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February 28, 2022

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DELIVERED VIA EMAIL TO PSCED@KY.GOV

Linda C. Bridwell
Executive Director
Public Service Commission
211 Sower Boulevard
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RECEIVED

FEB 28 2022

PUBLIC SERVICE
COMMISSION

RE: **Case No. 2012-00578** (Post-Case Correspondence File)

Dear Ms. Bridwell:

Please accept for filing Kentucky Power Company's 2021 Mitchell Generating Plant Annual Performance Report. The report is being filed in conformity with the Commission's October 7, 2013 order in Case No. 2012-00578.

A copy of the report and this letter is being served on counsel of record in the case.

Very truly yours,

STITES & HARBISON PLLC



Katie M. Glass

KMG

cc: Michael L. Kurtz
Larry W. Cooke
Joe F. Childers
Kristin Henry
Shannon Fisk

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing letter and accompanying report were served by first class mail, postage prepaid upon the following parties of record, this 28th day of February, 2022:

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Katie M. Glass

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

The Application Of Kentucky Power Company For:)
(1) A Certificate Of Public Convenience And Necessity)
Authorizing The Transfer To The Company Of An)
Undivided Fifty Percent Interest In The Mitchell)
Generating Station And Associated Assets; (2) Approval)
Of The Assumption By Kentucky Power Company Of)
Certain Liabilities In Connection With The Transfer Of)
The Mitchell Generating Station; (3) Declaratory Rulings;)
(4) Deferral Of Costs Incurred In Connection With The)
Company's Efforts To Meet Federal Clean Air Act And)
Related Requirements; And (5) For All Other Required)
Approvals And Relief)

Case No. 2012-00578

MITCHELL GENERATING PLANT: FEBRUARY 28, 2022 ANNUAL
PERFORMANCE REPORT AND REPORT ON POTENTIAL IMPACTS OF FUTURE
ENVIRONMENTAL REGULATIONS

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1) **Introduction**

Kentucky Power Company (“KPCo” or “the Company”) files this report in conformity with the Kentucky Public Service Commission’s (“KPSC” or “the Commission”) October 7, 2013 Order in Case No. 2012-00578. Portions of the required information are provided in the following attachments:

Attachment 1: 2021 Plant Performance Data

- i. Forced Outage Rate
- ii. Equivalent Forced Outage Rate
- iii. Equivalent Availability Factor
- iv. Net Capacity Factor
- v. Net Unit Heat Rate

Attachment 2: 2021 Unplanned Outages

2) **Mitchell Plant Performance**

Attachment 1 to this report includes 2021 performance data for Mitchell Unit 1 and Unit 2. 2021 capacity factors at both units were slightly higher than in 2020. Annual Net Capacity Factors were 26.39% for Unit 1 and 43.19% for Unit 2. The 2021 Equivalent Forced Outage Rate was 48.50% for Unit 1 and 14.16% for Unit 2.

3) **Mitchell Plant Unplanned Outages**

Attachment 2 to this report identifies the unplanned outage events that occurred at Mitchell Units 1 and 2 during the 2021 calendar year. For the purpose of this report, unplanned outages are defined as those outage events not included on the Planned Outage schedule. A Planned Outage is an outage lasting several weeks and is taken to permit the Company to perform work on major equipment groups that are not immediately required for the safe operation of the unit. Planned Outages are scheduled approximately a year in advance. The dates of the Planned Outages are approved by PJM. Maintenance Outages also are approved by PJM. They require shorter lead time for notifying PJM and are taken to perform repair and maintenance work. Maintenance Outages may be initially scheduled for up to nine days, although they may be extended once underway. A Forced Outage is an unplanned outage to address an immediate operational or safety concern at the generation facility. Forced outages typically last from a few hours to several days depending on the situation. Caused by a main transformer issue, the longest 2021 forced outage event at Mitchell Unit 1 occurred in April and lasted 56 days. Various issues requiring repairs, including to the flue gas desulfurization (“FGD”) and fly ash system, caused the longest 2021 forced outage event at Mitchell Unit 2. This outage occurred in October and lasted 15 days.

