313	6/14/2021 19:51	6/18/2021 15:37	Economic	reserve shutdown	91.76	0	0	0	dnr
Southwestern 4	313	6/18/2021 19:37	6/24/2021 11:33	Economic	reserve shutdown	135.93	0	0	0	DNR
Southwestern 4	313	6/24/2021 20:12	6/25/2021 11:23	Economic	reserve shutdown	15.18	0	0	0	DNR
Southwestern 4	313	6/25/2021 17:56	6/28/2021 13:06	Economic	reserve shutdown	67.17	0	0	0	dnr
Southwestern 4	313	6/28/2021 18:35	6/29/2021 14:07	Economic	reserve shutdown	19.53	0	0	0	Reason Unknown
Southwestern 4	313	6/29/2021 23:27	6/30/2021 13:33	Economic	reserve shutdown	14.09	0	0	0	DNR
Southwestern 4	313	6/30/2021 20:02	7/3/2021 14:33	Economic	reserve shutdown	66.51	0	0	0	DNR
Southwestern 4	313	7/3/2021 21:41	7/6/2021 10:03	Economic	reserve shutdown	60.35	0	0	0	DNR
Southwestern 4	313	7/6/2021 23:32	7/8/2021 11:38	Economic	reserve shutdown	36.09	0	0	0	DNR
Southwestern 4	313	7/8/2021 21:57	7/10/2021 15:07	Economic	reserve shutdown	41.16	0	0	0	DNR
Southwestern 4	313	7/10/2021 19:51	7/16/2021 14:20	Economic	reserve shutdown	138.48	0	0	0	DNR
Southwestern 4	313	7/16/2021 18:57	7/19/2021 14:05	Economic	reserve shutdown	67.13	0	0	0	DNR
Southwestern 4	313	7/19/2021 19:42	7/21/2021 7:16	Economic	reserve shutdown	35.56	0	0	0	DNR
Southwestern 4	313	7/21/2021 17:42	7/27/2021 12:18	Economic	reserve shutdown	138.6	0	0	0	DNR
Southwestern 4	313	7/27/2021 18:27	7/29/2021 11:08	Economic	reserve shutdown	40.68	0	0	0	DNR
Southwestern 4	313	7/29/2021 18:31	7/31/2021 11:33	Economic	reserve shutdown	41.03	0	0	0	DNR
Southwestern 4	313	7/31/2021 20:11	8/4/2021 13:37	Economic	reserve shutdown	89.43	0	0	0	dnr
Southwestern 4	313	8/4/2021 19:27	8/9/2021 12:17	Economic	reserve shutdown	112.83	0	0	0	DNR
Southwestern 4	313	8/9/2021 18:41	8/11/2021 11:38	Economic	reserve shutdown	40.94	0	0	0	DNR
Southwestern 4	313	8/11/2021 19:52	8/12/2021 12:38	Economic	reserve shutdown	16.77	0	0	0	DNR
Southwestern 4	313	8/12/2021 18:42	8/13/2021 13:55	Economic	reserve shutdown	19.22	0	0	0	DNR
Southwestern 4	313	8/13/2021 19:43	8/14/2021 12:38	Economic	reserve shutdown	16.91	0	0	0	DNR
Southwestern 4	313	8/14/2021 18:44	8/15/2021 14:08	Economic	reserve shutdown	19.4	0	0	0	DNR
Southwestern 4	313	8/15/2021 18:59	8/16/2021 10:45	Economic	reserve shutdown	15.76	0	0	0	DNR
Southwestern 4	313	8/16/2021 23:04	8/17/2021 9:58	Economic	reserve shutdown	10.89	0	0	0	DNR
Southwestern 4	313	8/17/2021 18:14	8/19/2021 9:17	Economic	reserve shutdown	39.05	0	0	0	DNR
Southwestern 4	313	8/19/2021 18:27	8/24/2021 12:43	Economic	reserve shutdown	114.27	0	0	0	DNR
Southwestern 4	313	8/24/2021 17:41	8/25/2021 12:32	Economic	reserve shutdown	18.84	0	0	0	dnr
Southwestern 4	313	8/25/2021 20:41	8/26/2021 12:42	Economic	reserve shutdown	16.01	0	0	0	dnr
Southwestern 4	313	8/26/2021 19:41	8/27/2021 12:48	Economic	reserve shutdown	17.11	0	0	0	dnr
Southwestern 4	313	8/27/2021 18:27	8/28/2021 11:51	Economic	reserve shutdown	17.39	0	0	0	DNR
Southwestern 4	313	8/28/2021 17:11	8/30/2021 12:27	Economic	reserve shutdown	43.27	0	0	0	DNR
Southwestern 4	313	8/30/2021 20:42	8/31/2021 12:31	Economic	reserve shutdown	15.81	0	0	0	DNR
Southwestern 4	313	8/31/2021 18:56	9/1/2021 11:37	Economic	reserve shutdown	16.68	0	0	0	DNR
Southwestern 4	313	9/1/2021 19:11	9/2/2021 13:33	Economic	reserve shutdown	18.36	0	0	0	DNR
Southwestern 4	313	9/2/2021 18:12	9/3/2021 14:33	Economic	reserve shutdown	20.35	0	0	0	DNR
Southwestern 4	313	9/3/2021 20:26	9/4/2021 12:32	Economic	reserve shutdown	16.09	0	0	0	dnr
Southwestern 4	313	9/5/2021 0:32	9/6/2021 13:33	Economic	reserve shutdown	37	0	0	0	dnr
Southwestern 4	313	9/6/2021 19:52	9/7/2021 13:33	Economic	reserve shutdown	17.67	0	0	0	DNR
Southwestern 4	313	9/7/2021 19:13	9/14/2021 12:14	Economic	reserve shutdown	161	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Southwestern 4	313	9/14/2021 19:27	9/15/2021 11:38	Economic	reserve shutdown	16.18	0	0	0	DNR
Southwestern 4	313	9/15/2021 19:28	9/17/2021 11:37	Economic	reserve shutdown	40.15	0	0	0	DNR
Southwestern 4	313	9/17/2021 18:43	9/18/2021 12:24	Economic	reserve shutdown	17.67	0	0	0	DNR
Southwestern 4	313	9/18/2021 19:28	9/19/2021 12:35	Economic	reserve shutdown	17.12	0	0	0	DNR
Southwestern 4	313	9/19/2021 19:12	9/20/2021 13:38	Economic	reserve shutdown	18.43	0	0	0	DNR
Southwestern 4	313	9/20/2021 19:56	9/27/2021 15:37	Economic	reserve shutdown	163.68	0	0	0	DNR
Southwestern 4	313	9/27/2021 18:41	10/1/2021 12:23	Economic	reserve shutdown	89.69	0	0	0	dnr
Southwestern 4	313	10/1/2021 17:58	10/7/2021 13:32	Economic	reserve shutdown	139.56	0	0	0	DNR
Southwestern 4	313	10/7/2021 18:11	10/8/2021 13:51	Economic	reserve shutdown	19.67	0	0	0	DNR
Southwestern 4	313	10/8/2021 18:42	10/10/2021 11:33	Economic	reserve shutdown	40.84	0	0	0	dnr
Southwestern 4	313	10/10/2021 19:12	10/11/2021 12:32	Economic	reserve shutdown	17.33	0	0	0	DNR
Southwestern 4	313	10/11/2021 19:19	10/13/2021 8:33	Economic	reserve shutdown	37.23	0	0	0	DNR
Southwestern 4	313	10/13/2021 21:13	10/15/2021 17:32	Economic	reserve shutdown	44.3	0	0	0	DNR
Southwestern 4	313	10/15/2021 20:23	10/17/2021 15:33	Economic	reserve shutdown	43.17	0	0	0	DNR
Southwestern 4	313	10/18/2021 16:17	10/20/2021 10:37	Economic	reserve shutdown	42.33	0	0	0	DNR
Southwestern 4	313	10/20/2021 17:17	10/21/2021 9:08	Economic	reserve shutdown	15.85	0	0	0	DNR
Southwestern 4	313	10/21/2021 20:13	10/23/2021 12:37	Economic	reserve shutdown	40.39	0	0	0	DNR
Southwestern 4	313	10/23/2021 20:13	10/24/2021 8:37	Economic	reserve shutdown	12.39	0	0	0	DNR
Southwestern 4	313	10/24/2021 22:35	10/25/2021 9:37	Economic	reserve shutdown	11.03	0	0	0	DNR
Southwestern 4	313	10/25/2021 21:12	10/29/2021 7:34	Economic	reserve shutdown	82.37	0	0	0	DNR
Southwestern 4	313	10/29/2021 16:14	10/31/2021 10:37	Economic	reserve shutdown	42.38	0	0	0	DNR
Southwestern 4	313	10/31/2021 21:13	11/1/2021 10:36	Economic	reserve shutdown	13.37	0	0	0	DNR
Southwestern 4	313	11/1/2021 20:43	11/3/2021 11:24	Economic	reserve shutdown	38.68	0	0	0	dnr
Southwestern 4	313	11/3/2021 17:12	11/4/2021 7:10	Economic	reserve shutdown	13.97	0	0	0	dnr
Southwestern 4	313	11/4/2021 22:13	11/5/2021 4:32	Economic	reserve shutdown	6.31	0	0	0	dnr
Southwestern 4	313	11/5/2021 11:13	11/5/2021 15:32	Economic	reserve shutdown	4.3	0	0	0	DNR
Southwestern 4	313	11/5/2021 20:14	11/6/2021 6:29	Economic	reserve shutdown	10.25	0	0	0	DNR
Southwestern 4	313	11/6/2021 18:12	11/10/2021 7:00	Economic	reserve shutdown	85.8	0	0	0	DNR
Southwestern 4	313	11/12/2021 8:33	11/13/2021 6:35	Economic	reserve shutdown	22.03	0	0	0	DNR
Southwestern 4	313	11/13/2021 9:14	11/26/2021 7:38	Economic	reserve shutdown	310.4	0	0	0	DNR
Southwestern 4	313	11/26/2021 10:13	12/4/2021 16:38	Economic	reserve shutdown	198.42	0	0	0	DNR
Southwestern 4	313	12/4/2021 18:43	12/7/2021 17:37	Economic	reserve shutdown	70.89	0	0	0	DNR
Southwestern 4	313	12/7/2021 21:13	12/8/2021 4:32	Economic	reserve shutdown	7.31	0	0	0	dnr
Southwestern 4	313	12/8/2021 8:20	12/13/2021 0:00	Economic	reserve shutdown	111.67	0	0	0	DNR
Southwestern 4	313	12/15/2021 18:00	12/16/2021 6:32	Economic	reserve shutdown	12.53	0	0	0	DNR
Southwestern 4	313	12/16/2021 18:43	12/19/2021 3:38	Economic	reserve shutdown	56.9	0	0	0	DNR
Southwestern 4	313	12/17/2020 13:32	1/4/2021 5:36	Economic	reserve shutdown	77.6	0	0	0	DNR
Southwestern 4	313	12/19/2021 12:14	12/19/2021 16:33	Economic	reserve shutdown	4.32	0	0	0	DNR
Southwestern 4	313	12/19/2021 19:13	12/20/2021 9:31	Economic	reserve shutdown	14.29	0	0	0	DNR
Southwestern 4	313	12/20/2021 12:14	12/20/2021 17:31	Economic	reserve shutdown	5.28	0	0	0	DNR
Southwestern 4	313	12/20/2021 22:14	12/29/2021 8:38	Economic	reserve shutdown	202.39	0	0	0	DNR
Southwestern 4	313	12/29/2021 18:42	1/2/2022 6:40	Economic	reserve shutdown	53.29	0	0	0	DNR
Southwestern 5	314	1/4/2021 8:13	1/5/2021 5:38	Economic	reserve shutdown	21.42	0	0	0	DNR
Southwestern 5	314	1/5/2021 9:14	1/7/2021 8:45	Economic	reserve shutdown	47.52	0	0	0	DNR
Southwestern 5	314	1/7/2021 22:15	1/8/2021 6:43	Economic	reserve shutdown	8.47	0	0	0	DNR
Southwestern 5	314	1/8/2021 17:30	1/9/2021 5:22	Economic	reserve shutdown	11.87	0	0	0	DNR
Southwestern 5	314	1/9/2021 18:44	1/11/2021 4:32	Economic	reserve shutdown	33.8	0	0	0	DNR
Southwestern 5	314	1/11/2021 11:13	1/11/2021 16:39	Economic	reserve shutdown	5.43	0	0	0	DNR
Southwestern 5	314	1/11/2021 20:14	1/12/2021 4:32	Economic	reserve shutdown	8.3	0	0	0	DNR
Southwestern 5	314	1/12/2021 16:01	1/16/2021 5:37	Economic	reserve shutdown	85.6	0	0	0	DNR
Southwestern 5	314	1/16/2021 12:14	1/19/2021 19:05	Economic	reserve shutdown	78.85	0	0	0	DNR
Southwestern 5	314	1/19/2021 21:58	1/20/2021 5:40	Economic	reserve shutdown	7.7	0	0	0	DNR
Southwestern 5	314	1/20/2021 10:47	1/21/2021 23:37	Economic	reserve shutdown	36.83	0	0	0	DNR
Southwestern 5	314	1/22/2021 19:45	1/28/2021 4:36	Economic	reserve shutdown	128.85	0	0	0	DNR
Southwestern 5	314	1/28/2021 12:23	1/28/2021 15:39	Economic	reserve shutdown	3.27	0	0	0	DNR
Southwestern 5	314	1/28/2021 20:12	1/29/2021 5:30	Economic	reserve shutdown	9.3	0	0	0	dnr
Southwestern 5	314	1/29/2021 11:47	2/1/2021 4:36	Economic	reserve shutdown	64.82	0	0	0	DNR
Southwestern 5	314	2/1/2021 16:13	2/4/2021 17:37	Economic	reserve shutdown	73.39	0	0	0	dnr
Southwestern 5	314	2/4/2021 21:13	2/7/2021 9:56	Economic	reserve shutdown	60.71	0	0	0	DNR
Southwestern 5	314	2/7/2021 20:12	2/8/2021 3:39	Economic	reserve shutdown	7.45	0	0	0	dnr
Southwestern 5	314	2/8/2021 13:45	2/9/2021 17:36	Economic	reserve shutdown	27.84	0	0	0	DNR
Southwestern 5	314	2/9/2021 23:02	2/10/2021 4:37	Economic	reserve shutdown	5.58	0	0	0	DNR
Southwestern 5	314	2/10/2021 10:14	2/10/2021 16:32	Economic	reserve shutdown	6.29	0	0	0	DNR
Southwestern 5	314	2/10/2021 22:16	2/12/2021 4:32	Economic	reserve shutdown	30.25	0	0	0	DNR
Southwestern 5	314	2/20/2021 13:31	2/22/2021 0:00	Economic	reserve shutdown	34.48	0	0	0	DNR
Southwestern 5	314	2/22/2021 5:00	3/2/2021 4:38	Economic	reserve shutdown	191.63	0	0	0	DNR
Southwestern 5	314	3/2/2021 11:14	3/6/2021 4:36	Economic	reserve shutdown	89.37	0	0	0	DNR
Southwestern 5	314	3/6/2021 11:16	3/12/2021 10:57	Economic	reserve shutdown	143.68	0	0	0	DNR
Southwestern 5	314	3/12/2021 17:12	3/15/2021 17:41	Economic	reserve shutdown	71.47	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Southwestern 5	314	3/15/2021 21:33	3/18/2021 18:18	Economic	reserve shutdown	68.74	0	0	0	DNR
Southwestern 5	314	3/18/2021 22:14	3/19/2021 4:35	Economic	reserve shutdown	6.35	0	0	0	Reserve Shutdown
Southwestern 5	314	3/19/2021 12:24	3/23/2021 17:25	Economic	reserve shutdown	101.01	0	0	0	DNR
Southwestern 5	314	3/23/2021 21:14	3/24/2021 6:00	Economic	reserve shutdown	8.77	0	0	0	Unit is DNR
Southwestern 5	314	4/1/2021 15:53	4/11/2021 17:38	Economic	reserve shutdown	241.75	0	0	0	DNR
Southwestern 5	314	4/11/2021 21:13	4/12/2021 15:34	Economic	reserve shutdown	18.35	0	0	0	DNR
Southwestern 5	314	4/12/2021 21:33	4/19/2021 6:40	Economic	reserve shutdown	153.12	0	0	0	DNR
Southwestern 5	314	4/19/2021 12:13	4/21/2021 5:07	Economic	reserve shutdown	40.89	0	0	0	DNR
Southwestern 5	314	4/21/2021 11:24	5/8/2021 22:00	Economic	reserve shutdown	418.59	0	0	0	DNR
Southwestern 5	314	5/20/2021 9:49	5/24/2021 14:36	Economic	reserve shutdown	100.78	0	0	0	DNR
Southwestern 5	314	5/25/2021 8:12	5/25/2021 13:46	Economic	reserve shutdown	5.56	0	0	0	DNR
Southwestern 5	314	5/25/2021 18:14	5/26/2021 15:33	Economic	reserve shutdown	21.31	0	0	0	DNR
Southwestern 5	314	5/27/2021 18:13	6/2/2021 7:32	Economic	reserve shutdown	133.31	0	0	0	DNR
Southwestern 5	314	6/2/2021 19:52	6/3/2021 13:12	Economic	reserve shutdown	17.33	0	0	0	DNR
Southwestern 5	314	6/3/2021 22:22	6/7/2021 14:42	Economic	reserve shutdown	88.33	0	0	0	DNR
Southwestern 5	314	6/7/2021 21:21	6/9/2021 13:32	Economic	reserve shutdown	40.18	0	0	0	DNR
Southwestern 5	314	6/9/2021 20:50	6/14/2021 14:30	Economic	reserve shutdown	113.67	0	0	0	DNR
Southwestern 5	314	6/14/2021 19:57	6/15/2021 13:32	Economic	reserve shutdown	17.58	0	0	0	dnr
Southwestern 5	314	6/15/2021 20:11	6/18/2021 15:39	Economic	reserve shutdown	67.46	0	0	0	dnr
Southwestern 5	314	6/18/2021 19:36	6/24/2021 11:34	Economic	reserve shutdown	135.97	0	0	0	DNR
Southwestern 5	314	6/24/2021 20:11	6/25/2021 11:23	Economic	reserve shutdown	15.2	0	0	0	Reason Unknown
Southwestern 5	314	6/25/2021 17:56	6/28/2021 13:06	Economic	reserve shutdown	67.15	0	0	0	dnr
Southwestern 5	314	6/28/2021 18:35	6/29/2021 12:38	Economic	reserve shutdown	18.04	0	0	0	DNR
Southwestern 5	314	6/29/2021 20:19	6/30/2021 13:34	Economic	reserve shutdown	17.25	0	0	0	DNR
Southwestern 5	314	6/30/2021 20:02	7/3/2021 14:33	Economic	reserve shutdown	66.52	0	0	0	DNR
Southwestern 5	314	7/3/2021 21:45	7/6/2021 10:03	Economic	reserve shutdown	60.3	0	0	0	DNR
Southwestern 5	314	7/6/2021 23:32	7/8/2021 12:47	Economic	reserve shutdown	37.25	0	0	0	DNR
Southwestern 5	314	7/8/2021 19:43	7/9/2021 12:22	Economic	reserve shutdown	16.65	0	0	0	DNR
Southwestern 5	314	7/9/2021 18:02	7/10/2021 14:53	Economic	reserve shutdown	20.85	0	0	0	DNR
Southwestern 5	314	7/10/2021 20:42	7/16/2021 14:20	Economic	reserve shutdown	137.63	0	0	0	DNR
Southwestern 5	314	7/16/2021 18:57	7/19/2021 14:06	Economic	reserve shutdown	67.14	0	0	0	DNR
Southwestern 5	314	7/19/2021 19:42	7/20/2021 12:25	Economic	reserve shutdown	16.71	0	0	0	DNR
Southwestern 5	314	7/20/2021 19:26	7/21/2021 14:07	Economic	reserve shutdown	18.68	0	0	0	DNR
Southwestern 5	314	7/21/2021 17:41	7/22/2021 7:15	Economic	reserve shutdown	13.56	0	0	0	DNR
Southwestern 5	314	7/22/2021 16:11	7/27/2021 12:33	Economic	reserve shutdown	116.35	0	0	0	DNR
Southwestern 5	314	7/27/2021 18:56	7/29/2021 11:08	Economic	reserve shutdown	40.19	0	0	0	DNR
Southwestern 5	314	7/29/2021 18:31	7/31/2021 11:33	Economic	reserve shutdown	41.03	0	0	0	DNR
Southwestern 5	314	7/31/2021 20:11	8/2/2021 15:32	Economic	reserve shutdown	43.34	0	0	0	dnr
Southwestern 5	314	8/2/2021 19:57	8/4/2021 13:38	Economic	reserve shutdown	41.67	0	0	0	DNR
Southwestern 5	314	8/4/2021 18:12	8/7/2021 13:37	Economic	reserve shutdown	67.4	0	0	0	DNR
Southwestern 5	314	8/7/2021 18:12	8/8/2021 16:34	Economic	reserve shutdown	22.36	0	0	0	DNR
Southwestern 5	314	8/8/2021 19:11	8/9/2021 11:32	Economic	reserve shutdown	16.35	0	0	0	DNR
Southwestern 5	314	8/9/2021 18:11	8/10/2021 13:31	Economic	reserve shutdown	19.33	0	0	0	DNR
Southwestern 5	314	8/10/2021 18:11	8/11/2021 11:39	Economic	reserve shutdown	17.46	0	0	0	DNR
Southwestern 5	314	8/11/2021 19:52	8/12/2021 12:39	Economic	reserve shutdown	16.78	0	0	0	DNR
Southwestern 5	314	8/12/2021 18:41	8/13/2021 13:40	Economic	reserve shutdown	18.98	0	0	0	DNR
Southwestern 5	314	8/13/2021 19:43	8/14/2021 12:39	Economic	reserve shutdown	16.93	0	0	0	DNR
Southwestern 5	314	8/14/2021 18:44	8/15/2021 14:09	Economic	reserve shutdown	19.41	0	0	0	DNR
Southwestern 5	314	8/15/2021 18:59	8/16/2021 10:46	Economic	reserve shutdown	15.78	0	0	0	DNR
Southwestern 5	314	8/16/2021 23:04	8/17/2021 9:59	Economic	reserve shutdown	10.92	0	0	0	DNR
Southwestern 5	314	8/17/2021 17:15	8/19/2021 9:17	Economic	reserve shutdown	40.03	0	0	0	DNR
Southwestern 5	314	8/19/2021 18:30	8/24/2021 12:43	Economic	reserve shutdown	114.22	0	0	0	DNR
Southwestern 5	314	8/24/2021 17:41	8/25/2021 12:32	Economic	reserve shutdown	18.85	0	0	0	dnr
Southwestern 5	314	8/25/2021 20:41	8/26/2021 11:47	Economic	reserve shutdown	15.1	0	0	0	dnr
Southwestern 5	314	8/26/2021 17:40	8/27/2021 12:48	Economic	reserve shutdown	19.13	0	0	0	dnr
Southwestern 5	314	8/27/2021 18:29	8/28/2021 11:46	Economic	reserve shutdown	17.28	0	0	0	DNR
Southwestern 5	314	8/28/2021 18:11	8/30/2021 12:57	Economic	reserve shutdown	42.77	0	0	0	DNR
Southwestern 5	314	8/30/2021 18:56	8/31/2021 12:33	Economic	reserve shutdown	17.61	0	0	0	DNR
Southwestern 5	314	8/31/2021 18:56	9/1/2021 11:37	Economic	reserve shutdown	16.68	0	0	0	DNR
Southwestern 5	314	9/1/2021 19:11	9/2/2021 12:32	Economic	reserve shutdown	17.35	0	0	0	DNR
Southwestern 5	314	9/2/2021 19:11	9/3/2021 14:33	Economic	reserve shutdown	19.36	0	0	0	DNR
Southwestern 5	314	9/3/2021 20:29	9/4/2021 12:32	Economic	reserve shutdown	16.05	0	0	0	dnr
Southwestern 5	314	9/5/2021 0:32	9/6/2021 13:33	Economic	reserve shutdown	37.01	0	0	0	dnr
Southwestern 5	314	9/6/2021 19:42	9/7/2021 13:33	Economic	reserve shutdown	17.84	0	0	0	DNR
Southwestern 5	314	9/7/2021 19:13	9/13/2021 14:07	Economic	reserve shutdown	138.89	0	0	0	DNR
Southwestern 5	314	9/13/2021 18:50	9/14/2021 12:15	Economic	reserve shutdown	17.42	0	0	0	DNR
Southwestern 5	314	9/14/2021 19:27	9/15/2021 11:38	Economic	reserve shutdown	16.18	0	0	0	DNR
Southwestern 5	314	9/15/2021 19:28	9/16/2021 13:37	Economic	reserve shutdown	18.15	0	0	0	DNR
Southwestern 5	314	9/16/2021 18:30	9/17/2021 11:39	Economic	reserve shutdown	17.15	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Southwestern 5	314	9/17/2021 18:43	9/18/2021 12:23	Economic	reserve shutdown	17.66	0	0	0	DNR
Southwestern 5	314	9/18/2021 19:56	9/19/2021 12:36	Economic	reserve shutdown	16.66	0	0	0	DNR
Southwestern 5	314	9/19/2021 19:11	9/20/2021 13:38	Economic	reserve shutdown	18.44	0	0	0	DNR
Southwestern 5	314	9/20/2021 19:55	9/27/2021 15:39	Economic	reserve shutdown	163.73	0	0	0	DNR
Southwestern 5	314	9/27/2021 18:41	9/28/2021 10:37	Economic	reserve shutdown	15.93	0	0	0	dnr
Southwestern 5	314	9/28/2021 19:13	9/29/2021 11:37	Economic	reserve shutdown	16.39	0	0	0	dnr
Southwestern 5	314	9/29/2021 17:13	10/8/2021 13:50	Economic	reserve shutdown	212.61	0	0	0	DNR
Southwestern 5	314	10/8/2021 18:42	10/10/2021 11:32	Economic	reserve shutdown	40.82	0	0	0	dnr
Southwestern 5	314	10/10/2021 18:11	10/11/2021 12:32	Economic	reserve shutdown	18.34	0	0	0	DNR
Southwestern 5	314	10/11/2021 19:19	10/13/2021 8:34	Economic	reserve shutdown	37.25	0	0	0	DNR
Southwestern 5	314	10/13/2021 19:13	10/15/2021 17:33	Economic	reserve shutdown	46.33	0	0	0	DNR
Southwestern 5	314	10/15/2021 20:33	10/17/2021 16:32	Economic	reserve shutdown	43.98	0	0	0	DNR
Southwestern 5	314	10/18/2021 16:17	10/20/2021 10:38	Economic	reserve shutdown	42.34	0	0	0	DNR
Southwestern 5	314	10/20/2021 17:17	10/21/2021 9:08	Economic	reserve shutdown	15.85	0	0	0	DNR
Southwestern 5	314	10/21/2021 20:13	10/22/2021 17:35	Economic	reserve shutdown	21.36	0	0	0	DNR
Southwestern 5	314	10/22/2021 20:12	10/24/2021 8:37	Economic	reserve shutdown	36.41	0	0	0	DNR
Southwestern 5	314	10/24/2021 21:34	10/25/2021 9:39	Economic	reserve shutdown	12.08	0	0	0	DNR
Southwestern 5	314	10/25/2021 20:12	10/26/2021 14:38	Economic	reserve shutdown	18.43	0	0	0	DNR
Southwestern 5	314	10/26/2021 16:12	10/29/2021 11:37	Economic	reserve shutdown	67.41	0	0	0	DNR
Southwestern 5	314	10/29/2021 14:13	10/31/2021 16:37	Economic	reserve shutdown	50.39	0	0	0	DNR
Southwestern 5	314	10/31/2021 20:25	11/1/2021 8:58	Economic	reserve shutdown	12.55	0	0	0	DNR
Southwestern 5	314	11/1/2021 20:42	11/3/2021 10:13	Economic	reserve shutdown	37.5	0	0	0	dnr
Southwestern 5	314	11/3/2021 17:12	11/4/2021 6:30	Economic	reserve shutdown	13.29	0	0	0	dnr
Southwestern 5	314	11/4/2021 22:13	11/5/2021 4:33	Economic	reserve shutdown	6.33	0	0	0	dnr
Southwestern 5	314	11/5/2021 11:13	11/5/2021 15:31	Economic	reserve shutdown	4.29	0	0	0	DNR
Southwestern 5	314	11/5/2021 20:12	11/6/2021 8:33	Economic	reserve shutdown	12.35	0	0	0	DNR
Southwestern 5	314	11/6/2021 18:12	11/10/2021 7:00	Economic	reserve shutdown	85.8	0	0	0	DNR
Southwestern 5	314	11/12/2021 8:33	11/13/2021 6:32	Economic	reserve shutdown	21.98	0	0	0	DNR
Southwestern 5	314	11/13/2021 9:13	11/26/2021 8:37	Economic	reserve shutdown	311.4	0	0	0	DNR
Southwestern 5	314	11/26/2021 11:13	12/4/2021 16:37	Economic	reserve shutdown	197.39	0	0	0	DNR
Southwestern 5	314	12/4/2021 18:43	12/8/2021 5:32	Economic	reserve shutdown	82.81	0	0	0	DNR
Southwestern 5	314	12/8/2021 10:15	12/13/2021 5:32	Economic	reserve shutdown	115.28	0	0	0	DNR
Southwestern 5	314	12/13/2021 12:13	12/14/2021 6:32	Economic	reserve shutdown	18.31	0	0	0	dnr
Southwestern 5	314	12/14/2021 9:15	12/15/2021 0:00	Economic	reserve shutdown	14.75	0	0	0	dnr
Southwestern 5	314	12/16/2021 14:00	12/19/2021 3:37	Economic	reserve shutdown	61.62	0	0	0	DNR
Southwestern 5	314	12/19/2021 11:13	12/19/2021 16:32	Economic	reserve shutdown	5.32	0	0	0	DNR
Southwestern 5	314	12/19/2021 18:14	12/20/2021 9:31	Economic	reserve shutdown	15.28	0	0	0	DNR
Southwestern 5	314	12/20/2021 12:18	12/20/2021 17:31	Economic	reserve shutdown	5.21	0	0	0	DNR
Southwestern 5	314	12/20/2021 22:14	12/29/2021 8:38	Economic	reserve shutdown	202.39	0	0	0	DNR
Southwestern 5	314	12/22/2020 9:37	1/4/2021 5:38	Economic	reserve shutdown	77.63	0	0	0	DNR
Southwestern 5	314	12/29/2021 18:42	1/2/2022 6:40	Economic	reserve shutdown	53.29	0	0	0	DNR
Stall 6A	321	7/30/2021 19:30	7/30/2021 21:30	Circulating Water Systems	circulating water pump motors	2	0.11	9	17	cir water pump hign motor temp. Inspected and improved cooling to motor by cleaning motor filters and cooling water flow
Stall 6A	321	2/2/2021 21:29	2/3/2021 0:00	Economic	reserve shutdown	2.51	0	0	0	DNR
Stall 6A	321	2/20/2021 9:30	2/21/2021 8:07	Economic	reserve shutdown	22.61	0	0	0	DNR
Stall 6A	321	2/21/2021 20:37	2/23/2021 5:03	Economic	reserve shutdown	32.43	0	0	0	DNR
Stall 6A	321	3/12/2021 0:29	3/12/2021 7:00	Economic	reserve shutdown	6.51	0	0	0	DNR
Stall 6A	321	7/4/2021 3:18	7/4/2021 7:27	Economic	reserve shutdown	4.15	0	0	0	DNR
Stall 6A	321	9/18/2021 0:46	9/20/2021 4:28	Economic	reserve shutdown	51.69	0	0	0	DNR
Stall 6A	321	9/23/2021 1:34	9/24/2021 23:59	Economic	reserve shutdown	46.42	0	0	0	DNR
Stall 6A	321	12/1/2021 0:36	12/9/2021 1:46	Economic	reserve shutdown	193.15	0	0	0	DNR
Stall 6A	321	2/11/2021 11:15	2/11/2021 19:00	Economic	lack of fuel: contract or tariff allows for interruption	7.75	0.78	17	130.3	Fuel supply limited due to extreme cold weather
Stall 6A	321	4/21/2021 17:36	4/21/2021 19:45	Fuel, Ignition, and Combustion Systems	gas fuel system including controls and instrumentation	2.15	0.5	39	78.9	Low Fuel Gas Temperature Runback due to gas heater control valve actuator feedback problem
Stall 6A	321	2/15/2021 5:17	2/15/2021 13:19	Inlet Air System and Compressors	inlet air filters	8.03	1	21	166.7	Inlet Air filters Clogged with Snow
Stall 6A	321	1/23/2021 22:00	1/23/2021 22:22	Valves	main stop valve testing	0.37	0.11	51	18.8	Weekly Valve Checks
Stall 6A	321	8/7/2021 2:00	8/7/2021 2:22	Valves	main stop valve testing	0.37	0.05	24	8.3	Weekly Valve Checks
Stall 6A	321	9/11/2021 0:00	9/11/2021 0:29	Valves	main stop valve testing	0.48	0.06	21	9.5	Weekly Valve Checks
Stall 6A	321	12/25/2021 0:00	12/25/2021 0:19	Valves	main stop valve testing	0.32	0.06	31	9.8	Weekly Valve Checks
Stall 6B	322	7/30/2021 19:30	7/30/2021 21:30	Circulating Water Systems	circulating water pump motors	2	0.15	13	24.6	cir water pump hign motor temp. Inspected and improved cooling to motor by cleaning motor filters and cooling water flow
Stall 6B	322	2/2/2021 21:20	2/3/2021 0:00	Economic	reserve shutdown	2.66	0	0	0	DNR
Stall 6B	322	2/3/2021 16:54	2/4/2021 22:28	Economic	reserve shutdown	29.57	0	0	0	DNR
Stall 6B	322	2/9/2021 10:06	2/10/2021 13:45	Economic	reserve shutdown	27.65	0	0	0	DNR
Stall 6B	322	2/20/2021 9:48	2/21/2021 8:07	Economic	reserve shutdown	22.3	0	0	0	DNR
Stall 6B	322	2/21/2021 20:37	2/23/2021 1:30	Economic	reserve shutdown	28.88	0	0	0	DNR
Stall 6B	322	3/12/2021 0:13	3/12/2021 7:00	Economic	reserve shutdown	6.77	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Stall 6B	322	7/4/2021 3:18	7/4/2021 11:40	Economic	reserve shutdown	8.37	0	0	0	DNR
Stall 6B	322	9/19/2021 9:04	9/20/2021 9:00	Economic	reserve shutdown	23.93	0	0	0	DNR
Stall 6B	322	9/23/2021 1:19	9/25/2021 2:50	Economic	reserve shutdown	49.52	0	0	0	DNR
Stall 6B	322	12/1/2021 0:21	12/9/2021 6:44	Economic	reserve shutdown	198.37	0	0	0	DNR
Stall 6B	322	2/11/2021 11:17	2/11/2021 19:00	Economic	lack of fuel: contract or tariff allows for interruption	7.72	0.94	21	161.1	Fuel supply limited due to extreme cold weather
Stall 6B	322	2/15/2021 5:17	2/15/2021 13:19	Inlet Air System and Compressors	inlet air filters	8.03	0.28	6	47.9	Inlet Air filters Clogged with Snow
Stall 6B	322	1/23/2021 22:00	1/23/2021 22:22	Valves	main stop valve testing	0.37	0.12	54	19.8	Weekly Valve Checks
Stall 6B	322	8/7/2021 2:00	8/7/2021 2:22	Valves	main stop valve testing	0.37	0.06	28	9.8	Weekly Valve Checks
Stall 6B	322	9/11/2021 0:00	9/11/2021 0:29	Valves	main stop valve testing	0.48	0.07	25	11.4	Weekly Valve Checks
Stall 6B	322	12/25/2021 0:00	12/25/2021 0:19	Valves	main stop valve testing	0.32	0.06	34	10.8	Weekly Valve Checks
Stall 6S	120	9/16/2021 18:16	9/19/2021 9:04	Auxiliary Systems	cooling and seal air system	62.8	30.59	94	5780.9	6B Offline due to rotor air cooler fan failure
Stall 6S	120	7/30/2021 19:30	7/30/2021 21:30	Circulating Water Systems	circulating water pump motors	2	0.15	14	27.4	cir water pump hign motor temp. Inspected and improved cooling to motor by cleaning motor filters and cooling water flow
Stall 6S	120	4/14/2021 20:57	4/15/2021 10:06	Controls	generator voltage control	13.15	6.41	94	1210.5	6B Planned Outage (Continue 6B AVR commissioning setup)
Stall 6S	120	2/2/2021 21:37	2/3/2021 0:00	Economic	reserve shutdown	2.38	0	0	0	DNR
Stall 6S	120	2/20/2021 10:06	2/21/2021 8:07	Economic	reserve shutdown	22	0	0	0	DNR
Stall 6S	120	2/21/2021 20:37	2/23/2021 2:54	Economic	reserve shutdown	30.28	0	0	0	DNR
Stall 6S	120	3/12/2021 0:36	3/12/2021 7:00	Economic	reserve shutdown	6.4	0	0	0	DNR
Stall 6S	120	7/4/2021 3:18	7/4/2021 9:33	Economic	reserve shutdown	6.25	0	0	0	DNR
Stall 6S	120	9/18/2021 0:49	9/20/2021 6:07	Economic	reserve shutdown	53.3	0	0	0	DNR
Stall 6S	120	9/23/2021 1:41	9/25/2021 1:09	Economic	reserve shutdown	47.47	0	0	0	DNR
Stall 6S	120	12/1/2021 0:42	12/9/2021 5:06	Economic	reserve shutdown	196.39	0	0	0	DNR
Stall 6S	120	2/11/2021 11:19	2/11/2021 19:00	Economic	lack of fuel: contract or tariff allows for interruption	7.68	1.47	37	282.8	Fuel limited due to extreme cold weather
Stall 6S	120	9/20/2021 9:00	9/20/2021 15:41	Fuel, Ignition, and Combustion Systems	gas fuel system including controls and instrumentation	6.68	3.26	94	615.2	6B unavailable to restart due to problems with the gas startup regulator needing replacement
Stall 6S	120	2/23/2021 9:47	2/23/2021 20:10	HRSG Boiler Piping System	other lp steam valves (including vent and drain valves but not including the turbine stop valves)	10.38	5.17	96	991.7	Leak on 6B LP Preheater #2 vent
Stall 6S	120	1/14/2021 15:00	1/16/2021 2:25	HRSG Boiler Tube Leaks	other hrsg tube problems	35.42	17.8	97	3435.4	6B Maint Outage to repair HRSG LP evap leak
Stall 6S	120	2/15/2021 5:17	2/15/2021 13:19	Inlet Air System and Compressors	inlet air filters	8.03	0.83	20	159.7	Inlet Air filters Clogged with Snow
Stall 6S	120	4/24/2021 22:00	4/26/2021 19:41	Miscellaneous HRSG Boiler Tube Problems	boiler drains system	45.68	22.25	94	4205.3	Unit good for 1x1 operations during repairs to 6B (Repair Natural Gas Regulator leaking past an O-ring, repair a leak on a weld on the Drain Valve for HP Evaporator Drain Line and DC#3 actuator not working)
Stall 6S	120	1/23/2021 22:00	1/23/2021 22:22	Valves	main stop valve testing	0.37	0.1	54	19.9	Weekly Valve Checks
Stall 6S	120	8/7/2021 2:00	8/7/2021 2:22	Valves	main stop valve testing	0.37	0.24	124	44.6	Weekly Valve Checks
Stall 6S	120	9/11/2021 0:00	9/11/2021 0:29	Valves	main stop valve testing	0.48	0.31	124	58.8	Weekly Valve Checks
Stall 6S	120	12/25/2021 0:00	12/25/2021 0:19	Valves	main stop valve testing	0.32	0.21	128	40.5	Weekly Valve Checks
Tulsa 2	132	3/17/2021 11:35	3/17/2021 12:17	Auxiliary Systems	fuel gas compressor valves	0.7	0.38	89	62.3	One gas run o/s. Card failed on gas supply valve.
Tulsa 2	132	9/17/2021 15:15	9/17/2021 16:00	Boiler Air and Gas Systems	forced draft fans	0.75	0.03	7	5.2	Out of Air
Tulsa 2	132	9/17/2021 16:00	9/17/2021 22:00	Boiler Air and Gas Systems	forced draft fans	6	0.18	5	30	Out of Air
Tulsa 2	132	9/18/2021 16:00	9/18/2021 21:00	Boiler Air and Gas Systems	forced draft fans	5	0.27	9	44.9	Out of Air
Tulsa 2	132	9/20/2021 15:10	9/21/2021 0:00	Boiler Air and Gas Systems	forced draft fans	8.83	0.86	16	141.4	Out of Air
Tulsa 2	132	10/9/2021 17:23	10/10/2021 0:00	Boiler Air and Gas Systems	forced draft fans	6.62	0.36	9	59.5	Ran out of air
Tulsa 2	132	10/10/2021 19:01	10/10/2021 23:41	Boiler Air and Gas Systems	forced draft fans	4.67	0.26	9	42	Ran out of air
Tulsa 2	132	6/24/2021 17:31	6/27/2021 2:44	Boiler Air and Gas Systems	forced draft fan dampers	57.22	29.31	84	4806.2	South FD fan unavailable due to bad Inlet Damper Positioner. Unit will be operating on only 1 FD fan.
Tulsa 2	132	7/1/2021 17:32	7/24/2021 3:13	Boiler Air and Gas Systems	forced draft fan dampers	537.68	291.79	89	47854	TPS2 - South FD Fan unavailable due to bad inlet damper positioner unit will be operating only with 1 FD Fan.
Tulsa 2	132	7/26/2021 12:54	8/24/2021 20:15	Boiler Air and Gas Systems	forced draft fan dampers	703.35	388.7	89	63746	1 fd fan out of service
Tulsa 2	132	11/12/2021 21:27	11/12/2021 23:30	Boiler Fuel Supply from Bunkers to Boiler	burners	2.05	0.09	7	14.4	Gas burner header pressure high
Tulsa 2	132	11/18/2021 9:17	11/18/2021 22:00	Boiler Fuel Supply from Bunkers to Boiler	burners	12.72	0.47	6	76.3	Gas burner header pressure high
Tulsa 2	132	10/13/2021 14:47	10/13/2021 22:00	Boiler Fuel Supply from Bunkers to Boiler	other oil and gas fuel supply problems (see codes 0360-0410 for burner problems)	7.22	0.4	9	64.9	Burner header pressure is too high
Tulsa 2	132	1/29/2021 17:00	2/1/2021 7:00	Economic	reserve shutdown	62	0	0	0	DNR
Tulsa 2	132	2/4/2021 7:45	2/9/2021 3:25	Economic	reserve shutdown	115.67	0	0	0	DNR