4) **Mitchell Plant Operations & Maintenance (“O&M”) Expense**

Kentucky Power’s share of the 2021 budgeted and actual O&M expenses for the Mitchell Plant, as well as the Company’s share of the budgeted O&M expenses for 2022, are included in Table 1 below. The Company’s share of actual O&M expense in 2021 was \$26.9 million, compared to a budgeted amount of \$24.7 million. This variance was primarily due to non-outage maintenance material costs.

Kentucky Power’s share of the 2022 budgeted O&M expense of \$25.6 million reflects a 3.5% increase when compared to the 2021 budget amount, largely due to an increase in scheduled outage costs.

Table 1

Mitchell Plant O&M Expense		
2021		2022
Actuals	Budget	Budget
\$26,888,868	\$24,704,273	\$25,558,881
NOTES: Totals reflect Kentucky Power’s 50% ownership share of the Mitchell Plant.		

5) **Mitchell Plant Capital Investments**

Kentucky Power’s share of the 2021 actual and budgeted level of capital investment for the Mitchell Plant, as well as the Company’s forecasted share of capital investment for 2022, are included below in Table 2.

In 2021, the Company’s share of capital spending at the Mitchell Plant was \$13.1 million compared to a budget of \$21.4 million. Capital spending in 2021 was less than budgeted largely due to an approximately \$5.1 million deferral of Coal Combustion Residual (“CCR”) and Steam Electric Effluent Limitation Guidelines (“ELG”) projects. The 2022 budget, when compared to the 2021 budget, is larger primarily due to CCR (\$7.8M), Electrostatic Precipitator (“ESP”, \$2.9M), and dry sorbent injection costs (\$2.2M).

Table 2

Mitchell Plant Capital Investment		
2021		2022
Actuals	Budget	Budget
\$13,089,774	\$21,379,706	\$41,840,021
NOTES:		
Totals reflect Kentucky Power’s 50% ownership share of the Mitchell Plant.		

6) Discussion of Environmental Regulations and Potential Future Impacts

The Mitchell Plant is subject to air, water, and solid waste regulations. Both units are fully controlled units with respect to air emissions. They are equipped with ESPs for the removal of approximately 99% of Particulate Matter (“PM”); Selective Catalytic Reduction (“SCR”) systems for reduction of approximately 90% of nitrogen oxide (“NO_x”) emissions; and FGD systems for the reduction of sulfur dioxide (“SO₂”) emissions by approximately 97%. These systems are instrumental in maintaining compliance with existing air pollution regulations. The Mitchell Plant operates in compliance with all applicable environmental regulations.

It should be noted that the following discussion of environmental regulations is based on the requirements currently in effect and those compliance options viewed as most likely to be implemented by the Company. Activity including but not limited to Presidential Executive Orders, litigation, petitions for review, and Federal Environmental Protection Agency (“EPA”) proposals may delay the implementation of these rules, or eventually affect the requirements set forth by these regulations. While such activities have the potential to materially change the regulatory requirements the Company will face in the future, all potential outcomes cannot be reasonably foreseen or estimated. The Company is committed to closely following developments related to environmental regulations, and will update its analysis of compliance options and timelines when sufficient information becomes available to make such judgments.

Clean Air Act Requirements

The Clean Air Act (“CAA”) establishes a comprehensive program to protect and improve the nation’s air quality and control sources of air emissions. The states implement and administer many of these programs and could impose additional or more stringent requirements. The primary regulatory programs that currently drive investments in AEP operating companies’ existing generating units include: (a) periodic revisions to National Ambient Air Quality Standards (“NAAQS”) and the development of state implementation plans to achieve any more stringent standards; (b) implementation of the regional haze program by the states and the Federal EPA; (c) regulation of hazardous air pollutant emissions under the Mercury and Air Toxics Standard (“MATS”) rule; and (d) implementation and review of the Cross-State Air Pollution Rule

("CSAPR"), a federal implementation plan designed to eliminate significant contributions from sources in upwind states to non-attainment or maintenance areas in downwind states.

Notable developments in significant CAA regulatory requirements affecting the Company's operations are discussed in the following sections.