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Tulsa 2	132	2/23/2021 0:00	2/26/2021 22:00	Economic	reserve shutdown	94	0	0	0	DNR
Tulsa 2	132	4/1/2021 18:37	4/6/2021 6:39	Economic	reserve shutdown	108.03	0	0	0	DNR
Tulsa 2	132	4/16/2021 15:30	4/18/2021 18:53	Economic	reserve shutdown	51.38	0	0	0	DNR
Tulsa 2	132	4/29/2021 0:00	4/30/2021 9:54	Economic	reserve shutdown	33.9	0	0	0	DNR
Tulsa 2	132	5/3/2021 0:08	5/5/2021 15:06	Economic	reserve shutdown	62.95	0	0	0	DNR
Tulsa 2	132	5/9/2021 0:26	5/12/2021 0:00	Economic	reserve shutdown	71.57	0	0	0	DNR
Tulsa 2	132	5/13/2021 0:00	5/14/2021 12:15	Economic	reserve shutdown	36.25	0	0	0	DNR
Tulsa 2	132	5/18/2021 0:42	6/9/2021 5:34	Economic	reserve shutdown	532.86	0	0	0	DNR
Tulsa 2	132	6/10/2021 17:29	6/12/2021 8:14	Economic	reserve shutdown	38.75	0	0	0	DNR
Tulsa 2	132	6/16/2021 0:09	6/18/2021 11:58	Economic	reserve shutdown	59.8	0	0	0	dnr
Tulsa 2	132	6/19/2021 20:17	6/25/2021 9:13	Economic	reserve shutdown	132.93	0	0	0	DNR
Tulsa 2	132	7/1/2021 11:41	7/24/2021 3:13	Economic	reserve shutdown	543.53	0	0	0	dnr
Tulsa 2	132	7/30/2021 20:41	8/4/2021 11:10	Economic	reserve shutdown	110.47	0	0	0	dnr
Tulsa 2	132	8/6/2021 19:03	8/25/2021 13:00	Economic	reserve shutdown	449.94	0	0	0	DNR
Tulsa 2	132	9/10/2021 9:35	9/17/2021 3:11	Economic	reserve shutdown	161.6	0	0	0	dnr
Tulsa 2	132	9/19/2021 1:00	9/20/2021 10:22	Economic	reserve shutdown	33.36	0	0	0	DNR
Tulsa 2	132	9/23/2021 0:46	9/25/2021 13:12	Economic	reserve shutdown	60.43	0	0	0	DNR
Tulsa 2	132	9/29/2021 0:10	10/1/2021 8:17	Economic	reserve shutdown	56.1	0	0	0	dnr
Tulsa 2	132	10/6/2021 0:16	10/6/2021 4:00	Economic	reserve shutdown	3.73	0	0	0	DNR
Tulsa 2	132	10/6/2021 6:00	10/7/2021 8:39	Economic	reserve shutdown	26.65	0	0	0	dnr
Tulsa 2	132	10/17/2021 1:03	10/20/2021 7:15	Economic	reserve shutdown	78.19	0	0	0	DNR
Tulsa 2	132	10/23/2021 0:21	10/25/2021 8:00	Economic	reserve shutdown	55.64	0	0	0	DNR
Tulsa 2	132	10/25/2021 15:26	10/27/2021 20:12	Economic	reserve shutdown	52.77	0	0	0	DNR
Tulsa 2	132	10/28/2021 22:40	10/29/2021 9:00	Economic	reserve shutdown	10.33	0	0	0	DNR
Tulsa 2	132	11/3/2021 10:18	11/6/2021 10:31	Economic	reserve shutdown	72.22	0	0	0	DNR
Tulsa 2	132	11/10/2021 0:07	11/11/2021 13:05	Economic	reserve shutdown	36.96	0	0	0	DNR
Tulsa 2	132	11/19/2021 0:08	11/20/2021 16:02	Economic	reserve shutdown	39.89	0	0	0	DNR
Tulsa 2	132	11/24/2021 0:10	12/1/2021 0:00	Economic	reserve shutdown	167.83	0	0	0	DNR
Tulsa 2	132	12/17/2021 9:57	1/1/2022 21:00	Economic	reserve shutdown	350.05	0	0	0	DNR
Tulsa 2	132	2/13/2021 9:00	2/14/2021 12:51	Economic	lack of fuel: contract or tariff allows for interruption	27.85	25.13	148	4121.8	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 2	132	2/14/2021 14:43	2/15/2021 2:48	Economic	lack of fuel: contract or tariff allows for interruption	12.08	10.9	148	1788.3	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 2	132	2/15/2021 15:31	2/15/2021 16:00	Economic	lack of fuel: contract or tariff allows for interruption	0.48	0.44	148	71.5	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 2	132	2/15/2021 16:00	2/15/2021 18:33	Economic	lack of fuel: contract or tariff allows for interruption	2.55	1.62	104	265.2	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 2	132	1/8/2021 19:00	1/8/2021 20:25	Valves	control valves	1.42	0.86	99	140.2	Weekly Valve Checks
Tulsa 2	132	1/15/2021 20:00	1/15/2021 20:50	Valves	control valves	0.83	0.5	99	82.5	Weekly Valve Checks
Tulsa 2	132	1/2/2021 20:00	1/2/2021 21:00	Valves	control valve testing	1	0.6	99	99.1	Valve Check
Tulsa 2	132	10/16/2021 1:00	10/16/2021 1:51	Valves	control valve testing	0.85	0.51	99	84.1	Weekly Valve Checks
Tulsa 4	134	7/7/2021 15:39	7/8/2021 0:00	Boiler Air and Gas Systems	forced draft fans	8.35	0.53	10	83.4	Poor air supply during periods of high ambient temperatures forced a de-rate on U4
Tulsa 4	134	9/20/2021 15:10	9/20/2021 17:02	Boiler Air and Gas Systems	forced draft fans	1.87	0.06	5	9.3	Out of Air
Tulsa 4	134	9/20/2021 17:02	9/21/2021 0:00	Boiler Air and Gas Systems	forced draft fans	6.97	0.53	12	83.6	Out of Air
Tulsa 4	134	10/9/2021 17:25	10/10/2021 0:00	Boiler Air and Gas Systems	forced draft fans	6.58	0.13	3	19.8	Ran out of air
Tulsa 4	134	10/10/2021 19:02	10/10/2021 23:40	Boiler Air and Gas Systems	forced draft fans	4.63	0.09	3	13.9	Ran out of air
Tulsa 4	134	2/15/2021 5:37	2/15/2021 15:31	Boiler Piping System	other desuperheater/attemperator problems	9.9	6.77	108	1069.2	Frozen Attemperator line
Tulsa 4	134	2/15/2021 16:00	2/15/2021 21:42	Boiler Piping System	other desuperheater/attemperator problems	5.7	4.26	118	672.6	Frozen Attemperator
Tulsa 4	134	2/15/2021 19:35	2/15/2021 21:42	Boiler Piping System	other desuperheater/attemperator problems	2.12	0.32	24	50.9	High temps on reheat because RH attemp. frozen
Tulsa 4	134	2/17/2021 23:40	2/18/2021 15:39	Boiler Piping System	other desuperheater/attemperator problems	15.98	10.62	105	1678.3	Frozen Attemperators
Tulsa 4	134	8/13/2021 20:20	8/14/2021 4:00	Circulating Water Systems	circulating water piping	7.67	4.03	83	636.3	Unit 4 load is limited to 75 net due to circulating water line leak at 4S cooling tower.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Tulsa 4	134	3/15/2021 5:32	3/24/2021 16:30	Economic	reserve shutdown	226.97	0	0	0	DNR
Tulsa 4	134	4/4/2021 6:40	4/6/2021 7:27	Economic	reserve shutdown	48.78	0	0	0	DNR
Tulsa 4	134	4/11/2021 1:35	4/20/2021 16:07	Economic	reserve shutdown	230.53	0	0	0	Reason Unknown
Tulsa 4	134	4/25/2021 0:07	4/26/2021 2:34	Economic	reserve shutdown	26.44	0	0	0	DNR
Tulsa 4	134	5/1/2021 0:15	5/5/2021 13:50	Economic	reserve shutdown	109.57	0	0	0	DNR
Tulsa 4	134	5/9/2021 5:07	5/11/2021 8:00	Economic	reserve shutdown	50.88	0	0	0	DNR
Tulsa 4	134	5/11/2021 10:36	5/12/2021 0:00	Economic	reserve shutdown	13.4	0	0	0	DNR
Tulsa 4	134	5/13/2021 0:00	6/9/2021 7:56	Economic	reserve shutdown	655.93	0	0	0	DNR
Tulsa 4	134	6/20/2021 0:11	6/29/2021 0:00	Economic	reserve shutdown	215.82	0	0	0	DNR
Tulsa 4	134	6/30/2021 22:09	7/4/2021 12:14	Economic	reserve shutdown	86.08	0	0	0	DNR
Tulsa 4	134	7/8/2021 22:33	7/10/2021 11:22	Economic	reserve shutdown	36.82	0	0	0	DNR
Tulsa 4	134	7/13/2021 0:09	7/15/2021 13:05	Economic	reserve shutdown	60.93	0	0	0	DNR
Tulsa 4	134	7/31/2021 20:21	8/1/2021 8:05	Economic	reserve shutdown	11.73	0	0	0	dnr
Tulsa 4	134	8/7/2021 7:00	8/7/2021 7:01	Economic	reserve shutdown	0.02	0	0	0	Cover Maintenance Release to Parallel of ee06dcfa-0860-4351-8e01-378fa807e910
Tulsa 4	134	8/7/2021 7:02	8/8/2021 11:19	Economic	reserve shutdown	28.28	0	0	0	dnr
Tulsa 4	134	8/17/2021 1:55	8/21/2021 12:24	Economic	reserve shutdown	106.48	0	0	0	DNR
Tulsa 4	134	8/27/2021 0:10	8/29/2021 7:27	Economic	reserve shutdown	55.28	0	0	0	dnr
Tulsa 4	134	9/2/2021 0:20	9/3/2021 11:09	Economic	reserve shutdown	34.8	0	0	0	DNR
Tulsa 4	134	9/7/2021 0:22	9/8/2021 13:09	Economic	reserve shutdown	36.78	0	0	0	DNR
Tulsa 4	134	9/11/2021 0:09	9/20/2021 11:05	Economic	reserve shutdown	226.92	0	0	0	DNR
Tulsa 4	134	9/23/2021 1:35	9/25/2021 12:13	Economic	reserve shutdown	58.63	0	0	0	DNR
Tulsa 4	134	9/29/2021 0:53	10/1/2021 9:31	Economic	reserve shutdown	56.62	0	0	0	dnr
Tulsa 4	134	10/6/2021 1:07	10/6/2021 4:00	Economic	reserve shutdown	2.88	0	0	0	DNR
Tulsa 4	134	10/6/2021 6:00	10/7/2021 9:36	Economic	reserve shutdown	27.6	0	0	0	dnr
Tulsa 4	134	10/17/2021 0:21	10/22/2021 22:00	Economic	reserve shutdown	141.65	0	0	0	DNR
Tulsa 4	134	12/11/2021 17:00	12/14/2021 11:45	Economic	reserve shutdown	66.75	0	0	0	DNR
Tulsa 4	134	12/15/2021 12:53	1/20/2022 7:09	Economic	reserve shutdown	395.12	0	0	0	dnr
Tulsa 4	134	12/22/2020 17:23	1/25/2021 4:35	Economic	reserve shutdown	580.58	0	0	0	Cover Maintenance Release to Parallel of e5e639f0-5c82-4673-9708-ac4fbc475e16
Tulsa 4	134	2/13/2021 9:00	2/14/2021 12:52	Economic	lack of fuel: contract or tariff allows for interruption	27.87	25.05	142	3957.1	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 4	134	2/14/2021 12:52	2/14/2021 14:48	Economic	lack of fuel: contract or tariff allows for interruption	1.93	1.51	123	237.8	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 4	134	2/14/2021 14:43	2/14/2021 23:28	Economic	lack of fuel: contract or tariff allows for interruption	8.75	1.05	19	166.2	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 4	134	2/15/2021 15:31	2/15/2021 16:00	Economic	lack of fuel: contract or tariff allows for interruption	0.48	0.43	142	68.6	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 4	134	2/17/2021 17:02	2/17/2021 23:40	Economic	lack of fuel: contract or tariff allows for interruption	6.63	5.96	142	942	Natural Gas Supply restriction
Tulsa 4	134	2/18/2021 15:39	2/19/2021 4:00	Economic	lack of fuel: contract or tariff allows for interruption	12.35	8.21	105	1296.7	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 4	134	2/19/2021 4:00	2/19/2021 10:28	Economic	lack of fuel: contract or tariff allows for interruption	6.47	2.99	73	472.1	Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 4	134	2/19/2021 10:28	2/20/2021 10:40	Economic	lack of fuel: contract or tariff allows for interruption	24.2	21.75	142	3436.3	Natural Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Tulsa 4	134	4/3/2021 8:00	4/3/2021 9:11	Valves	control valves	1.18	0.7	93	110.1	Weekly Valve Checks
Tulsa 4	134	2/6/2021 20:00	2/6/2021 20:52	Valves	control valve testing	0.87	0.51	93	80.6	Valve Check
Tulsa 4	134	10/16/2021 13:00	10/16/2021 13:41	Valves	control valve testing	0.68	0.4	93	63.5	Valve Check
Turk 1T	130	8/25/2021 9:00	8/25/2021 9:06	Boiler Air and Gas Systems	induced draft fans	0.1	0.04	250	24.7	ID Fan Issue, Hydraulic Oil Leak
Turk 1T	130	8/25/2021 9:06	8/25/2021 10:51	Boiler Air and Gas Systems	induced draft fans	1.75	0.81	300	525.2	ID Fan Issue, Hydraulic Oil Leak

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Turk 1T	130	5/22/2021 13:03	5/22/2021 23:00	Boiler Fuel Supply from Bunkers to Boiler	pulverized coal bin	9.95	0.31	20	198.9	Wert Coal in coal silos
Turk 1T	130	2/18/2021 5:00	2/18/2021 10:22	Boiler Fuel Supply from Bunkers to Boiler	pulverizer motors and drives	5.37	0.41	50	268.5	2 mills o/s Due to blown fuses
Turk 1T	130	2/18/2021 21:08	2/19/2021 3:58	Boiler Fuel Supply from Bunkers to Boiler	other pulverizer problems	6.83	0.53	50	341.9	Loss of mill frozen coal in bunker
Turk 1T	130	2/18/2021 10:22	2/18/2021 13:20	Boiler Fuel Supply from Bunkers to Boiler	light off (igniter) systems (including fuel supply)	2.97	0	0	0	2 mills o/s one due to frozen igniter gas block valve the other mill out due to frozen coal in bunker
Turk 1T	130	6/8/2021 11:00	6/8/2021 11:47	Boiler Fuel Supply from Bunkers to Boiler	igniters	0.78	0.36	300	235.3	Gas Valve and mill issues. Gas regulator to ignitors
Turk 1T	130	7/5/2021 2:35	7/5/2021 5:08	Boiler Fuel Supply to Bunker	coal conveyors and feeders	2.55	1.18	300	765.1	Coal tripper car power failure
Turk 1T	130	1/22/2021 14:06	1/22/2021 15:08	Circulatng Water Systems	circulating water pumps	1.03	0.4	250	258.1	Circulating Pump Bearing
Turk 1T	130	1/22/2021 15:08	1/26/2021 9:35	Circulatng Water Systems	circulating water pumps	90.45	27.83	200	18090	Circulating Water Pump 2 Motor Bearing Failed
Turk 1T	130	1/26/2021 9:35	2/11/2021 16:38	Circulatng Water Systems	circulating water pumps	391.05	80.13	130	52083	Circulating Water Pump 2 Motor Bearing Failed
Turk 1T	130	2/11/2021 16:38	2/16/2021 3:07	Circulatng Water Systems	circulating water pumps	106.48	16.38	100	10648	Circulating Water Pump 2 Motor Bearing Failed
Turk 1T	130	2/17/2021 11:06	2/26/2021 23:37	Circulatng Water Systems	circulating water pumps	228.52	35.16	100	22851	#2 Circulating Water Pump Motor Bearing failed
Turk 1T	130	8/19/2021 2:37	8/19/2021 2:50	Condensate System	condensate system controls and instrumentation (not hotwell level, heater level, or deaerator level	0.22	0.1	300	65	Condensate Flow Meter Issues, Lost Drop 12 in DCS
Turk 1T	130	11/23/2021 6:52	11/23/2021 11:15	Continuous Emissions Monitoring Systems (CEMS)	nox analyzer problems	4.38	2.02	300	1315	NOX Analyzer Problems
Turk 1T	130	12/10/2021 1:05	12/15/2021 10:33	Economic	reserve shutdown	129.47	0	0	0	dnr
Turk 1T	130	6/4/2021 10:00	6/4/2021 11:21	Miscellaneous (Balance of Plant)	distributive control system (dcs) - process computer	1.35	0.21	100	135.2	Unit Tuning
Turk 1T	130	6/4/2021 11:21	6/4/2021 13:22	Miscellaneous (Balance of Plant)	distributive control system (dcs) - process computer	2.02	0.62	200	403.7	Unit Tuning
Turk 1T	130	6/7/2021 10:00	6/7/2021 12:00	Miscellaneous (Balance of Plant)	distributive control system (dcs) - process computer	2	0.31	100	200.2	Unit Tuning
Turk 1T	130	6/17/2021 8:00	6/17/2021 10:00	Miscellaneous (Balance of Plant)	distributive control system (dcs) - process computer	2	0.31	100	200.2	Boiler tuning
Turk 1T	130	6/17/2021 10:00	6/17/2021 11:00	Miscellaneous (Balance of Plant)	distributive control system (dcs) - process computer	1	0.31	200	200.2	Unit Boiler Control Tuning
Turk 1T	130	6/17/2021 11:00	6/17/2021 12:00	Miscellaneous (Balance of Plant)	distributive control system (dcs) - process computer	1	0.15	100	100.1	Unit Boiler Control Tuning
Turk 1T	130	6/17/2021 12:00	6/17/2021 13:00	Miscellaneous (Balance of Plant)	distributive control system (dcs) - process computer	1	0.15	100	100.1	UNIT BOILER CONTROL TUNING
Turk 1T	130	6/17/2021 13:00	6/17/2021 13:56	Miscellaneous (Balance of Plant)	distributive control system (dcs) - process computer	0.93	0.29	200	186.6	UNIT BOILER CONTROL TUNING
Turk 1T	130	6/17/2021 13:56	6/17/2021 14:36	Miscellaneous (Balance of Plant)	distributive control system (dcs) - process computer	0.67	0.1	100	67	UNIT BOILER CONTROL TUNING
Turk 1T	130	6/4/2021 22:00	6/4/2021 23:15	Miscellaneous (Balance of Plant)	other dcs problems	1.25	0.29	150	187.2	DCS Issue
Turk 1T	130	7/2/2021 0:00	7/2/2021 6:00	Other Operating Environmental Limitations	thermal discharge limits - fossil and nuclear	6	0.92	100	600	Unit Heat Input Related to Air Permit
Turk 1T	130	8/20/2021 7:00	8/20/2021 8:55	Slag and Ash Removal	bottom ash rotary (drag chain type) conveyor and motor	1.92	0.89	300	575.3	Submerged Flight Conveyor Chain Broken
Turk 1T	130	1/2/2021 22:00	1/2/2021 22:55	Valves	control valve testing	0.92	0.14	100	91.7	Valve Check
Turk 1T	130	1/29/2021 22:00	1/29/2021 23:07	Valves	control valve testing	1.12	0.03	20	22.1	Weekly Valve Checks
Turk 1T	130	7/3/2021 0:00	7/3/2021 1:07	Valves	control valve testing	1.12	0.22	130	145	Main and Boiler feed Pump Turbine Valve Testing.
Turk 1T	130	9/12/2021 0:00	9/12/2021 1:14	Valves	control valve testing	1.23	0.29	150	185.3	Weekly Valve Checks
Turk 1T	130	10/10/2021 1:00	10/10/2021 2:00	Valves	control valve testing	1	0.08	50	50.1	Valve check
Turk 1T	130	11/19/2021 21:00	11/19/2021 22:00	Valves	control valve testing	1	0.11	70	70.2	Weekly Valve Checks
Turk 1T	130	12/4/2021 0:00	12/4/2021 1:21	Valves	control valve testing	1.35	0.31	150	202.8	Weekly Valve Checks
Turk 1T	130	12/26/2021 0:00	12/26/2021 1:37	Valves	control valve testing	1.62	0.37	150	242.5	Weekly Valve Checks
Weleetka 4	304	2/22/2021 0:00	3/2/2021 0:00	Economic	reserve shutdown	192	0	0	0	DNR
Weleetka 4	304	3/5/2021 19:00	3/16/2021 7:00	Economic	reserve shutdown	251	0	0	0	DNR
Weleetka 4	304	3/16/2021 22:00	3/24/2021 7:44	Economic	reserve shutdown	177.73	0	0	0	DNR
Weleetka 4	304	3/24/2021 12:20	4/22/2021 7:00	Economic	reserve shutdown	690.67	0	0	0	DNR
Weleetka 4	304	4/23/2021 16:00	5/18/2021 7:43	Economic	reserve shutdown	591.72	0	0	0	DNR
Weleetka 4	304	5/18/2021 16:11	5/19/2021 7:41	Economic	reserve shutdown	15.5	0	0	0	DNR
Weleetka 4	304	5/19/2021 11:48	7/28/2021 12:28	Economic	reserve shutdown	1680.67	0	0	0	DNR
Weleetka 4	304	7/28/2021 15:13	7/29/2021 10:54	Economic	reserve shutdown	19.68	0	0	0	dnr