National Ambient Air Quality Standards ("NAAQS")

The Federal EPA periodically reviews and revises the NAAQS for criteria pollutants under the CAA. Revisions tend to increase the stringency of the standards, which in turn may require Kentucky Power to make investments in pollution control equipment at existing generating units, or, since most units are already well controlled, to make changes in how units are dispatched and operated. In October of 2021, EPA announced that it was reconsidering its 2020 decision to leave the NAAQS standards unchanged. Kentucky Power cannot currently predict if any changes to the NAAQS standards are likely or what such changes may be, but will continue to monitor this issue and any future rulemakings.

Cross-State Air Pollution Rule ("CSAPR")

CSAPR is a regional trading program designed to address interstate transport of emissions that contributed significantly to downwind non-attainment with the 1997 ozone and PM NAAQS. CSAPR relies on SO₂ and NO_x allowances and individual state budgets to compel further emission reductions from electric utility generating units. Interstate trading of allowances is allowed on a restricted sub-regional basis.

In January 2021, EPA finalized a revised CSAPR rule, which substantially reduces the ozone season NO_x budgets in 2021-2024. Several utilities and other major emitters have challenged that final rule in the U.S. Court of Appeals for the District of Columbia Circuit and briefing is underway. Kentucky Power cannot predict the outcome of that litigation, but believes it can meet the requirements of the rule in the near term, and is evaluating its compliance options for later years, when the budgets are further reduced.

Mercury and Air Toxics Standard ("MATS") Rule

The final MATS Rule became effective on April 16, 2012, and required compliance by April 16, 2015. AEP Management obtained administrative extensions for up to one year at several units to facilitate the installation of controls and/or to avoid serious reliability problems. The rule established unit-specific emission rates for units burning coal on a 30-day rolling average basis for mercury, PM (as a surrogate for particles of non-mercury metals) and hydrogen chloride (as a surrogate for acid gases). In addition, the rule proposed work practice standards, such as boiler tune-ups, for controlling emissions of organic Hazardous Air Pollutants ("HAPs") and dioxin/furans. Compliance was required within three years.

In April 2014, the U.S. Court of Appeals for the District of Columbia Circuit denied all of the petitions for review of the April 2012 final rule. Industry trade groups and several states filed petitions for further review in the U.S. Supreme Court.

In 2015, the U.S. Supreme Court reversed the decision of the U.S. Court of Appeals for the District of Columbia Circuit. The court remanded the MATS rule to the EPA to consider costs in determining whether to regulate emissions of HAPs from power plants. In 2016, the EPA issued a supplemental finding concluding that, after considering the costs of compliance, it was appropriate and necessary to regulate HAP emissions from coal and oil-fired units. Petitions for review of the EPA's determination were filed in the U.S. Court of Appeals for the District of Columbia Circuit. In 2018, the EPA released a revised finding that the costs of reducing HAP emissions to the level in the current rule exceed the benefits of those HAP emission reductions. The EPA also determined that there are no significant changes in control technologies and the remaining risks associated with HAP emissions do not justify any more stringent standards. Therefore, the EPA proposed to retain the current MATS standards without change. A final rule adopting the findings in the proposal was issued in April 2020. The rule has been challenged in the U.S. Court of Appeals for the District of Columbia Circuit.

In early 2022, EPA proposed to revoke its 2020 finding that it is not appropriate and necessary to regulate coal- and oil-fired EGUs under Section 112 of the CAA, and to reaffirm EPA's 2016 supplemental finding that it remains appropriate and necessary to regulate HAPs from such sources. In its proposed rule, EPA states that revocation of the 2020 finding is necessary because it was based on an improper analytical framework that compared the rule's total costs to a "very small subset" of only HAP benefits that could be monetized. EPA now proposes to find that the appropriate and necessary finding is supported under both a "totality-of-the-circumstances" framework or an alternative formal benefit cost analysis (BCA) framework. Although the Agency is not proposing any amendments to MATS in the proposed rule, EPA notes that it is separately reviewing the residual risk and technology review (RTR) for MATS. Therefore, in addition to soliciting comments on all aspects of EPA's proposal to reinstate its appropriate and necessary finding, the Agency requests information on the performance and cost of new or improved technologies that control HAP emissions; improved methods of operation; and risk-related information to further inform the Agency's review of the MATS RTR.

The installed Mitchell SCR and FGD systems achieve co-benefit removal of mercury from the flue gas while the ESPs remove particulate bound mercury and other particulate hazardous air pollutants. The FGD systems allow the plant to meet the SO₂ alternate measurement for mitigation of acid gas emissions. These systems enabled the Mitchell Plant to meet the emissions requirements of the MATS Rule in 2020. Kentucky Power cannot predict the outcome of EPA's proposal and any future regulatory impacts that may derive therefrom, but will continue to monitor EPA's rulemakings on this topic.

Climate Change, CO₂ Regulation, and Energy Policy

EPA has promulgated two separate rules in an attempt to regulate CO₂ emissions for existing fossil fuel-fired steam electric generating units – the Clean Power Plan ("CPP"), and the Affordable Clean Energy ("ACE") Rule – neither of which is in effect at the present time. The CPP was stayed by the U.S. Supreme Court and ultimately, was repealed and replaced by the ACE Rule. In January 2021, the U.S. Court of Appeals for the D.C. Circuit vacated the ACE rule and remanded it to the EPA. Kentucky Power is unable to predict how the EPA will respond to the court's remand. On October 29, 2021, the U.S. Supreme Court granted certiorari and combined four

separate petitions seeking review of the D.C. Circuit Court decision. Briefing is underway, but Kentucky Power is unable to predict the outcome of that litigation.

Coal Combustion Residuals Rule

The EPA's CCR rule regulates the disposal and beneficial re-use of CCR, including fly ash and bottom ash created from coal-fired generating units and FGD gypsum generated at some coal-fired plants. The rule applies to active and inactive CCR landfills and surface impoundments at facilities of active electric utilities or independent power producers. In August 2020, the EPA revised the CCR rule to include a requirement that unlined CCR storage ponds cease operations and initiate closure by April 11, 2021. The revised rule provides two options that allow facilities to extend the date by which they must cease receipt of coal ash and close the ponds. The first option provides an extension to cease receipt of CCR no later than October 15, 2023 for most units, and October 15, 2024 for a narrow subset of units; however, the EPA's grant of such an extension will be based upon a satisfactory demonstration of the need for additional time to develop alternative ash disposal capacity and will be limited to the soonest timeframe technically feasible to cease receipt of CCR. Additionally, each request must undergo formal review, including public comments, and be approved by the EPA. Kentucky Power filed an application for additional time to develop alternative disposal capacity at the Mitchell Plant. EPA has not yet acted on the Mitchell Plant's application.

In December 2020 and February 2021, Wheeling Power Company ("WPCo") and KPCo filed requests with the Public Service Commission of West Virginia ("WVPSC") and KPSC, respectively, to obtain the regulatory approvals necessary to implement CCR and ELG compliance plans and seek recovery of the estimated \$132 million investment for the Mitchell Plant that would allow the plant to continue operating beyond 2028. Within those requests, WPCo and KPCo also filed a \$25 million alternative to implement only the CCR-related investments with the WVPSC and KPSC, respectively, which would allow the Mitchell Plant to continue operating only through 2028.

In July 2021, the KPSC issued an order approving the CCR only alternative and rejecting the full CCR and ELG compliance plan. In August 2021, the WVPSC approved the full CCR and ELG compliance plan for the WPCo share of the Mitchell Plant. In September 2021, WPCo submitted a filing with the WVPSC to reopen the CCR/ELG case that was approved by the WVPSC in August 2021. Due to the rejection by the KPSC of the KPCo share of the ELG investments, WPCo requested the WVPSC consider approving the construction and recovery of all ELG costs at the plant. In October 2021, the WVPSC affirmed its August 2021 order approving the construction of CCR/ELG investments and directed WPCo to proceed with CCR/ELG compliance plans that would allow the plant to continue operating beyond 2028. The WVPSC's order further states WPCo will not share capacity and energy from the plant with KPCo customers if those customers are not paying for ELG compliance costs, or for any new capital investment or continuing operations costs incurred, to allow the plant to operate beyond 2028 or prevent downgrades prior to 2028. The WVPSC also ordered that WPCo will be given the opportunity to recover, from its customers, the new capital and operating costs arising solely from the WVPSC's directive to operate the plant beyond 2028 if the WVPSC finds that the costs are reasonably and prudently incurred. In October and November 2021, intervenors filed petitions for reconsideration at the WVPSC requesting clarification on certain aspects of the order, primarily the jurisdictional allocation of future operating expenses and plant costs.