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Weleetka 4	304	7/29/2021 19:58	8/17/2021 8:00	Economic	reserve shutdown	444.03	0	0	0	DNR
Weleetka 4	304	8/17/2021 15:45	9/16/2021 4:00	Economic	reserve shutdown	708.25	0	0	0	DNR
Weleetka 4	304	9/16/2021 13:00	9/17/2021 4:00	Economic	reserve shutdown	15	0	0	0	DNR
Weleetka 4	304	9/17/2021 6:15	9/21/2021 4:00	Economic	reserve shutdown	93.75	0	0	0	DNR
Weleetka 4	304	9/21/2021 12:30	9/23/2021 4:00	Economic	reserve shutdown	39.5	0	0	0	DNR
Weleetka 4	304	9/23/2021 16:00	2/23/2022 10:00	Economic	reserve shutdown	2385	0	0	0	DNR
Weleetka 4	304	11/3/2020 0:13	2/10/2021 7:55	Economic	reserve shutdown	967.92	0	0	0	DNR
Weleetka 4	304	4/13/2021 15:32	4/22/2021 7:00	Stack Emission	nox stack emissions - gas turbines	207.47	41.49	10	2074.7	Derate Unit 4 to 40 MW max load until emissions testing is completed
Weleetka 4	304	4/23/2021 16:00	5/18/2021 7:53	Stack Emission	nox stack emissions - gas turbines	591.88	121.58	10	6078.9	NOx emission limitation.
Weleetka 4	304	5/18/2021 10:14	8/9/2021 7:43	Stack Emission	nox stack emissions - gas turbines	1989.48	399.94	10	18797	NOx emission limitation.
Weleetka 5	305	2/10/2021 18:07	2/13/2021 9:00	Economic	reserve shutdown	62.88	0	0	0	DNR
Weleetka 5	305	2/22/2021 0:00	3/2/2021 0:00	Economic	reserve shutdown	192	0	0	0	DNR
Weleetka 5	305	3/5/2021 19:00	3/16/2021 7:00	Economic	reserve shutdown	251	0	0	0	DNR
Weleetka 5	305	3/16/2021 22:00	5/20/2021 7:43	Economic	reserve shutdown	1545.72	0	0	0	DNR
Weleetka 5	305	5/20/2021 13:55	5/21/2021 7:41	Economic	reserve shutdown	17.77	0	0	0	DNR
Weleetka 5	305	5/21/2021 11:52	7/28/2021 11:43	Economic	reserve shutdown	1631.85	0	0	0	DNR
Weleetka 5	305	7/28/2021 15:13	7/29/2021 10:25	Economic	reserve shutdown	19.2	0	0	0	dnr
Weleetka 5	305	7/29/2021 19:57	8/18/2021 8:00	Economic	reserve shutdown	468.05	0	0	0	DNR
Weleetka 5	305	8/18/2021 16:00	9/8/2021 12:44	Economic	reserve shutdown	500.73	0	0	0	dnr
Weleetka 5	305	9/8/2021 15:14	9/16/2021 4:00	Economic	reserve shutdown	180.77	0	0	0	DNR
Weleetka 5	305	9/16/2021 13:00	9/17/2021 4:00	Economic	reserve shutdown	15	0	0	0	DNR
Weleetka 5	305	9/17/2021 6:15	9/21/2021 4:00	Economic	reserve shutdown	93.75	0	0	0	DNR
Weleetka 5	305	9/21/2021 12:30	9/23/2021 4:00	Economic	reserve shutdown	39.5	0	0	0	DNR
Weleetka 5	305	9/23/2021 16:00	4/18/2022 6:00	Economic	reserve shutdown	2385	0	0	0	DNR
Weleetka 5	305	11/3/2020 0:14	2/10/2021 11:40	Economic	reserve shutdown	971.67	0	0	0	DNR
Welsh 1	114	3/26/2021 6:40	3/26/2021 8:41	Boiler Air and Gas Systems	induced draft fan controls	2.02	0.86	225	453.6	1A ID fan o/s
Welsh 1	114	3/30/2021 12:20	3/30/2021 16:36	Boiler Air and Gas Systems	induced draft fan controls	4.27	2.03	250	1066.8	change a card
Welsh 1	114	10/21/2021 13:36	10/22/2021 4:24	Boiler Fuel Supply from Bunkers to Boiler	pulverizer feeders	14.8	0.37	13	192.2	Feeder issues
Welsh 1	114	11/1/2021 8:34	11/1/2021 9:38	Boiler Fuel Supply from Bunkers to Boiler	primary air flow instrumentation	1.07	0.25	125	133.4	Mill issues
Welsh 1	114	5/17/2021 12:10	5/17/2021 12:53	Boiler Fuel Supply from Bunkers to Boiler	pulverizer mills	0.72	0.01	10	7.4	Pulverizer issues
Welsh 1	114	10/1/2021 12:51	10/1/2021 14:05	Boiler Fuel Supply from Bunkers to Boiler	pulverizer mills	1.23	0.18	75	92.4	Loss of Feeder
Welsh 1	114	10/7/2021 5:15	10/7/2021 10:02	Boiler Fuel Supply from Bunkers to Boiler	pulverizer mills	4.78	1.14	125	598	F-Feeder 196 panel is in bad order. Instrument Department is troubleshooting. One mill is already cleared out for maintenance.
Welsh 1	114	10/3/2021 9:10	10/3/2021 10:40	Boiler Fuel Supply from Bunkers to Boiler	pulverizer coal leak (pulverizers only)	1.5	0.41	145	217.4	Coal leak on E mill
Welsh 1	114	9/27/2021 15:03	9/27/2021 17:40	Boiler Fuel Supply from Bunkers to Boiler	pulverizer control systems (temperature and pressure)	2.62	0.62	125	327.1	Loss of Pulverizer/Mill
Welsh 1	114	10/12/2021 10:32	10/12/2021 15:43	Boiler Fuel Supply from Bunkers to Boiler	burners	5.18	1.23	125	647.9	E" mill is o/s"
Welsh 1	114	5/17/2021 9:13	5/17/2021 10:35	Boiler Fuel Supply from Bunkers to Boiler	igniters	1.37	0.33	125	170.6	Pulverizer
Welsh 1	114	2/4/2021 20:42	2/4/2021 21:37	Boiler Water Condition	boiler water condition (not feedwater water quality)	0.92	0.13	75	68.8	Silica hold
Welsh 1	114	2/4/2021 21:37	2/5/2021 0:00	Boiler Water Condition	boiler water condition (not feedwater water quality)	2.38	0.48	105	250.4	Silica hold
Welsh 1	114	1/26/2021 8:00	2/4/2021 14:50	Economic	reserve shutdown	222.83	0	0	0	DNR
Welsh 1	114	12/3/2021 0:50	12/3/2021 10:30	Economic	reserve shutdown	9.67	0	0	0	DNR
Welsh 1	114	12/7/2021 14:08	12/10/2021 0:00	Economic	reserve shutdown	57.87	0	0	0	DNR
Welsh 1	114	12/11/2021 10:00	12/21/2021 9:00	Economic	reserve shutdown	239	0	0	0	DNR
Welsh 1	114	12/21/2021 11:16	1/5/2022 14:34	Economic	reserve shutdown	252.73	0	0	0	Reserve Shutdown
Welsh 1	114	1/8/2021 9:25	1/9/2021 11:00	Feedwater System	feedwater pump suction screens	25.58	2.19	45	1151.3	Turbine Pump Issue
Welsh 1	114	1/9/2021 11:00	1/9/2021 16:00	Feedwater System	feedwater pump suction screens	5	3.67	385	1925.2	To clean out suction strainer on TDBFP.
Welsh 1	114	3/26/2021 22:48	3/27/2021 9:29	Feedwater System	feedwater pump suction screens	10.68	1.02	50	533.9	TDBFP SUCTION STRAINER DIFF. READING 9.5 MAX IS 10.
Welsh 1	114	3/27/2021 7:32	3/27/2021 9:29	Feedwater System	feedwater pump suction screens	1.95	1.21	325	633.7	Flush TDBFP suction strainer.
Welsh 1	114	4/1/2021 9:58	4/1/2021 12:20	Feedwater System	feedwater pump suction screens	2.37	1.74	385	911.4	Backflushing TDBFP Suction Strainer.
Welsh 1	114	1/9/2021 16:00	1/12/2021 0:00	Feedwater System	feedwater pump	56	41.07	385	21560	TDBFP Thrust Bearing Instrumentation
Welsh 1	114	9/14/2021 0:00	9/14/2021 15:13	Feedwater System	feedwater pump	15.22	11.3	390	5934.6	TDBFP leak repair.
Welsh 1	114	10/3/2021 12:06	10/6/2021 9:00	Heater Drain Systems	heater drain pumps	68.9	3.28	25	1722.5	High Pressure Feedwater Heater Drip Pump Out of Service due to severe vibration.
Welsh 1	114	6/15/2021 7:00	6/15/2021 11:50	Miscellaneous (Boiler)	boiler safety valve test	4.83	0.23	25	120.8	Boiler Safety Valve Testing
Welsh 1	114	8/15/2021 21:13	8/17/2021 8:08	Miscellaneous (Pollution Control Equipment)	mercury abatement equipment	34.92	21.62	325	11348	Carbon Injection equipment not operating properly. Unable to control Mercury sufficiently.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Welsh 1	114	1/2/2021 2:00	1/2/2021 2:24	Valves	main stop valve testing	0.4	0.21	275	110.3	Valve Check
Welsh 1	114	2/21/2021 0:06	2/21/2021 1:35	Valves	main stop valve testing	1.48	0.75	265	393.2	Weekly Valve Checks
Welsh 1	114	2/27/2021 1:00	2/27/2021 1:38	Valves	main stop valve testing	0.63	0.27	225	142.3	Weekly Valve Checks
Welsh 1	114	3/6/2021 21:00	3/6/2021 22:40	Valves	main stop valve testing	1.67	0.71	225	374.9	Weekly Valve Checks
Welsh 1	114	3/13/2021 22:00	3/13/2021 22:43	Valves	main stop valve testing	0.72	0.38	275	196.9	Weekend valve check
Welsh 1	114	3/20/2021 0:00	3/20/2021 1:07	Valves	main stop valve testing	1.12	0.59	275	307.1	Weekly Valve Checks
Welsh 1	114	3/27/2021 2:00	3/27/2021 2:33	Valves	main stop valve testing	0.55	0.22	205	112.9	Weekly Valve Checks
Welsh 1	114	5/8/2021 6:00	5/8/2021 7:15	Valves	main stop valve testing	1.25	0.54	225	281.4	Weekly Valve Checks
Welsh 1	114	5/21/2021 20:00	5/21/2021 21:08	Valves	main stop valve testing	1.13	0.59	275	311.9	Valve check
Welsh 1	114	5/28/2021 22:00	5/28/2021 22:42	Valves	main stop valve testing	0.7	0.3	225	157.5	Weekly Valve Checks
Welsh 1	114	6/5/2021 23:00	6/6/2021 0:15	Valves	main stop valve testing	1.25	0.54	225	281.4	Weekly Valve Checks
Welsh 1	114	6/12/2021 2:00	6/12/2021 2:37	Valves	main stop valve testing	0.62	0.26	225	138.6	Weekly Valve Checks
Welsh 1	114	6/27/2021 1:00	6/27/2021 2:10	Valves	main stop valve testing	1.17	0.5	225	262.5	valve check
Welsh 1	114	7/3/2021 0:00	7/3/2021 1:09	Valves	main stop valve testing	1.15	0.49	225	258.8	Weekly Valve Checks
Welsh 1	114	7/10/2021 2:00	7/10/2021 3:00	Valves	main stop valve testing	1	0.47	245	245.2	Weekly Valve Checks
Welsh 1	114	7/17/2021 1:00	7/17/2021 1:26	Valves	main stop valve testing	0.43	0.23	275	119.2	Weekly Valve Checks
Welsh 1	114	7/31/2021 3:00	7/31/2021 3:53	Valves	main stop valve testing	0.88	0.38	225	199	valve check
Welsh 1	114	8/8/2021 1:00	8/8/2021 1:59	Valves	main stop valve testing	0.98	0.42	225	221	Weekly Valve Checks
Welsh 1	114	8/14/2021 1:00	8/14/2021 3:16	Valves	main stop valve testing	2.27	0.97	225	509.8	Weekly Valve Checks
Welsh 1	114	8/21/2021 2:00	8/21/2021 2:46	Valves	main stop valve testing	0.77	0.33	225	172.7	Weekly Valve Checks
Welsh 1	114	9/4/2021 3:00	9/4/2021 3:50	Valves	main stop valve testing	0.83	0.36	225	187.4	Valve Check
Welsh 1	114	9/10/2021 22:00	9/10/2021 22:51	Valves	main stop valve testing	0.85	0.37	230	195.3	Weekly Valve Check
Welsh 1	114	9/18/2021 2:00	9/18/2021 3:45	Valves	main stop valve testing	1.75	0.82	245	428.9	Weekly Valve Checks
Welsh 1	114	9/25/2021 3:00	9/25/2021 3:34	Valves	main stop valve testing	0.57	0.24	225	127.6	Weekly Valve Checks
Welsh 1	114	10/3/2021 3:00	10/3/2021 4:36	Valves	main stop valve testing	1.6	0.69	225	360.2	Weekly Valve Checks
Welsh 1	114	10/17/2021 2:00	10/17/2021 3:07	Valves	main stop valve testing	1.12	0.48	225	251.5	Weekly Valve Checks
Welsh 1	114	10/22/2021 22:00	10/22/2021 23:00	Valves	main stop valve testing	1	0.47	245	245.2	Weekly Valve Checks
Welsh 1	114	10/29/2021 22:00	10/29/2021 23:46	Valves	main stop valve testing	1.77	0.76	225	397.4	Weekly Valve Checks
Welsh 1	114	11/27/2021 6:00	11/27/2021 6:56	Valves	main stop valve testing	0.93	0.4	225	210	Weekly Valve Checks
Welsh 3	116	7/1/2021 7:00	7/1/2021 14:03	Boiler Control Systems	combustion/steam condition controls (report local controls - burners, pulverizers, etc , - with comp	7.05	0.37	28	197.5	MATS testing & Tuning
Welsh 3	116	7/2/2021 7:00	7/2/2021 14:27	Boiler Control Systems	combustion/steam condition controls (report local controls - burners, pulverizers, etc , - with comp	7.45	0.4	28	208.6	MATS testing & Tuning
Welsh 3	116	7/6/2021 7:00	7/6/2021 16:00	Boiler Control Systems	combustion/steam condition controls (report local controls - burners, pulverizers, etc , - with comp	9	0.48	28	251.9	MATS testing & tuning
Welsh 3	116	7/7/2021 7:00	7/7/2021 13:33	Boiler Control Systems	combustion/steam condition controls (report local controls - burners, pulverizers, etc , - with comp	6.55	0.35	28	183.2	MATS testing & tuning
Welsh 3	116	5/16/2021 16:32	5/16/2021 19:05	Boiler Fuel Supply from Bunkers to Boiler	pulverizer feeders	2.55	0.52	108	275.6	C Feeder o/s
Welsh 3	116	5/17/2021 11:15	5/17/2021 13:55	Boiler Fuel Supply from Bunkers to Boiler	pulverizer feeders	2.67	0.65	128	341.1	C Feeder
Welsh 3	116	2/18/2021 15:38	2/19/2021 8:45	Boiler Fuel Supply from Bunkers to Boiler	primary air fan drives	17.12	0.91	28	479.4	C Primary Air Fan o/s
Welsh 3	116	5/14/2021 18:50	5/15/2021 1:35	Boiler Water Condition	boiler water condition (not feedwater water quality)	6.75	1.96	153	1032.8	Silica
Welsh 3	116	5/15/2021 1:35	5/15/2021 6:00	Boiler Water Condition	boiler water condition (not feedwater water quality)	4.42	0.49	58	256.1	Silica
Welsh 3	116	6/3/2021 11:57	6/4/2021 6:00	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	18.05	1.47	43	776.2	Aux condenser high back pressure
Welsh 3	116	6/4/2021 6:00	6/4/2021 16:48	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	10.8	7.73	378	4082.5	Clean aux condenser water box.
Welsh 3	116	6/15/2021 16:20	6/16/2021 7:00	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	14.67	1.33	48	703.8	Back pressure on Main Condenser went into alarm. Load drop to 480 net to clear the alarm.
Welsh 3	116	6/16/2021 13:20	6/19/2021 10:27	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	69.12	6.28	48	3317.4	Back pressure on Main Condenser went into alarm. Load drop to 480 net to clear the alarm.
Welsh 3	116	6/17/2021 6:22	6/18/2021 5:17	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	22.92	0	0	0	Back pressure on Main Condenser went into alarm. Load drop to 480 net to clear the alarm.
Welsh 3	116	6/19/2021 0:00	6/19/2021 10:27	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	10.45	6.73	340	3552.9	Aux condenser back pressure is creeping up.
Welsh 3	116	7/1/2021 22:00	7/2/2021 5:48	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	7.8	5.73	388	3026.5	Clean TDBFP Aux. Condenser
Welsh 3	116	7/11/2021 4:23	7/11/2021 12:52	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	8.48	4.47	278	2358.6	Backpressure
Welsh 3	116	7/11/2021 6:11	7/11/2021 12:51	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	6.67	1.39	110	733.4	Clean BFP condenser.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Welsh 3	116	7/23/2021 14:01	7/24/2021 0:00	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	9.98	0.57	30	299.4	DERATE to 480 NET DUE TO AUX CONDENSER BACK PRESSURE.
Welsh 3	116	7/23/2021 14:01	7/24/2021 0:00	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	9.98	0.91	48	479.4	DERATE to 480 NET DUE TO AUX CONDENSER BACK PRESSURE.
Welsh 3	116	7/24/2021 0:00	7/24/2021 9:00	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	9	6.61	388	3492.2	Clean TDBFP Aux. Condenser due to clams & moss.
Welsh 3	116	7/24/2021 9:00	7/24/2021 10:15	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	1.25	0.92	388	485.2	Clean TDBFP Aux. Condenser due to clams & moss.
Welsh 3	116	7/24/2021 13:35	7/24/2021 15:20	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	1.75	0.19	58	101.4	Auxiliary Condenser Backpressure approaching high limit. Reduced load to maintain backpressure within manageable limit until Waterbox can be cleaned.
Welsh 3	116	7/24/2021 15:20	7/24/2021 21:00	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	5.67	1.37	128	725.5	Auxiliary Condenser Backpressure approaching high limit. Reduced load to maintain backpressure within manageable limit until Waterbox can be cleaned.
Welsh 3	116	7/24/2021 21:00	7/25/2021 9:47	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	12.78	9.39	388	4960	Load reduction to remove TDBFP from service in order to clean the Auxiliary Waterbox due to high backpressure.
Welsh 3	116	8/1/2021 0:00	8/1/2021 8:59	Circulating Water Systems	circulating water biological conditions (ie, zebra mussels)	8.98	6.6	388	3485.3	Remove TDBFP from service to clean the Auxiliary Waterbox due to high backpressure.
Welsh 3	116	7/25/2021 15:39	7/25/2021 16:36	Condensate System	condensate valves	0.95	0.05	28	26.4	Deaerator Level - unattainable
Welsh 3	116	8/28/2021 10:44	8/28/2021 12:43	Generator	stator windings, bushings, and terminals	1.98	0.56	148	293.6	Gen Stator Temp - High
Welsh 3	116	8/28/2021 12:44	8/28/2021 14:08	Generator	stator windings, bushings, and terminals	1.4	0.47	178	249.2	Gen Stator Temp - High
Welsh 3	116	8/28/2021 15:51	8/29/2021 10:00	Generator	stator windings, bushings, and terminals	18.15	6.12	178	3230.8	Gen Stator Discharge Temp Alarm
Welsh 3	116	8/29/2021 14:00	8/30/2021 15:04	Generator	stator windings, bushings, and terminals	25.07	8.45	178	4462.1	Gen Stator Discharge Temp Alarm
Welsh 3	116	9/7/2021 16:55	9/7/2021 22:00	Generator	stator windings, bushings, and terminals	5.08	0.27	28	142.6	Generator RTD Temperature
Welsh 3	116	9/21/2021 13:00	9/21/2021 13:43	Generator	stator windings, bushings, and terminals	0.72	0.04	28	20.1	Generator EMI testing
Welsh 3	116	9/26/2021 13:50	9/27/2021 19:53	Generator	stator windings, bushings, and terminals	30.05	5.86	103	3095.1	Generator RTD Issues
Welsh 3	116	9/27/2021 19:53	10/2/2021 0:00	Generator	stator windings, bushings, and terminals	100.12	29.09	128	15360	Generator RTD Issues
Welsh 3	116	6/16/2021 7:00	6/16/2021 11:00	Miscellaneous (Boiler)	boiler safety valve test	4	0.21	28	111.9	Boiler Safety Valve Testing
Welsh 3	116	8/15/2021 12:23	8/15/2021 21:13	Miscellaneous (Pollution Control Equipment)	mercury abatement equipment	8.83	2.98	178	1572.4	ACI equip. for controlling mercury in not operating at full cap
Welsh 3	116	8/15/2021 21:13	8/17/2021 8:08	Miscellaneous (Pollution Control Equipment)	mercury abatement equipment	34.92	21.69	328	11453	Carbon Injection equipment not operating properly. Not controlling Mercury sufficiently.
Welsh 3	116	8/22/2021 18:34	8/22/2021 21:49	Miscellaneous (Pollution Control Equipment)	baghouse systems, general	3.25	0.17	28	90.8	Fabric Filter Temperature
Welsh 3	116	8/23/2021 15:40	8/23/2021 16:21	Miscellaneous (Pollution Control Equipment)	baghouse systems, general	0.68	0.05	38	25.9	Fabric Filter Inlet Temperature
Welsh 3	116	1/3/2021 2:00	1/3/2021 2:54	Valves	main stop valve testing	0.9	0.47	278	250.3	Valve Check
Welsh 3	116	1/8/2021 21:00	1/8/2021 22:25	Valves	main stop valve testing	1.42	0.61	228	323.1	Weekly Valve Checks
Welsh 3	116	1/15/2021 22:00	1/15/2021 22:28	Valves	main stop valve testing	0.47	0.23	258	120.4	Weekly Valve Checks
Welsh 3	116	1/23/2021 19:00	1/23/2021 19:36	Valves	main stop valve testing	0.6	0.32	278	166.8	Weekly Valve Checks
Welsh 3	116	1/30/2021 1:00	1/30/2021 2:03	Valves	main stop valve testing	1.05	0.55	278	292	Weekly Valve Checks
Welsh 3	116	2/6/2021 22:00	2/6/2021 22:47	Valves	main stop valve testing	0.78	0.34	228	178.5	Valve Check
Welsh 3	116	2/20/2021 23:00	2/21/2021 0:06	Valves	main stop valve testing	1.1	0.56	268	294.6	Weekly Valve Checks
Welsh 3	116	2/26/2021 20:00	2/26/2021 20:51	Valves	main stop valve testing	0.85	0.45	278	236.5	Weekly Valve Checks
Welsh 3	116	5/29/2021 0:00	5/29/2021 0:56	Valves	main stop valve testing	0.93	0.4	228	212.8	Weekly Valve Checks
Welsh 3	116	6/4/2021 20:00	6/4/2021 20:38	Valves	main stop valve testing	0.63	0.31	258	163.2	Weekly Valve Checks
Welsh 3	116	6/12/2021 0:00	6/12/2021 0:48	Valves	main stop valve testing	0.8	0.42	278	222.3	Weekly Valve Checks
Welsh 3	116	6/27/2021 3:00	6/27/2021 3:35	Valves	main stop valve testing	0.58	0.25	228	133.1	valve check
Welsh 3	116	7/3/2021 22:00	7/3/2021 22:57	Valves	main stop valve testing	0.95	0.41	228	216.5	Weekly Valve Checks
Welsh 3	116	7/11/2021 2:00	7/11/2021 2:55	Valves	main stop valve testing	0.92	0.43	248	227.6	Weekly Valve Checks
Welsh 3	116	7/17/2021 1:27	7/17/2021 2:25	Valves	main stop valve testing	0.97	0.51	278	268.8	Weekly Valve Checks
Welsh 3	116	7/31/2021 22:00	8/1/2021 0:00	Valves	main stop valve testing	2	0.86	228	456.2	Valve Check
Welsh 3	116	8/7/2021 0:00	8/7/2021 1:02	Valves	main stop valve testing	1.03	0.54	278	287.2	Weekly Valve Checks
Welsh 3	116	8/15/2021 0:00	8/15/2021 1:12	Valves	main stop valve testing	1.2	0.56	248	297.8	Weekly Valve Checks
Welsh 3	116	8/21/2021 2:46	8/21/2021 3:34	Valves	main stop valve testing	0.8	0.35	228	182.2	Weekly Valve Checks
Welsh 3	116	9/5/2021 2:00	9/5/2021 3:06	Valves	main stop valve testing	1.1	0.48	228	250.8	Valve Check
Welsh 3	116	9/10/2021 20:00	9/10/2021 20:42	Valves	main stop valve testing	0.7	0.3	228	159.5	Weekly Valve Checks
Welsh 3	116	9/19/2021 0:00	9/19/2021 1:18	Valves	main stop valve testing	1.3	0.61	248	322.6	Weekly Valve Checks
Welsh 3	116	9/25/2021 21:00	9/25/2021 21:52	Valves	main stop valve testing	0.87	0.46	278	240.8	Weekly Valve Checks
Wilkes 1	110	3/20/2021 23:03	3/24/2021 14:04	Boiler Air and Gas Systems	forced draft fan dampers	87.02	20.69	39	3393.7	Pilot air issue
Wilkes 1	110	8/12/2021 14:14	8/12/2021 15:11	Boiler Air and Gas Systems	other forced draft fan problems	0.95	0.43	75	71.2	A" FD inlet issues
Wilkes 1	110	2/15/2021 7:53	2/15/2021 11:27	Boiler Air and Gas Systems	other air supply problems	3.57	2.91	134	477.9	Air Not Responding Correctly
Wilkes 1	110	3/24/2021 13:30	3/24/2021 13:43	Boiler Control Systems	other boiler instrumentation and control problems	0.22	0.05	39	8.5	Blowing Air Sensing Lines on boiler.
Wilkes 1	110	7/5/2021 16:10	7/6/2021 8:07	Boiler Fuel Supply from Bunkers to Boiler	burners	15.95	3.31	34	542.3	Combustible Alarm at high load due to loss of 4B burner

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Wilkes 1	110	8/20/2021 12:53	8/20/2021 13:36	Boiler Fuel Supply from Bunkers to Boiler	burner instruments and controls (except light off)	0.72	0.59	134	96.1	Gas Computer Failure
Wilkes 1	110	7/30/2021 21:56	7/30/2021 22:33	Boiler Piping System	desuperheater/attemperator piping	0.62	0.3	80	49.4	B SH spray line leaking
Wilkes 1	110	7/30/2021 22:33	7/31/2021 15:27	Boiler Piping System	desuperheater/attemperator piping	16.9	9.17	89	1504	B SH spray line leaking
Wilkes 1	110	3/23/2021 7:20	3/23/2021 15:56	Boiler Piping System	desuperheater/attemperator valves	8.6	2.36	45	387	Repairing 1B Superheater Spray Regulator
Wilkes 1	110	8/30/2021 16:55	9/1/2021 0:00	Boiler Piping System	desuperheater/attemperator valves	31.08	25.4	134	4165.1	Main Steam Attemperator - Packing Failed
Wilkes 1	110	8/25/2021 16:00	8/26/2021 0:00	Circulating Water Systems	other circulating water system problems	8	0.24	5	40	High Back Pressure
Wilkes 1	110	6/5/2021 0:21	6/7/2021 12:42	Economic	reserve shutdown	60.35	0	0	0	DNR
Wilkes 1	110	6/10/2021 0:00	6/14/2021 7:02	Economic	reserve shutdown	103.03	0	0	0	DNR
Wilkes 1	110	6/19/2021 19:30	6/29/2021 12:00	Economic	reserve shutdown	232.5	0	0	0	DNR
Wilkes 1	110	7/2/2021 0:10	7/3/2021 11:00	Economic	reserve shutdown	34.83	0	0	0	DNR
Wilkes 1	110	7/8/2021 0:10	7/12/2021 10:07	Economic	reserve shutdown	105.95	0	0	0	DNR
Wilkes 1	110	7/17/2021 0:31	7/20/2021 9:57	Economic	reserve shutdown	81.43	0	0	0	DNR
Wilkes 1	110	7/23/2021 0:11	7/24/2021 7:01	Economic	reserve shutdown	30.83	0	0	0	DNR
Wilkes 1	110	8/10/2021 6:00	8/11/2021 8:00	Economic	reserve shutdown	26	0	0	0	DNR
Wilkes 1	110	8/18/2021 0:08	8/19/2021 12:01	Economic	reserve shutdown	35.88	0	0	0	DNR
Wilkes 1	110	8/28/2021 0:32	8/29/2021 10:05	Economic	reserve shutdown	33.55	0	0	0	DNR
Wilkes 1	110	9/3/2021 0:00	9/3/2021 10:00	Economic	reserve shutdown	10	0	0	0	DNR
Wilkes 1	110	9/6/2021 0:30	9/7/2021 0:00	Economic	reserve shutdown	23.5	0	0	0	dnr
Wilkes 1	110	9/9/2021 12:00	9/10/2021 12:01	Economic	reserve shutdown	24.02	0	0	0	dnr
Wilkes 1	110	9/15/2021 0:17	9/16/2021 11:49	Economic	reserve shutdown	35.53	0	0	0	DNR
Wilkes 1	110	9/18/2021 19:22	9/24/2021 22:00	Economic	reserve shutdown	146.63	0	0	0	DNR
Wilkes 1	110	11/7/2021 0:09	11/8/2021 0:00	Economic	reserve shutdown	24.85	0	0	0	DNR
Wilkes 1	110	11/11/2021 6:00	11/14/2021 7:00	Economic	reserve shutdown	73	0	0	0	DNR
Wilkes 1	110	11/24/2021 0:08	11/26/2021 0:00	Economic	reserve shutdown	47.87	0	0	0	DNR
Wilkes 1	110	12/8/2021 6:00	12/11/2021 21:01	Economic	reserve shutdown	87.02	0	0	0	DNR
Wilkes 1	110	12/17/2021 0:00	12/29/2021 13:01	Economic	reserve shutdown	301.02	0	0	0	DNR
Wilkes 1	110	12/31/2021 16:11	1/6/2022 6:55	Economic	reserve shutdown	7.82	0	0	0	DNR
Wilkes 1	110	4/27/2021 8:00	4/27/2021 18:30	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	10.5	8.58	134	1407	<OMC!> Tejas Pipeline Pigging
Wilkes 1	110	4/27/2021 18:30	4/27/2021 21:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	2.5	1.43	94	235	<OMC!> Fuel availability
Wilkes 1	110	4/27/2021 21:00	4/28/2021 7:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	10	8.17	134	1340	<OMC!> Tejas Pipeline Pigging
Wilkes 1	110	4/28/2021 7:00	4/28/2021 9:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	2	1.39	114	228	<OMC!> Tejas Pipeline Pigging
Wilkes 1	110	4/28/2021 9:00	4/28/2021 15:36	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	6.6	4.71	117	772.3	<OMC!> Tejas Pipeline Pigging
Wilkes 1	110	4/28/2021 15:36	4/30/2021 17:11	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	49.58	40.51	134	6644.1	<OMC!> Tejas Pipeline Pigging
Wilkes 1	110	2/11/2021 10:06	2/12/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	13.9	10.09	119	1654.1	Gas limit
Wilkes 1	110	2/12/2021 0:00	2/13/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	33	23.95	119	3927	Gas supply restrictions.
Wilkes 1	110	2/13/2021 9:00	2/15/2021 6:08	Economic	lack of fuel: contract or tariff allows for interruption	45.13	36.88	134	6047.8	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 1	110	2/15/2021 11:27	2/20/2021 9:23	Economic	lack of fuel: contract or tariff allows for interruption	117.93	96.36	134	15803	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 1	110	2/20/2021 9:23	2/21/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	14.62	3.48	39	570.1	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 1	110	2/21/2021 0:00	2/21/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	9	2.14	39	351	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 1	110	7/6/2021 16:00	7/8/2021 0:35	Economic	lack of fuel: contract or tariff allows for interruption	32.58	4.17	21	684.2	Gas Availability
Wilkes 1	110	7/22/2021 14:40	7/23/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	9.33	1.25	22	205.3	Gas Availability