In November 2021, AEP made filings with the KPSC, WVPSC and FERC seeking approval for a new proposed Mitchell Plant Operations and Maintenance Agreement and Mitchell Plant Ownership Agreement between KPCo and WPCo pursuant to which WPCo would replace KPCo as the operator of the Mitchell Plant. In February 2022, AEP filed a motion to withdraw its filing with the FERC, noting that AEP intends to re-file its request after the KPSC and WVPSC reviews have been completed.

In January 2022, the EPA began responding to applications for extension requests and has proposed to deny several extension requests based on allegations that the utilities are not in compliance with the CCR Rule. The Mitchell Plant plan is not among the plans rejected by EPA. The EPA's allegations of noncompliance rely on new interpretations of the CCR Rule requirements, which could be challenged in court. While the EPA has not yet proposed any action on then pending extension requests submitted for the Mitchell Plant, statements made by EPA in proposed denials of extension requests submitted by other utilities indicate there is a risk EPA may similarly conclude that the Mitchell Plant is not eligible for an extension of time to cease use of its CCR impoundments and/or that it is not in compliance with the CCR Rule. If that occurs, Kentucky Power may incur significant additional costs to change its plans for complying with the CCR Rule, including the potential to have to temporarily cease operation of the Mitchell Plant until an acceptable compliance alternative can be engineered.

Because Kentucky Power uses surface impoundments and landfills to manage CCR materials at the Mitchell Plant, significant costs will be incurred to upgrade or close and replace these existing facilities and conduct any required remedial actions. Closure and post-closure costs have been included in Asset Retirement Obligation ("ARO") in accordance with the requirements in the final rule. Additional ARO revisions will occur on a site-by-site basis if groundwater monitoring activities conclude that corrective actions are required to mitigate groundwater impacts, which could include costs to remove ash from some unlined units.

Other utilities and industrial sources have been engaged in litigation with environmental advocacy groups who claim that releases of contaminants from wells, CCR units, pipelines and other facilities to ground waters that have a hydrologic connection to a surface water body represent an "unpermitted discharge" under the Clean Water Act ("CWA"). Two cases have been accepted by the U.S. Supreme Court for further review of the scope of CWA jurisdiction. In April 2020, the Supreme Court issued an opinion remanding one of these cases to the Ninth Circuit Court of Appeals based on its determination that discharges from an injection well that make their way to the Pacific Ocean through groundwater may require a permit, if the distance traveled, the length of time to reach the ocean, and other factors make it "functionally equivalent" to a direct discharge from a point source. The second case was also remanded to the lower court.

Prior to the U.S. Supreme Court's decision, EPA opened a rulemaking docket to solicit information to determine whether it should provide additional clarification of the scope of CWA permitting requirements for discharges to ground water, and issued an interpretative statement considering comments received in the rulemaking docket and determined that "releases to groundwater are excluded from the scope of the National Pollutant Discharge Elimination System ("NPDES") program, even where pollutants are conveyed to jurisdictional surface waters via groundwater." In December 2020, the EPA issued draft guidance for public comment on applying the outcome of the U.S. Supreme Court's decision and consideration of functionally equivalent factors. In

September 2021, EPA rescinded that guidance. The impact of these developments on CCR units will be determined by further EPA guidance, additional permitting decisions, and future action from the courts.

Installation of a groundwater monitoring network has been completed at the Mitchell Plant and groundwater sampling commenced in late 2016. The eight background sampling events were completed and an analysis of the compliance monitoring data shows Mitchell Plant does not exceed the standards set by the CCR Rule. Mitchell Plant currently is equipped with a dry fly ash handling system and a dry ash landfill to meet current permit requirements. The plant also has an unlined bottom ash pond that will be phased out of use as the plant complies with the requirements for unlined surface impoundments. The bottom ash handling system will be converted to a dry system as part of the CCR/ELG compliance program.