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Wilkes 1	110	8/22/2021 16:24	8/23/2021 4:26	Economic	lack of fuel: contract or tariff allows for interruption	12.03	2.86	39	469.4	Gas Availability
Wilkes 1	110	8/23/2021 13:49	8/23/2021 15:15	Economic	lack of fuel: contract or tariff allows for interruption	1.43	0.3	34	48.7	Gas Availability
Wilkes 1	110	8/23/2021 15:15	8/24/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	8.75	1.55	29	253.7	Gas Availability
Wilkes 1	110	8/27/2021 12:30	8/28/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	11.5	2.03	29	333.6	Gas Availability
Wilkes 1	110	9/18/2021 16:00	9/18/2021 19:22	Economic	lack of fuel: contract or tariff allows for interruption	3.37	0.49	24	80.9	Fuel Limitations
Wilkes 1	110	4/15/2021 19:42	4/15/2021 20:04	Electrical	main transformer	0.37	0.17	74	27.1	No fans on A" main power transformer. Two breakers went bad and took out all the cooling fans for A MPT."
Wilkes 1	110	4/15/2021 20:04	4/16/2021 20:08	Electrical	main transformer	24.07	4.99	34	818.2	No fans on A" main power transformer. Two breakers went bad and took out all the cooling fans on A MPT."
Wilkes 1	110	1/12/2021 5:42	1/12/2021 13:22	Electrical	400-700 volt circuit breakers	7.67	6.08	130	996.6	Loss of Motor Control Center
Wilkes 1	110	1/14/2021 12:00	1/14/2021 15:00	Feedwater System	feedwater pump	3	1.26	69	207	Repack 1B BFP Inboard packing
Wilkes 1	110	1/14/2021 21:18	1/23/2021 0:00	Feedwater System	feedwater pump	194.7	81.92	69	13434	B BFP inboard packing is leaking.
Wilkes 1	110	2/5/2021 6:25	2/5/2021 22:00	Feedwater System	feedwater pump	15.58	6.08	64	997.3	IB boiler feed pump out of service
Wilkes 1	110	2/9/2021 3:30	2/10/2021 15:24	Feedwater System	feedwater pump/drive lube oil system	35.9	14.01	64	2297.6	1B Boiler Feed Pump Auxiliary Oil Pump Locked Up
Wilkes 1	110	6/15/2021 16:15	6/15/2021 17:04	Feedwater System	other feedwater valves	0.82	0.49	99	80.9	Feed water block valve issue
Wilkes 1	110	6/15/2021 17:04	6/15/2021 17:42	Feedwater System	other feedwater valves	0.63	0.49	128	81	feed water block valve issue
Wilkes 2	111	9/17/2021 17:59	9/17/2021 22:00	Boiler Fuel Supply from Bunkers to Boiler	burners	4.02	0.77	70	273.4	Burner Problem
Wilkes 2	111	8/20/2021 12:53	8/20/2021 13:36	Boiler Fuel Supply from Bunkers to Boiler	burner instruments and controls (except light off)	0.72	0.34	172	120	Gas Computer Failure
Wilkes 2	111	4/14/2021 13:00	4/14/2021 15:33	Boiler Fuel Supply from Bunkers to Boiler	other oil and gas fuel supply problems (see codes 0360-0410 for burner problems)	2.55	2.27	325	828.9	Gas yard computer work.
Wilkes 2	111	6/13/2021 13:33	6/13/2021 14:40	Boiler Fuel Supply from Bunkers to Boiler	other oil and gas fuel supply problems (see codes 0360-0410 for burner problems)	1.12	0.63	205	222.6	Unstable Gas Flow on the EGT Line
Wilkes 2	111	9/4/2021 14:35	9/9/2021 0:00	Boiler Internals and Structures	refractory and insulation	105.42	37.55	130	13329	Hot Spot on Furnace Floor
Wilkes 2	111	10/1/2021 14:30	10/1/2021 17:23	Boiler Piping System	desuperheater/attemperator piping	2.88	2.17	275	771.1	Motor driven boiler feed pump will be cleared out to repair a pin hole leak in RH attemperating line from boiler feed pump. Will not have a backup feedwater pump during this time.
Wilkes 2	111	4/25/2021 9:00	4/25/2021 11:09	Condensate System	condensate valves	2.15	1.15	195	419.4	condensate regulator
Wilkes 2	111	4/25/2021 11:25	4/25/2021 22:00	Condensate System	condensate valves	10.58	5.36	185	1957.9	condensate regulator
Wilkes 2	111	4/25/2021 22:00	4/26/2021 2:42	Condensate System	condensate valves	4.7	3.61	280	1315.8	condensate regulator
Wilkes 2	111	4/26/2021 2:42	4/26/2021 23:00	Condensate System	condensate valves	20.3	16.41	295	5988.6	condensate regulator
Wilkes 2	111	10/18/2021 8:39	10/18/2021 11:40	Condensate System	condensate valves	3.02	2.6	315	924.1	Condensate Lead Regulator Positioner is Broken
Wilkes 2	111	10/20/2021 16:14	10/20/2021 16:49	Condensate System	condensate valves	0.58	0.03	20	11.4	Condensate regulator not controlling
Wilkes 2	111	10/20/2021 17:27	10/20/2021 18:15	Condensate System	condensate valves	0.8	0.07	30	23.4	Condensate regulator issues
Wilkes 2	111	10/21/2021 14:24	10/23/2021 0:45	Condensate System	condensate valves	34.35	2.07	22	734.9	condensate regulator issues
Wilkes 2	111	7/27/2021 0:00	7/28/2021 0:09	Condensate System	deaerator (including level control)	24.15	11.58	175	4110.5	Crack in Deaerator
Wilkes 2	111	9/19/2021 15:48	9/19/2021 17:20	Condensate System	deaerator (including level control)	1.53	0.06	15	22.4	Deaerator Control Valve issues
Wilkes 2	111	9/19/2021 17:20	9/21/2021 0:00	Condensate System	deaerator (including level control)	30.67	0.42	5	149.1	Deaerator Control Valve issues
Wilkes 2	111	11/21/2021 11:04	11/21/2021 17:30	Condensate System	deaerator (including level control)	6.43	5.73	325	2090.7	Bad level transmitter on deaerator
Wilkes 2	111	6/13/2021 17:52	6/17/2021 17:14	Condensing System	auxiliary condenser and associated equipment	95.37	7.84	30	2782.5	Aux Turbine Pump Vacuum Alarm
Wilkes 2	111	6/17/2021 17:14	6/18/2021 0:00	Condensing System	auxiliary condenser and associated equipment	6.77	1.11	60	394.8	Aux Turbine Pump Vacuum Alarm
Wilkes 2	111	6/18/2021 13:00	6/20/2021 15:20	Condensing System	auxiliary condenser and associated equipment	50.33	5.52	40	1958.2	Aux Turbine Pump Vacuum Alarm
Wilkes 2	111	6/20/2021 15:20	6/20/2021 15:39	Condensing System	auxiliary condenser and associated equipment	0.32	0.04	47	14.6	Aux Turbine Pump Vacuum Alarm
Wilkes 2	111	6/20/2021 15:41	6/24/2021 14:26	Condensing System	auxiliary condenser and associated equipment	94.75	12.98	50	4607.5	Aux Turbine Pump Vacuum Alarm
Wilkes 2	111	6/24/2021 12:30	6/24/2021 14:25	Condensing System	auxiliary condenser and associated equipment	1.92	0.74	140	260.9	Repair vacuum alarm on turbine driven feed pump
Wilkes 2	111	6/26/2021 16:14	7/1/2021 11:45	Condensing System	auxiliary condenser and associated equipment	115.52	3.14	9	1114	Aux condenser back pressure
Wilkes 2	111	7/6/2021 15:28	7/6/2021 19:54	Condensing System	auxiliary condenser and associated equipment	4.43	0.16	13	56.1	Aux condenser back pressure
Wilkes 2	111	7/7/2021 15:58	7/7/2021 23:59	Condensing System	auxiliary condenser and associated equipment	8.02	0.33	15	116.8	Aux condenser back pressure
Wilkes 2	111	7/8/2021 13:57	7/8/2021 15:45	Condensing System	auxiliary condenser and associated equipment	1.8	0.12	25	43.7	Aux condenser back pressure
Wilkes 2	111	7/8/2021 15:45	7/8/2021 23:59	Condensing System	auxiliary condenser and associated equipment	8.23	0.45	20	160.1	Aux condenser back pressure

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Wilkes 2	111	7/14/2021 16:31	7/14/2021 23:00	Condensing System	auxiliary condenser and associated equipment	6.48	0.36	20	126	Vacuum Turbine Pump - Back Pressure
Wilkes 2	111	7/23/2021 15:49	7/23/2021 22:38	Condensing System	auxiliary condenser and associated equipment	6.82	0.37	20	132.8	Aux condenser back pressure
Wilkes 2	111	7/24/2021 14:54	7/24/2021 23:00	Condensing System	auxiliary condenser and associated equipment	8.1	0.56	25	197	Aux Condenser Back Pressure
Wilkes 2	111	7/26/2021 13:35	7/26/2021 22:00	Condensing System	auxiliary condenser and associated equipment	8.42	0.85	37	302.8	Aux condenser back pressure
Wilkes 2	111	8/8/2021 17:20	8/8/2021 23:00	Condensing System	auxiliary condenser and associated equipment	5.67	0.34	22	121.4	Aux condenser vacuum is at the high limit
Wilkes 2	111	8/12/2021 14:04	8/12/2021 22:00	Condensing System	auxiliary condenser and associated equipment	7.93	0.54	25	192.8	Aux condenser back pressure
Wilkes 2	111	8/14/2021 16:22	8/14/2021 23:00	Condensing System	auxiliary condenser and associated equipment	6.63	0.69	38	245.3	Aux. condenser Backpressure
Wilkes 2	111	8/16/2021 15:31	8/17/2021 0:00	Condensing System	auxiliary condenser and associated equipment	8.48	0.93	40	330.2	Aux. condenser Back Pressure Alarm
Wilkes 2	111	8/18/2021 16:42	8/18/2021 22:00	Condensing System	auxiliary condenser and associated equipment	5.3	0.44	30	154.8	Aux. condenser Back Pressure
Wilkes 2	111	8/20/2021 14:52	8/20/2021 23:00	Condensing System	auxiliary condenser and associated equipment	8.13	0.56	25	197.7	Aux condenser Vacuum Pressure
Wilkes 2	111	8/21/2021 16:00	8/21/2021 16:12	Condensing System	auxiliary condenser and associated equipment	0.2	0.02	31	6	Seasonal limit is 324 due to Aux. condenser backpressure
Wilkes 2	111	8/21/2021 16:12	8/28/2021 0:00	Condensing System	auxiliary condenser and associated equipment	151.8	12.48	30	4429.3	Seasonal limit is 325 due to Aux. condenser back pressure
Wilkes 2	111	8/31/2021 14:30	8/31/2021 22:00	Condensing System	auxiliary condenser and associated equipment	7.5	0.84	41	298.9	Aux condenser Back Pressure
Wilkes 2	111	9/1/2021 13:44	9/1/2021 22:00	Condensing System	auxiliary condenser and associated equipment	8.27	0.91	40	321.6	Aux condenser back pressure
Wilkes 2	111	9/4/2021 14:32	9/4/2021 14:35	Condensing System	auxiliary condenser and associated equipment	0.05	0.01	44	2.1	Aux condenser Back Pressure
Wilkes 2	111	2/27/2021 20:43	3/7/2021 3:00	Economic	reserve shutdown	174.28	0	0	0	DNR
Wilkes 2	111	3/11/2021 12:09	3/18/2021 1:00	Economic	reserve shutdown	155.85	0	0	0	DNR
Wilkes 2	111	4/9/2021 6:00	4/10/2021 11:00	Economic	reserve shutdown	29	0	0	0	DNR
Wilkes 2	111	4/13/2021 0:27	4/14/2021 4:01	Economic	reserve shutdown	27.57	0	0	0	DNR
Wilkes 2	111	4/22/2021 0:38	4/23/2021 10:59	Economic	reserve shutdown	34.35	0	0	0	DNR
Wilkes 2	111	5/1/2021 0:44	5/3/2021 8:00	Economic	reserve shutdown	55.27	0	0	0	DNR
Wilkes 2	111	6/12/2021 0:00	6/13/2021 10:14	Economic	reserve shutdown	34.23	0	0	0	DNR
Wilkes 2	111	7/9/2021 0:35	7/10/2021 10:35	Economic	reserve shutdown	33.99	0	0	0	DNR
Wilkes 2	111	7/13/2021 0:13	7/14/2021 8:00	Economic	reserve shutdown	31.78	0	0	0	DNR
Wilkes 2	111	7/29/2021 14:15	7/31/2021 9:01	Economic	reserve shutdown	42.77	0	0	0	DNR
Wilkes 2	111	8/7/2021 6:00	8/8/2021 10:00	Economic	reserve shutdown	28	0	0	0	dnr
Wilkes 2	111	8/28/2021 0:09	8/29/2021 12:00	Economic	reserve shutdown	35.85	0	0	0	DNR
Wilkes 2	111	9/2/2021 0:12	9/3/2021 8:00	Economic	reserve shutdown	31.8	0	0	0	DNR
Wilkes 2	111	9/6/2021 0:14	9/9/2021 0:00	Economic	reserve shutdown	71.77	0	0	0	dnr
Wilkes 2	111	9/14/2021 17:15	9/17/2021 10:49	Economic	reserve shutdown	65.57	0	0	0	DNR
Wilkes 2	111	9/24/2021 0:44	10/1/2021 10:15	Economic	reserve shutdown	177.52	0	0	0	DNR
Wilkes 2	111	10/14/2021 6:00	10/16/2021 8:31	Economic	reserve shutdown	50.52	0	0	0	dnr
Wilkes 2	111	10/29/2021 6:00	10/31/2021 13:30	Economic	reserve shutdown	55.5	0	0	0	DNR
Wilkes 2	111	11/4/2021 11:00	11/5/2021 22:00	Economic	reserve shutdown	35	0	0	0	DNR
Wilkes 2	111	11/15/2021 6:00	11/16/2021 5:01	Economic	reserve shutdown	23.02	0	0	0	DNR
Wilkes 2	111	11/23/2021 0:15	12/2/2021 8:55	Economic	reserve shutdown	224.67	0	0	0	DNR
Wilkes 2	111	12/4/2021 11:24	12/12/2021 1:00	Economic	reserve shutdown	181.6	0	0	0	DNR
Wilkes 2	111	12/14/2021 15:08	1/1/2022 15:50	Economic	reserve shutdown	416.87	0	0	0	dnr
Wilkes 2	111	4/27/2021 8:00	4/27/2021 9:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	1	0.21	75	74.8	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/27/2021 9:00	4/27/2021 16:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	7	3.16	165	1154.9	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/27/2021 12:16	4/27/2021 17:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	4.73	1.23	95	449.7	<OMC!> Replacing Transmitter
Wilkes 2	111	4/27/2021 16:00	4/27/2021 17:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	1	0	0	0	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/27/2021 17:00	4/27/2021 18:30	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	1.5	0.63	154	231	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/27/2021 21:00	4/28/2021 7:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	10	1.78	65	650.1	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/28/2021 7:00	4/28/2021 9:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	2	1.27	232	463.9	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/28/2021 9:00	4/28/2021 14:30	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	5.5	3.47	230	1265.1	<OMC!> Tejas Pipeline Pigging