Clean Water Act Regulations

In 2014, EPA issued a final rule setting forth standards for existing power plants pursuant to section 316(b) of the Clean Water Act that is intended to reduce mortality of aquatic organisms impinged or entrained in the cooling water. The rule was upheld on review by the U.S. Court of Appeals for the Second Circuit. Compliance timeframes are established by the permit agency through each facility's NPDES permit as those permits are renewed and have been incorporated into permits at several AEP facilities. AEP facilities that have had their wastewater discharge permits renewed have been asked to monitor intake flows or to enhance monitoring practices to assure the current technology is being properly managed to ensure compliance with this rule.

Mitchell Plant cooling water withdrawal rate is 31 million gallons per day ("mgd"), and thus is well below the entrainment study threshold of 125 mgd. In addition, facilities with existing closed cycle recirculating cooling systems, such as Mitchell, may not be required to make any technology changes. This determination will be made by the West Virginia Department of Environmental Protection ("WVDEP") as part of its current renewal review of Mitchell Plant's National Pollutant Discharge Elimination System permit. The draft permit that was offered for public comment in August 2021 did not propose any technology change and only that the plant continues to operate in a closed cycle recirculating manner.

The EPA's ELG rule for generating facilities establishes limits on FGD wastewater, fly ash and bottom ash transport water and flue gas mercury control wastewater, which are to be implemented through each facility's wastewater discharge permit. A revision to the ELG rule, published in October 2020, establishes additional options for reusing and discharging small volumes of bottom ash transport water, provides an exception for retiring units and extends the compliance deadline to a date as soon as possible beginning one year after the rule was published, but no later than December 2025. Management has assessed technology additions and retrofits to comply with the rule and the impacts of the EPA's recent actions on facilities' wastewater discharge permitting for FGD wastewater and bottom ash transport water. For the Mitchell Plant, which must install additional technologies to meet the ELG rule limits, a permit modification was filed in January 2021 that reflects the outcome of that assessment. We continue to work with the WVDEP to finalize permit terms and conditions. EPA has announced its intention to reconsider the 2020 rule and to further revise limits applicable to discharges of landfill and impoundment leachate in late 2022. Kentucky Power cannot predict whether EPA will actually finalize further revisions or what

such revisions might be, but will continue to monitor this issue and will participate in further rulemaking activities as they arise.

In August 2021, EPA and the Army Corps of Engineers announced their plan to reconsider and revise the Navigable Waters Protection Rule, which defines “waters of the United States” under the Clean Water Act. Shortly thereafter, the United States District Court for the District of Arizona vacated and remanded the Navigable Waters Protection Rule, which had the effect of reinstating the prior, much broader, version of the rule. Because the scope of waters subject to EPA and Army Corps of Engineers jurisdictions is broader under the prior rule, permitting decisions made in recent years are subject to reevaluation; permits may now be necessary where none were previously required, and issued permits may need to be reopened to impose additional obligations. On December 7, 2021, EPA proposed a rule that would roll back the definition of “waters of the United States” to the pre-2015 definition. EPA also announced that it would be considering further changes through a future rulemaking, which would build upon the foundation of the proposed rule. Kentucky Power will continue to monitor rulemaking on this issue.