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Wilkes 2	111	4/28/2021 14:30	4/28/2021 15:36	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	1.1	0.49	162	178.1	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/28/2021 15:36	4/28/2021 16:40	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	1.07	0.45	154	164.3	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/28/2021 16:40	4/28/2021 21:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	4.33	0.51	43	186.5	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/28/2021 21:00	4/29/2021 7:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	10	3.1	113	1130	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/29/2021 7:01	4/29/2021 8:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	0.98	0.48	178	175.2	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/29/2021 17:30	4/29/2021 18:30	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	1	0.48	176	175.9	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/29/2021 18:30	4/29/2021 21:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	2.5	0.31	45	112.4	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/29/2021 21:00	4/30/2021 7:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	10	2.69	98	980	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/30/2021 13:43	4/30/2021 14:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	0.28	0.08	98	27.7	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	4/30/2021 14:00	4/30/2021 17:11	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	3.18	2.83	325	1034.4	<OMC!> Tejas Pipeline Pigging
Wilkes 2	111	7/22/2021 14:44	7/22/2021 23:00	Economic	lack of fuel: contract or tariff allows for interruption	8.27	0.57	25	200.9	Gas Availability
Wilkes 2	111	8/13/2021 14:42	8/13/2021 23:00	Economic	lack of fuel: contract or tariff allows for interruption	8.3	0.8	35	282.6	Fuel limitations
Wilkes 2	111	9/18/2021 16:00	9/18/2021 19:22	Economic	lack of fuel: contract or tariff allows for interruption	3.37	0.46	50	163.7	Fuel Limitations
Wilkes 2	111	3/7/2021 6:50	3/7/2021 9:50	Feedwater System	feedwater pump drive - steam turbine	3	1.56	190	570.1	Turbine Pump o/s
Wilkes 2	111	7/29/2021 15:41	8/4/2021 0:10	Feedwater System	high pressure heater tube leaks	128.48	8.69	22	3084.6	Leak in the E." heater"
Wilkes 2	111	4/30/2021 7:00	4/30/2021 13:43	Stack Emission	other stack or exhaust emissions testing - fossil	6.72	4.88	265	1779.7	Gas RATA test
Wilkes 2	111	7/3/2021 11:00	7/3/2021 13:00	Valves	control valve testing	2	0.99	180	350	Weekly Valve Checks
Wilkes 2	111	8/14/2021 18:03	8/14/2021 18:26	Valves	control valve testing	0.38	0.14	137	51.1	Weekly Valve Checks
Wilkes 2	111	9/17/2021 19:15	9/17/2021 19:35	Valves	control valve testing	0.33	0.1	105	34.1	Weekly Valve Checks
Wilkes 3	112	4/16/2021 20:21	4/17/2021 9:02	Boiler Fuel Supply from Bunkers to Boiler	burners	12.68	9.16	260	3297.6	Burner issues
Wilkes 3	112	7/6/2021 19:27	7/6/2021 19:55	Boiler Fuel Supply from Bunkers to Boiler	burners	0.47	0.07	53	24.4	Burner Issues
Wilkes 3	112	8/14/2021 16:22	8/14/2021 23:00	Boiler Fuel Supply from Bunkers to Boiler	burners	6.63	0.52	28	182.1	Superheater metal temperatures due to burner issues
Wilkes 3	112	8/20/2021 12:53	8/20/2021 13:36	Boiler Fuel Supply from Bunkers to Boiler	burner instruments and controls (except light off)	0.72	0.39	195	137	Gas Computer Failure
Wilkes 3	112	2/9/2021 21:16	2/10/2021 18:50	Boiler Fuel Supply from Bunkers to Boiler	other burner problems	21.57	2.4	40	862.6	45lb Regulator Problem
Wilkes 3	112	2/10/2021 18:50	2/11/2021 11:18	Boiler Fuel Supply from Bunkers to Boiler	other burner problems	16.47	2.29	50	823.3	45lb Gas Regulator Problem
Wilkes 3	112	2/11/2021 10:36	2/13/2021 9:00	Boiler Fuel Supply from Bunkers to Boiler	other burner problems	46.4	2.58	20	928.1	45# gas regulator problem
Wilkes 3	112	3/22/2021 13:44	3/22/2021 14:35	Boiler Fuel Supply from Bunkers to Boiler	other burner problems	0.85	0.18	75	63.7	45 lb Regulator
Wilkes 3	112	3/22/2021 14:35	3/23/2021 9:00	Boiler Fuel Supply from Bunkers to Boiler	other burner problems	18.42	4.35	85	1565.3	45 lb Regulator O/S
Wilkes 3	112	8/8/2021 17:39	8/12/2021 7:00	Circulating Water Systems	other circulating water system problems	85.35	0.24	1	83.7	Main condenser high backpressure
Wilkes 3	112	8/23/2021 18:27	8/23/2021 20:25	Circulating Water Systems	other circulating water system problems	1.97	0.06	10	19.4	Main condenser high backpressure
Wilkes 3	112	8/24/2021 14:45	8/24/2021 15:35	Circulating Water Systems	other circulating water system problems	0.83	0.01	3	2.5	Main condenser High backpressure
Wilkes 3	112	8/24/2021 15:35	8/25/2021 0:00	Circulating Water Systems	other circulating water system problems	8.42	0.07	3	24.7	Main condenser High backpressure
Wilkes 3	112	8/25/2021 16:00	8/26/2021 0:00	Circulating Water Systems	other circulating water system problems	8	0.29	13	102	Main condenser High backpressure
Wilkes 3	112	8/26/2021 13:52	8/26/2021 23:00	Circulating Water Systems	other circulating water system problems	9.13	0.33	13	116.5	Main condenser High backpressure
Wilkes 3	112	8/27/2021 12:30	8/28/2021 0:00	Circulating Water Systems	other circulating water system problems	11.5	0.42	13	146.5	Main condenser High backpressure
Wilkes 3	112	8/31/2021 15:02	8/31/2021 22:00	Circulating Water Systems	other circulating water system problems	6.97	0.16	8	54.7	Main condenser High backpressure
Wilkes 3	112	9/1/2021 14:33	9/1/2021 22:00	Circulating Water Systems	other circulating water system problems	7.45	0.06	3	21.9	Main condenser High backpressure

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Wilkes 3	112	4/25/2021 17:11	4/26/2021 17:18	Condensate System	condensate/hotwell pump motor	24.12	1.34	20	482.4	3B Condensate Pump won't start
Wilkes 3	112	4/26/2021 17:18	5/4/2021 0:00	Condensate System	condensate/hotwell pump motor	174.7	16.99	35	5995.7	3B Condensate Pump won't start
Wilkes 3	112	6/12/2021 15:00	6/25/2021 1:06	Condensate System	condensate/hotwell pump motor	298.1	19.05	23	6722.9	3B Condensate Pump Won't Start
Wilkes 3	112	7/8/2021 13:58	7/9/2021 0:00	Condensing System	auxiliary condenser and associated equipment	10.03	0.64	23	226.3	Aux Condenser Vac
Wilkes 3	112	7/13/2021 17:21	7/13/2021 23:00	Condensing System	auxiliary condenser and associated equipment	5.65	0.19	12	66.4	Aux condenser vacuum
Wilkes 3	112	7/23/2021 15:49	7/23/2021 22:38	Condensing System	auxiliary condenser and associated equipment	6.82	0.34	18	120.4	Main condenser back Pressure
Wilkes 3	112	7/24/2021 14:54	7/24/2021 23:00	Condensing System	auxiliary condenser and associated equipment	8.1	0.41	18	143	Aux Condenser Back Pressure
Wilkes 3	112	7/26/2021 13:52	7/26/2021 22:00	Condensing System	auxiliary condenser and associated equipment	8.13	0.45	20	159.6	Aux condenser back pressure
Wilkes 3	112	7/27/2021 13:57	7/28/2021 0:00	Condensing System	auxiliary condenser and associated equipment	10.05	0.5	18	177.6	aux condenser back pressure
Wilkes 3	112	7/29/2021 17:31	7/30/2021 0:00	Condensing System	auxiliary condenser and associated equipment	6.48	0.29	16	101.7	Aux condenser Backpressure
Wilkes 3	112	7/30/2021 14:29	7/30/2021 23:03	Condensing System	auxiliary condenser and associated equipment	8.57	0.55	23	193.1	Aux condenser Back pressure
Wilkes 3	112	7/31/2021 14:52	8/1/2021 0:00	Condensing System	auxiliary condenser and associated equipment	9.13	0.51	20	179	Back pressure Aux condenser
Wilkes 3	112	8/4/2021 6:30	8/4/2021 7:22	Condensing System	auxiliary condenser and associated equipment	0.87	0.43	178	151.4	Replace vacuum switch on Aux. condenser
Wilkes 3	112	2/9/2021 19:48	2/9/2021 20:27	Controls	other turbine instrument and control problems	0.65	0.02	10	6.5	Speed Sensors Causing Load to Swing
Wilkes 3	112	2/10/2021 17:10	2/10/2021 18:25	Controls	other turbine instrument and control problems	1.25	0.24	68	85	Controls Issue
Wilkes 3	112	6/10/2021 12:33	6/10/2021 13:38	Controls	steam turbine control system - logic problems	1.08	0.17	55	58.6	Control Logic Issue
Wilkes 3	112	2/2/2021 6:00	2/9/2021 1:00	Economic	reserve shutdown	163	0	0	0	dnr
Wilkes 3	112	2/20/2021 9:23	2/21/2021 9:00	Economic	reserve shutdown	23.62	0	0	0	DNR
Wilkes 3	112	2/23/2021 0:00	2/24/2021 12:00	Economic	reserve shutdown	36	0	0	0	DNR
Wilkes 3	112	2/26/2021 6:00	3/4/2021 6:00	Economic	reserve shutdown	144	0	0	0	DNR
Wilkes 3	112	3/11/2021 6:00	3/20/2021 4:00	Economic	reserve shutdown	213	0	0	0	DNR
Wilkes 3	112	3/23/2021 1:18	3/23/2021 9:00	Economic	reserve shutdown	7.7	0	0	0	Unit is DNR
Wilkes 3	112	4/12/2021 6:00	4/15/2021 7:00	Economic	reserve shutdown	73	0	0	0	DNR
Wilkes 3	112	4/22/2021 1:00	4/24/2021 11:00	Economic	reserve shutdown	58	0	0	0	DNR
Wilkes 3	112	5/1/2021 1:32	5/4/2021 0:00	Economic	reserve shutdown	70.47	0	0	0	DNR
Wilkes 3	112	5/14/2021 17:14	6/8/2021 10:55	Economic	reserve shutdown	593.68	0	0	0	DNR
Wilkes 3	112	6/21/2021 0:15	6/25/2021 10:00	Economic	reserve shutdown	105.75	0	0	0	DNR
Wilkes 3	112	7/9/2021 1:23	7/10/2021 8:02	Economic	reserve shutdown	30.65	0	0	0	DNR
Wilkes 3	112	8/1/2021 0:23	8/2/2021 7:00	Economic	reserve shutdown	30.62	0	0	0	dnr
Wilkes 3	112	8/7/2021 0:22	8/8/2021 8:00	Economic	reserve shutdown	31.63	0	0	0	DNR
Wilkes 3	112	9/12/2021 0:41	9/14/2021 10:00	Economic	reserve shutdown	57.32	0	0	0	DNR
Wilkes 3	112	9/19/2021 1:16	10/4/2021 8:56	Economic	reserve shutdown	367.67	0	0	0	DNR
Wilkes 3	112	10/7/2021 0:28	10/8/2021 7:00	Economic	reserve shutdown	30.53	0	0	0	DNR
Wilkes 3	112	10/12/2021 0:30	10/14/2021 7:53	Economic	reserve shutdown	55.38	0	0	0	DNR
Wilkes 3	112	10/17/2021 0:29	10/21/2021 5:03	Economic	reserve shutdown	100.57	0	0	0	DNR
Wilkes 3	112	10/26/2021 6:29	11/1/2021 2:01	Economic	reserve shutdown	139.53	0	0	0	DNR
Wilkes 3	112	11/5/2021 6:00	11/8/2021 8:02	Economic	reserve shutdown	75.03	0	0	0	DNR
Wilkes 3	112	11/11/2021 0:23	11/13/2021 0:00	Economic	reserve shutdown	47.62	0	0	0	DNR
Wilkes 3	112	11/20/2021 6:00	11/23/2021 11:01	Economic	reserve shutdown	77.02	0	0	0	dnr
Wilkes 3	112	11/26/2021 15:15	12/2/2021 5:00	Economic	reserve shutdown	133.75	0	0	0	DNR
Wilkes 3	112	12/4/2021 11:56	12/8/2021 23:01	Economic	reserve shutdown	107.08	0	0	0	DNR
Wilkes 3	112	12/13/2021 16:12	12/29/2021 9:40	Economic	reserve shutdown	377.47	0	0	0	dnr
Wilkes 3	112	4/24/2021 15:15	4/24/2021 15:34	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	0.32	0.2	225	71.3	<OMC!> Fuel limitations
Wilkes 3	112	4/24/2021 15:34	4/24/2021 18:10	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	2.6	1.16	160	416.2	<OMC!> fuel limitations
Wilkes 3	112	4/24/2021 18:10	4/25/2021 9:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	14.83	7.21	175	2596	<OMC!> fuel limitations
Wilkes 3	112	4/27/2021 8:00	4/27/2021 17:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	9	6	240	2160	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/27/2021 17:00	4/27/2021 18:30	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	1.5	0.47	113	169.6	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/27/2021 21:00	4/28/2021 7:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	10	0.69	25	249.8	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/28/2021 7:00	4/28/2021 9:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	2	1.06	191	382	<OMC!> Tejas Pipeline Pigging

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Wilkes 3	112	4/28/2021 9:00	4/28/2021 14:30	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	5.5	2.9	190	1045.1	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/28/2021 14:30	4/28/2021 15:36	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	1.1	0.37	122	134.3	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/28/2021 15:36	4/28/2021 16:40	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	1.07	0.34	113	120.6	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/28/2021 16:40	4/28/2021 21:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	4.33	0.05	4	17.3	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/28/2021 21:00	4/29/2021 17:30	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	20.5	3.7	65	1332.4	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/29/2021 17:30	4/29/2021 18:30	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	1	0.38	136	136.1	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/29/2021 18:30	4/29/2021 21:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	2.5	0.04	5	12.6	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/29/2021 21:00	4/30/2021 7:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	10	1.61	58	580	<OMC!> Tejas Pipeline Pigging
Wilkes 3	112	4/30/2021 7:00	4/30/2021 15:00	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	8	1.07	48	384.1	<OMC!> Tejas Gas Pigging
Wilkes 3	112	4/30/2021 15:00	4/30/2021 17:11	Economic	lack of fuel: physical failures of fuel supply or delivery/transportation of fuel	2.18	0.09	15	32.8	<OMC!> Tejas Gas Pigging
Wilkes 3	112	2/13/2021 9:00	2/13/2021 11:00	Economic	lack of fuel: contract or tariff allows for interruption	2	1.17	210	420.1	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/13/2021 11:00	2/14/2021 17:43	Economic	lack of fuel: contract or tariff allows for interruption	30.72	12.37	145	4453.9	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/14/2021 17:43	2/14/2021 18:19	Economic	lack of fuel: contract or tariff allows for interruption	0.6	0.35	210	126	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/14/2021 18:19	2/14/2021 18:53	Economic	lack of fuel: contract or tariff allows for interruption	0.57	0.33	210	119.2	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/14/2021 18:53	2/14/2021 19:32	Economic	lack of fuel: contract or tariff allows for interruption	0.65	0.4	224	145.4	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/14/2021 19:32	2/15/2021 6:08	Economic	lack of fuel: contract or tariff allows for interruption	10.6	6.54	222	2353.3	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/15/2021 11:27	2/17/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	36.55	22.54	222	8114	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/17/2021 0:00	2/17/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	9	5.63	225	2025	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/17/2021 9:00	2/18/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	24	18.67	280	6720.1	Gas supply restrictions. Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.

Unit Name	Unit	Start Date	End Date	Category Name	Cause Description	Duration (Hours)	Duration (EQ HRS)	Reduction (AVG MW)	Loss (MWH)	Description
Wilkes 3	112	2/18/2021 9:00	2/19/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	24	15.47	232	5568.1	Gas supply restrictions: Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/19/2021 9:00	2/19/2021 10:58	Economic	lack of fuel: contract or tariff allows for interruption	1.97	1.21	222	436.7	Natural Gas supply restrictions: Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/19/2021 10:58	2/20/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	22.03	10.41	170	3745.8	Natural Gas supply restrictions: Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/20/2021 9:00	2/20/2021 9:23	Economic	lack of fuel: contract or tariff allows for interruption	0.38	0.24	222	85	Natural Gas supply restrictions: Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/20/2021 9:23	2/21/2021 0:00	Economic	lack of fuel: contract or tariff allows for interruption	14.62	12.99	320	4677.5	Natural Gas supply restrictions: Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	2/21/2021 0:00	2/21/2021 9:00	Economic	lack of fuel: contract or tariff allows for interruption	9	8	320	2880	Natural Gas supply restrictions: Natural Gas Supply restriction. The Scheduled End Date is estimated based on current weather forecasts and limited information provided by the Natural Gas provider. This will be adjusted daily as new information becomes available.
Wilkes 3	112	7/14/2021 16:40	7/14/2021 23:00	Economic	lack of fuel: contract or tariff allows for interruption	6.33	0.49	28	174	No More Gas
Wilkes 3	112	7/22/2021 14:45	7/22/2021 23:00	Economic	lack of fuel: contract or tariff allows for interruption	8.25	0.41	18	145.8	Gas Availability
Wilkes 3	112	8/13/2021 14:42	8/13/2021 23:00	Economic	lack of fuel: contract or tariff allows for interruption	8.3	0.65	28	228	Fuel limitations
Wilkes 3	112	8/10/2021 17:31	8/10/2021 22:27	Electrical	main transformer	4.93	0.37	27	130.6	Main power transformer winding temperature high (3B)
Wilkes 3	112	8/11/2021 11:45	8/11/2021 12:39	Electrical	main transformer	0.9	0.07	27	24	3B Main Power Transformer Winding Temperature High
Wilkes 3	112	8/20/2021 16:03	8/23/2021 18:26	Electrical	main transformer	74.38	0.62	3	218.9	Seasonal limit is 350 due to Main power transformer winding temp. high
Wilkes 3	112	9/7/2021 17:30	9/8/2021 0:00	Electrical	main transformer	6.5	0.24	13	83	Main power transformer winding temp. high
Wilkes 3	112	9/18/2021 18:45	9/18/2021 22:00	Electrical	main transformer	3.25	0.05	5	15.9	Hot Transformer.
Wilkes 3	112	11/8/2021 12:19	11/8/2021 15:40	Feedwater System	feedwater pump drive - steam turbine	3.35	1.72	185	619.9	Feed Pump issue
Wilkes 3	112	12/10/2021 8:30	12/10/2021 14:39	Feedwater System	feedwater pump drive - steam turbine	6.15	3.33	195	1199.2	Turbine Boiler Feed Pump o/s
Wilkes 3	112	4/30/2021 9:55	4/30/2021 13:30	Generator	generator vibration (excluding vibration due to failed bearing and other components)	3.58	2.36	237	849.2	Turbine Vibration
Wilkes 3	112	7/3/2021 13:00	7/3/2021 14:13	Valves	control valve testing	1.22	0.52	153	182.5	Weekly Valve Checks
Wilkes 3	112	8/14/2021 18:13	8/14/2021 18:45	Valves	control valve testing	0.53	0.22	145	75.9	Weekly Valve Checks
Wilkes 3	112	8/28/2021 13:00	8/28/2021 14:42	Valves	control valve testing	1.7	0.86	183	305	Valve checks
Wilkes 3	112	9/4/2021 13:00	9/4/2021 13:45	Valves	control valve testing	0.75	0.36	173	127.1	Valve Checks
Wilkes 3	112	9/11/2021 12:00	9/11/2021 15:20	Valves	control valve testing	3.33	1.42	153	500.2	Weekly Valve Checks
Wilkes 3	112	10/23/2021 18:00	10/23/2021 18:36	Valves	control valve testing	0.6	0.28	168	98.8	Weekly Valve Checks
Wilkes 3	112	12/31/2021 22:28	12/31/2021 22:57	Valves	control valve testing	0.48	0.22	160	77.4	Weekly Valve Checks