Attachment 1

Mitchell Generating Plant
Unplanned Outages
2021

Unit	Start Date	End Date	Duration [Hours]	Event Type	Event Description
Mitchell 1	1/23/2021 0:00	2/4/2021 23:55	312	MO	i/r #11 turbine bearing, i/r 16 pulv, inspect boiler for slag due to HS burn, and repair condenser leak, boiler hydro and air test.
Mitchell 1	2/5/2021 12:00	2/6/2021 15:45	28	SF	Turbine lift pump had cracked fitting
Mitchell 1	2/6/2021 15:45	2/8/2021 11:00	43	U1	Turbine lift pump had cracked fitting
Mitchell 1	2/8/2021 11:00	2/8/2021 16:17	5	SF	Start up failure
Mitchell 1	2/9/2021 0:31	2/11/2021 21:00	68	U1	URB Control Valve Issue
Mitchell 1	2/12/2021 15:35	2/13/2021 21:36	30	U1	ID fan trip during startup.
Mitchell 1	2/27/2021 15:42	3/1/2021 0:00	32	U3	Side wall Tube Tube Leak
Mitchell 1	3/1/2021 0:00	3/7/2021 17:00	161	MO	Sidewall Tube Leak.
Mitchell 1	3/7/2021 17:00	3/23/2021 10:33	377	U1	turbine vibration
Mitchell 1	4/9/2021 20:29	6/5/2021 15:00	1363	U1	Main transformer outage
Mitchell 1	6/5/2021 15:00	6/6/2021 19:32	29	U1	Leak on East H2 seal oil cooler
Mitchell 1	7/16/2021 2:14	7/23/2021 23:01	189	MO	Repair 11 ID Fan Pitch Blade Operator, install 11A Circulating Water Pump, Boiler i/r.
Mitchell 1	8/3/2021 21:40	8/8/2021 21:28	120	U2	Tube Leak
Mitchell 1	8/23/2021 18:18	9/1/2021 19:58	218	U2	Tube Leak
Mitchell 1	9/16/2021 2:35	9/21/2021 0:00	117	U1	Tube Leak
Mitchell 1	9/21/2021 10:46	9/23/2021 8:44	46	U1	Steam leak.
Mitchell 1	9/27/2021 16:55	10/2/2021 9:30	113	U1	Loss of Air Heater
Mitchell 1	10/5/2021 22:37	10/6/2021 18:50	20	U1	Under Excitation trip
Mitchell 1	10/8/2021 0:00	10/8/2021 1:46	2	MO	Boiler i/r; FGD repairs; ID Fan Pilot Valve inspections.
Mitchell 1	10/8/2021 1:46	10/8/2021 8:17	7	MO	Boiler i/r; FGD repairs; ID Fan Pilot Valve inspections.
Mitchell 1	10/8/2021 8:17	10/8/2021 8:27	0	MO	Boiler i/r; FGD repairs; ID Fan Pilot Valve inspections.
Mitchell 1	10/8/2021 8:27	10/8/2021 8:28	0	MO	Boiler i/r; FGD repairs; ID Fan Pilot Valve inspections.
Mitchell 1	10/8/2021 8:28	10/8/2021 8:33	0	MO	Boiler i/r; FGD repairs; ID Fan Pilot Valve inspections.
Mitchell 1	10/8/2021 8:33	10/8/2021 8:35	0	MO	Boiler i/r; FGD repairs; ID Fan Pilot Valve inspections.
Mitchell 1	10/8/2021 8:35	10/16/2021 0:00	183	MO	Boiler i/r; FGD repairs; ID Fan Pilot Valve inspections.
Mitchell 1	12/19/2021 7:00	12/23/2021 8:32	98	MO	to dewater cooling tower and install 11B Circulating Water Pump
Mitchell 2	1/12/2021 7:00	1/19/2021 0:00	161	MO	to inspect ID Fan Hubs, i/r FMO-202, and replace #21 Clinker Grinder
Mitchell 2	2/1/2021 10:09	2/10/2021 12:00	218	U1	An approximately 75' of Unit 2 stack liner drain header failed and fell to the bottom of the stack. This failure occurred at elevation 250'
Mitchell 2	2/10/2021 12:00	2/11/2021 19:36	32	U1	The Aux Boiler is not available to start this unit
Mitchell 2	2/12/2021 14:05	2/13/2021 3:50	14	U1	Low PH in cooling tower
Mitchell 2	2/13/2021 6:41	2/13/2021 8:35	2	U1	Unable to start while unit i is in start up. (unit has DA Award)
Mitchell 2	6/24/2021 0:00	6/26/2021 0:00	48	MO	Boiler Hydro, I/R
Mitchell 2	6/26/2021 0:00	7/4/2021 4:15	196	MO	to repair Precipitator Inlet Duct and internal inspection, drain FGD Absorber to repair an Agitator Seal and level probe B"
Mitchell 2	9/4/2021 1:54	9/13/2021 2:29	217	MO	Repair 22 ID fan pitch blade issuePatch leaks in precipitator duct. Boiler upper fill valve repairBoiler Hydro inspect and repair.
Mitchell 2	10/22/2021 0:00	11/6/2021 9:54	370	MO	Boiler i/r, UMO-803 i/r, Dry Fly Ash repairs, FGD repairs, FMO-101 i/r, #1 Control Valve EHC line i/r.
Mitchell 2	11/13/2021 7:44	11/15/2021 1:00	41	U1	Steam Lead Drain Leak
Mitchell 2	11/15/2021 1:00	11/15/2021 2:29	1	SF	AC ground associated with exciter
Mitchell 2	11/30/2021 11:30	12/2/2021 5:38	42	U3	Valve issue. Packing blew out on FRV-101(Main Steam Attemperator)
Mitchell 2	12/4/2021 8:00	12/5/2021 10:19	26	U2	UMO-1 packing leak (super heater bypass line)
Mitchell 2	12/22/2021 0:18	12/22/2021 16:18	16	U1	Reason Unknown. #1 Control valve LVDT positioner arm broke causing #1 control valve to close and become inoperable

Event Type	NERC Description
MO	Maintenance Outage - can be deferred beyond the end of the next weekend but must occur before the next planned outage
SF	Startup Failure - results when a unit is unable to synchronize within a specified startup time following an outage or reserve shutdown
U1	Unplanned (Forced) Outage - requires immediate removal from service
U2	Unplanned (Forced) Outage - removal from service delayed due to day and time of occurrence
U3	Unplanned (Forced) Outage - can be postponed beyond 6 hours but requires removal from service before the end of the next weekend

Attachment 2

**Mitchell Generating Plant
Performance Data
2021**

Unit	Year	Month	Forced Outage Rate [%]	Equivalent Forced Outage Rate [%]	Equivalent Availability Factor [%]	Net Capacity Factor [%]	Net Heat Rate [Btu/kWh]
Mitchell 1	2021	Jan	0.00	11.88	62.33	41.38	10875.00
Mitchell 1	2021	Feb	37.97	39.12	52.69	36.53	11142
Mitchell 1	2021	Mar	64.70	65.11	27.15	12.93	11691
Mitchell 1	2021	Apr	70.49	70.49	29.22	15.18	10628
Mitchell 1	2021	May	100.00	100.00	0.00	0.00	0
Mitchell 1	2021	Jun	19.38	25.68	72.38	55.90	10659
Mitchell 1	2021	Jul	0.00	11.01	61.89	54.13	11111
Mitchell 1	2021	Aug	42.67	46.94	51.99	45.20	10766
Mitchell 1	2021	Sep	37.00	47.07	53.62	47.19	10292
Mitchell 1	2021	Oct	38.69	38.69	14.54	9.64	11027
Mitchell 1	2021	Nov	0.00	0.00	0.00	0.00	0
Mitchell 1	2021	Dec	0.00	0.00	42.25	0.00	0
Mitchell 1	2021	Jan-Dec	43.90	48.50	38.89	26.39	10838

Unit	Year	Month	Forced Outage Rate [%]	Equivalent Forced Outage Rate [%]	Equivalent Availability Factor [%]	Net Capacity Factor [%]	Net Heat Rate [Btu/kWh]
Mitchell 2	2021	Jan	0.00	0.00	78.36	0.00	0
Mitchell 2	2021	Feb	42.53	44.09	59.04	38.74	10850
Mitchell 2	2021	Mar	0.00	1.79	16.49	9.10	10769
Mitchell 2	2021	Apr	0.00	7.23	15.15	10.72	10346
Mitchell 2	2021	May	0.00	1.34	98.36	65.03	10433
Mitchell 2	2021	Jun	0.00	0.83	74.69	51.02	10348
Mitchell 2	2021	Jul	0.00	8.59	81.77	71.11	9949
Mitchell 2	2021	Aug	0.00	18.01	81.05	77.10	10062
Mitchell 2	2021	Sep	0.00	12.37	57.57	55.23	9987
Mitchell 2	2021	Oct	0.00	12.36	57.65	45.54	10057
Mitchell 2	2021	Nov	13.02	15.91	71.27	29.93	10783
Mitchell 2	2021	Dec	9.67	16.70	79.76	63.42	10669
Mitchell 2	2021	Jan-Dec	6.91	14.16	64.42	43.19	10306