AVERAGE ANNUAL HEAT RATES, NET KWH OUTPUT AND CAPACITY FACTORS

1. Report on all generating units available for operation.
2. Compute heat rates on basis of total fuel burned on each unit including burner lighting, banking fuel and spinning fuel.
3. Yearly Capacity Factor in percent =

$$\frac{\text{Total Kilowatt Hours Generated}}{\text{Kilowatt Capacity of Unit (name plate rating) x 8760}} \times 100$$

Plant Name	Unit No.	MW	B.t.u. Per Net Kwh	Net Gen. Kwh x 10^6	Capacity Factor	Major Fuel
Arsenal Hill	5	110	12,583	44,547	4.62%	Nat. Gas
	6	534	7,049	2,903,947	62.08%	Nat. Gas
Dolet Hills*	1	257	12,830	433,381	19.25%	Lignite
Flint Creek*	1	516	10,797	2,805,976	62.08%	Coal
Knox lee	5	344	12,029	185,196	6.15%	Nat. Gas
Lieberman	3	109	11,479	38,414	4.02%	Nat. Gas
	4	108	11,514	32,419	3.43%	Nat. Gas
Mattison	1	78	12,004	21,849	3.20%	Nat. Gas
	2	78	11,940	24,574	3.60%	Nat. Gas
	3	79	12,170	9,861	1.42%	Nat. Gas
	4	79	12,141	12,780	1.85%	Nat. Gas
Pirkey*	1	675	11,187	2,689,735	45.49%	Lignite
Turk*	1	650	8,993	3,423,249	60.12%	Coal
Wilkes	1	164	11,491	211,105	14.69%	Nat. Gas
	2	365	11,499	321,441	10.05%	Nat. Gas
	3	360	11,510	353,341	11.20%	Nat. Gas
Welsh*	1	525	11,019	2,547,290	55.39%	Coal
	3	528	11,439	1,780,912	38.50%	Coal

*includes after survey adjustment

AVERAGE ANNUAL HEAT RATES, NET KWH OUTPUT AND CAPACITY FACTORS

(Continuation Sheet)

Plant Name	Unit No.	MW	B.t.u. Per Net Kwh	Net Gen. Kwh x 10^6	Capacity Factor	Major Fuel

Name of Company SOUTHWESTERN EL Time Period 2021

FUTURE SALES, LOADS, & RESOURCES PER DOCKET NO. U-2897
-- ELECTRIC UTILITIES --

1. Provide the following information relating to generating plants, both existing and proposed, (and associated fuel supply and other facilities) with a capacity of 50 MW or more to be used to supply system demands during the next five (5) calendar years:

(a & b)	Date (c)	Date (d)	(e) Plant Ownership	
Name & Location of Plant	Const. Beg.	Plant in Service Date	% Owned	Other Owners (if Applicable)
Arsenal Hill Shreveport, Louisiana	1957	1960	100.0%	
Lieberman Mooringsport, Louisiana	1945	1947	100.0%	
Knox Lee Cherokee Lake, Texas	1947	1950	100.0%	
Wilkes Jefferson, Texas	1960	1964	100.0%	
Welsh Cason, Texas	1974	1977	100.0%	
Flint Creek** Gentry, Arkansas	1975	1985	50.0%	Arkansas Electric Cooperative Corporation
Pirkey** Hallsville, Texas	1978	1985	85.9%	Northeast Texas Electric Cooperative Oklahoma Municipal Power Authority
Dolet Hills** Mansfield, Louisiana	1980	1986	40.234%	Central Louisiana Electric Company Northeast Texas Electric Cooperative Oklahoma Municipal Power Authority
Harry D. Mattison Springdale, Arkansas	2006	2007	100.0%	
John W. Turk Jr.** Hempstead County, Arkansas	2008	2012	73.33%	Arkansas Electric Cooperative Corporation East Texas Electric Cooperative Oklahoma Municipal Power Authority
North Central Wind North/Central Oklahoma	2021	2021	54.5%	Public Service Company of Oklahoma

Name of Company SOUTHWESTERN ELECT Time Period 2021

FUTURE SALES, LOADS, & RESOURCES PER DOCKET NO. U-2897
-- ELECTRIC UTILITIES --

1. Continued

(f) Plant Capacity (MW)	(g) % Plant Capacity Available to Meet Firm Demands	(h) Plant Type	(i) Fuel Type	(j) Net Heat Rate	(k) Cost of Plant	(l) Plant Cost Per KW Capacity
741.00	100%	Steam	Gas	7,206.00	462,140,700	623.6717
228.00	100%	Steam	Gas	11,495.00	43,108,535	189.0725
351.00	100%	Steam	Gas	11,902.00	65,814,094	187.5045
882.00	100%	Steam	Gas	11,608.00	130,637,875	148.1155
558.00	100%	Steam	Coal/Oil	11,223.00	907,673,958	1,626.6558
279.00	100%	Steam	Coal/Oil	10,803.00	377,645,925	1,353.5696
619.34	100%	Steam	Gas/Lignite	11,021.00	613,769,146	991.0052
289.99	100%	Steam	Gas/Lignite	13,000.00	-	
349.00	100%	Gas Turbine	Gas	12,030.00	127,459,189	365.2126
523.60	100%	Steam	Coal/Gas	9,167.00	1,676,258,485	3,201.4104
270.00	100%	Wind	Wind	-	376,219,413	1,393.4052

Name of Company SOUTHWESTERN ELECTRIC POWER COMPANY (SWEPCO) Time Period 2021

FUTURE SALES, LOADS, & RESOURCES PER DOCKET NO. U-2897
-- ELECTRIC UTILITIES --

2. Provide the following information relating to electric transmission lines (and associated facilities including substations) of a design voltage of 100 KV or more extending more than 10 miles and /or of 170 KV or more extending 1 mile to be used to supply system demands during the next two (2) calendar years:

(a)	(b)	(c)	(d)	(e)	(k)	Substations (f)	Substations (g)
Line Size	Line Distance	Route of Line	Purpose of Line	Cost of Line	Cost of Plant	Number	Location
					$2,332,903	1	Booneville, AR
					$730,428	1	Branch, AR
69KV ***	12.1 mi	Booneville to Branch	Rebuild of an existing line to improve reliability, overall condition, and customer quality of service by reducing the frequency and duration of outages.	$19,774,112			
			Total Project Cost w/ overhead	$27,501,043			
*	Pending Phase II funding						
**	Pending CECPN approval						
***	69KV operationals with 161KV capable after construction.						
					$892,137	1	N. Magazine, AR
					$801,377	1	W. Booneville, AR
161KV	14.0 mi	N. Magazine to W. Booneville	Rebuild of an existing line to improve reliability, overall condition, and customer quality of service by reducing the frequency and duration of outages.	$20,648,505			
			Total Project Cost w/ overhead	$25,932,366			
*	Pending Phase II funding						
**	Pending CECPN approval						

Name of Company SOUTHWESTERN ELECTRIC POWER Time Period 2021

FUTURE SALES, LOADS, & RESOURCES PER DOCKET NO. U-2897
-- ELECTRIC UTILITIES --

2. Continued

(h)	(i)	Line Ownership (j)	
Date Const. Began/Begins	Date to be Placed in Service	% Owned	Other Owners (if applicable)
09/14/22 *	03/05/24	100%	
08/29/22 *	05/20/24	10%	Oklahoma Gas and Electric
9/13/2023 **	05/23/24	100%	
6/12/23*	05/24/24	100%	
10/20/23*	05/24/24	100%	
5/26/23**	05/24/24	100%	

Name of Company SOUTHWESTERN ELECTR Time Period 2021

FUTURE SALES, LOADS, & RESOURCES PER DOCKET NO. U-2897
-- ELECTRIC UTILITIES --

3. Provide by consumer classes (include residential or domestic sales, commercial sales, industrial sales, public street and highway lighting sales, other sales to public authorities, sales or resale, interdepartmental sales) forecasts of the following for the next two (2) calendar years:

	(a)	(b)	(c)	(d)	(e)
Year	Customer Class	Avg. No. of Customers	Sales Kwh	System Peak Demand (kw)	Non-Coincidental Peak Demand (kw)
2022	Residential	461,774	5,997,386	1,692.542	1,693
2022	Commercial	73,796	5,468,475	1,217.770	1,232
2022	Industrial	7,210	4,729,387	655.782	754
2022	Other Retail	490	78,837	15.419	17
2022	Total Retail	543,270	16,274,085	3,581.514	
2022	Sales-for-Resale(1)	5	4,687,552	894.061	1,097
2022	Total	543,275	20,961,637	4,475.575	
2023	Residential	463,036	5,999,954	1,702.761	1,703
2023	Commercial	74,249	5,472,237	1,217.637	1,232
2023	Industrial	7,200	4,755,267	656.971	756
2023	Other Retail	490	78,920	15.436	17
2023	Total Retail	544,976	16,306,378	3,592.806	
2023	Sales-for-Resale(1)	5	4,736,949	887.892	1,108
2023	Total	544,981	21,043,327	4,480.698	

(1) Sales for Resale include booked pass-through.

Name of Company SOUTHWESTERN ELECTRIC POWER Time Period 2021

FUTURE SALES, LOADS, & RESOURCES PER DOCKET NO. U-2897
-- ELECTRIC UTILITIES --

3. Continued

(f) Average Annual Load factor (Based on System Peak Demand)	(g) Average Annual Load factor (Based on Non-Coincidental Peak Demand)	(h) % Line Losses
42.9%	42.9%	6.15%
54.1%	53.5%	5.62%
86.5%	75.2%	5.11%
62.2%	56.7%	6.54%
54.8%		5.67%
60.8%	49.5%	1.55%
56.0%		4.75%
42.7%	42.7%	6.16%
54.2%	53.6%	5.58%
86.9%	75.4%	5.11%
62.2%	56.6%	6.55%
54.7%		5.66%
61.8%	49.5%	1.55%
56.2%		4.74%

Name of Company SOUTHWESTERN ELECTR Time Period 2022

FUTURE SALES, LOADS, & RESOURCES PER DOCKET NO. U-2897
-- ELECTRIC UTILITIES --

4. Provide forecasts of the following for the next two (2) calendar years in kilowatts (beginning January 1):

Year	(a) System Peak Demand	(b) Power Sources to Meet System Peak Demand [1]	(c) Reserves (Average System & at System Peak)	
2022	MW	Self-owned capability	MW	MW
	4414*	Arsenal Hill	108	1,110
		Lieberman	217	
	*Includes	Knox Lee	338	
	active and			
	passive demand	Wilkes	872	
	side	Welsh	1,053	
	management	Flint Creek	258	
		Pirkey	580	
		Mattison	283	
		J. L. Stall	511	
		Turk	477	
		North Central Energy Facilities	129	
		Purchases Without Reserves		
		NTEC - HCPP	300	
		NTEC - Pirkey, Dolet Hills, Turk	133	
		NTEC - SPA Narrows	27	
		TEX-LA - HCPP		
		ETEC - HCPP		
		Customer Generation - Minden		
		High Majestic Wind Projects	19	
		Flat Ridge Wind Project	12	
		Canandian Hills Wind Project	27	
		Majestic Wind Projects	23	
		Purchases With Reserves		
		NTEC SPA Hydro	102	
		Louisiana Generation	50	
		Customer SPA Hydro	20	
		Sales Without Reserves		
		Backup contracts (Eastman, Domtar and International Paper)	15	
		Sales With Reserves		
		TEX-LA ERCOT		

AEP - American Electric Power
NTEC - North East Texas Electric Cooperative
HCPP - Harrison County Power Project
ETEC - East Texas Electric Cooperative
SPA - Southwestern Power Administration
TEX-LA - Tex-La Electric Cooperative of Texas, Inc
VEMCO - Valley Electric Membership Corporation
EPI - Entergy Power, Inc

(1) To include self-owned generating capability identified by plant, firm and non-firm purchases identified by contract.

Name of Company SOUTHWESTERN ELECTR Time Period 2023

FUTURE SALES, LOADS, & RESOURCES PER DOCKET NO. U-2897
-- ELECTRIC UTILITIES --

4 Continued

	(a)	(b)	(c)	
Year	System Peak Demand	Power Sources to Meet System Peak Demand 1	Reserves (Average System & at System Peak)	
2023	MW	Self-owned capability	MW	MW
	4415*	Arsenal Hill	108	513
		Lieberman	217	
	*Includes	Knox Lee	338	
	active and			
	passive demand	Wilkes	872	
	side	Welsh	1,053	
	management	Flint Creek	258	
		Pirkey		
		Mattison	283	
		J. L. Stall	511	
		Turk	477	
		North Central Energy Facilities	138	
		Purchases Without Reserves		
		TEX-LA - HCPP	300	
		NTEC - Pirkey, Dolet Hills, Turk	54	
		NTEC - SPA Narrows	27	
		TEX-LA - HCPP		
		ETEC - HCPP		
		Customer Generation - Minden		
		High Majestic Wind Projects	14	
		Flat Ridge Wind Project	18	
		Canandian Hills Wind Project	34	
		Majestic Wind Projects	14	
		Purchases With Reserves		
		NTEC SPA Hydro	102	
		Louisiana Generation	50	
		Customer SPA Hydro	20	
		Sales Without Reserves		
		Backup contracts (Eastman, Domtar and International Paper)	15	
		Sales With Reserves		
		TEX-LA ERCOT		

(1) To include self-owned generating capability identified by plant, firm and non-firm purchases identified by contract.

Name of Company SOUTHWESTERN ELECTRI Time Period 2021

FUTURE SALES, LOADS, & RESOURCES PER DOCKET NO. U-2897
-- ELECTRIC UTILITIES --

5. Describe methodology used in forecasts in sufficient detail to allow replication by a third party. Include graphs and formulae if appropriate.

Reference Number 3 a - h.

Two distinct methods are used for forecasting kWh. Both methods are statistically based, but use different time horizons and inputs. The results of both methods are used as inputs to forecast kW demand.

First, regression models with time series error terms were used to forecast kWh sales up to 18 months ahead (short-term). These models use the most recent customer count, kWh sales data, weather data (in the form of degree days), trend variable and indicator (dummy) variables where needed. These models use the latest available sales and weather information to represent the variation in kWh sales on a monthly basis, and produce forecasts in the short run.

The long-term process starts with an economic forecast provided by Moody's Analytics for the United States as a whole, each state, and regions within each state. These forecasts include forecasts of employment, population, income, gross regional product and other variables. The long-term kWh forecast for residential and commercial kWh uses statistically adjusted end-use (SAE) models that combine end-use and economic characteristics to produce a forecast of monthly kWh sales. The long-term kWh forecast for the other revenue classes uses econometric models incorporating the economic forecast. Inputs such as regional and national economic and demographic conditions, energy prices, appliance saturations, efficiency trends and programs, weather data, and customer-specific information are all utilized in producing the forecasts. These models explicitly tie electricity consumption to economic, efficiency, and demographic factors at least 10 years into the future. Post model adjustments are made to the retail energy forecast to reflect the effects of company sponsored DSM programs.

To forecast peak, revenue class sales is combined with class level and end-use level load shapes. These shapes are modeled and simulated with actual and forecast temperatures Reference Number 4a and 4c.

REPORT TO ARKANSAS PUBLIC SERVICE COMMISSION

CHECK LIST

Company Name SOUTHWESTERN ELECTRIC POWER COMPANY (SWEPCO)

Instructions: In the space provided, please enter the appropriate amounts from the Annual Report to the APSC and the FERC Form 1. Any differences should be fully explained. Any differences between ending figures from last year's annual report and beginning balances in this year's annual report should be fully explained.

Description	Annual Report Amount	FERC Form 1 Amount	Difference
Total Electric Plant-in-Service			
Beginning Balance	9,817,827,435	9,817,827,435	-
Ending Balance	10,134,663,920	10,134,663,920	-

Note: The year-end balance of $9,512,991,641 for 2020 was filed for 2020. This amount did not inlcude plant purchase or sold and also Completed Construction Not Classified. When those amounts are included, the year-end balnace for 2020 matches the beginning balance for 2021.

STATEMENT OF ACCURACY

I do hereby state that the amounts contained in this report are true and accurate, schedules have been cross-referenced by use of the attached check list, and that the accuracy of all totals has been verified by me or under my supervision. Should I or anyone under my supervision become aware of any error in or omission from this report, I will take steps to notify the Arkansas Public Service Commission of such error or omission and provide corrected schedules as soon as possible.

Thomas P. Bird

Title: V.P. - Regulatory & Finance

COMPANY CONTACTS

Company Information	
Company Name	SOUTHWESTERN ELECTRIC POWER COMPANY (SWEPCO)
dba	
Official Mailing Address	SOUTHWESTERN ELECTRIC POWER COMPANY (SWEPCO) 428 Travis Street, Shreveport, LA 71101
Mailing Address for APSC Annual Assessment Invoice	Southwestern Electric Power Company Attn: Tax Department PO Box 24400 Canton, OH 44701-4400

AREA	PERSON TO CONTACT	PHONE #	FAX #	E-MAIL
Annual Report	Lynn Ferry-Nelson	318-673-3730		lmferry-nelson@aep.com
APSC Annual Assessment	Dan Ernst	330-438-7063		deernst@aep.com
Fuel Adjustment Report	Brian Frantz	614-716-4932		bjfrantz@aep.com
Cost of Debt Report	Ryan Frenton	614-302-1528		rjfrenton@aep.com
Tariffs	Tom Brice Jr.	318-673-3361		tpbrice1@aep.com
Accounting	Ryan Frenton	614-302-1528		rjfrenton@aep.com
Rates	Tom Brice Jr.	318-673-3361		tpbrice1@aep.com
Engineering	Drew Seidel	318-673-3566		dwseidel@aep.com
Finance	Renee V. Hawkins	614-716-2837		rvhawkins@aep.com
Income Taxes	Ryan Frenton	614-302-1528		rjfrenton@aep.com
Property Taxes	Heidi Hinton	614-716-3209		hmhinton@aep.com
Gas Supply	Mark J. Leskowitz	614-716-6276		mjleskowitz@aep.com
Legal	Melissa Gage	512-481-3320		magage@aep.com
Data Processing	Sandra Evanson	614-716-1750		slevanson@aep.com

Please list the number of utility employees located in Arkansas 348 .

REPORT TO ARKANSAS PUBLIC SERVICE COMMISSION

PRINTING INSTRUCTIONS
Electric -- FERC Form 1 Supplement

In order for the page numbers in the Excel file to print properly, group select to open all of the General worksheets together and print all together, then ungroup the General sheets. Group and print all of the industry specific pages together, then ungroup. Group and print all of the remaining pages together, then ungroup. (Before entering any data, be sure that the worksheets have all been ungrouped.)

Assemble the completed report in sequence presented in the file (shown below).

Sequence	Sheet Name	Page No.
1	Cover Sheet	
2	Filing Instructions	
3	Letter of Transmittal	
4	General Instructions	General 1
5	Report Contact	
6	Identity	General 2-3
7	D&O	General 4
8	Revenues	E-1
9	Plant	E-2
10	Load Curves	E-3
11	Load Curves Chart	E-4
12	Outages	E-5 - E-8
13	Heat Rate & Capacity	E-9 - E-10
14	Future Sales, Load and Resources	E-11 - E-18
15	Check List	
16	Statement of Accuracy	
17	Company Contacts	
	Printing Instructions	