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PUBLIC SERVICE COMMISSION

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March 1, 2021

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DELIVERED VIA EMAIL TO PSCED@KY.GOV

Linda C. Bridwell
Executive Director
Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602-0615

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

Dear Ms. Bridwell:

Please accept for filing Kentucky Power Company's 2020 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,

Mark R. Overstreet

MRO
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 1st day of March 2021.

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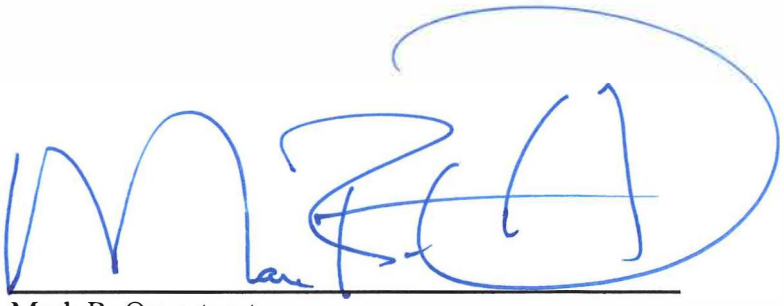

Mark R. Overstreet

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: MARCH 1, 2021 ANNUAL PERFORMANCE REPORT AND REPORT ON POTENTIAL IMPACTS OF FUTURE ENVIRONMENTAL REGULATIONS

Table of Contents

1) Introduction

Kentucky Power Company files this report in conformity with the Kentucky Public Service Commission's October 7, 2013 Order in Case No. 2012-00578. Portions of the required information are provided in the following attachments:

Attachment 1: 2020 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: 2020 Unplanned Outages

2) Mitchell Plant Performance

Attachment 1 to this report includes 2020 performance data for Mitchell Unit 1 and Unit 2. 2020 capacity factors at both units were lower than in 2019, primarily due to an increase in time spent in reserve shutdown. Annual Net Capacity Factors were 22.43% for Unit 1 and 30.20% for Unit 2. The 2020 Equivalent Forced Outage Rate was 19.16% for Unit 1 and 14.40% 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 2020 calendar year. For the purpose of this report, unplanned outages are defined as those outage events not included on the Planned Outage schedule. Planned Outages are major outages that require material with long lead times. Because the Planned Outage schedule is prepared at least one year in advance, any outage that occurs before the next Planned Outage is classified as an unplanned outage regardless of whether it is a scheduled maintenance outage or a forced outage. Scheduled maintenance outages are those necessary to conduct any type of predictive, preventive, or corrective maintenance that can only be done when the unit is not operating, but they do not prevent the unit from operating. Scheduled maintenance outages are distinct from forced outages, which require removal of a unit from service. Forced outages are caused by conditions that prevent a unit from operating, such as lack of fuel or equipment failure.

Caused by a main condenser tube leak, the longest 2020 forced outage event at Mitchell Unit 1 occurred in April and lasted approximately 10 days. A cracked weld in a line at the inlet to the economizer caused the longest 2020 forced outage event at Mitchell Unit 2. This outage occurred in June and lasted approximately 12 days.

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

Kentucky Power's share of the 2020 budgeted and actual O&M expenses for the Mitchell Plant, as well as the Company's share of the budgeted O&M expenses for 2021, are included in Table 1 below. The Company's share of actual O&M expense in 2020 was $26.4 million, compared to a budgeted amount of $24.1 million. This variance is primarily due to non-outage maintenance material costs.

Kentucky Power's share of the 2021 budgeted O&M expense of $24.7 million reflects a 2.4% increase when compared to the 2020 budget amount, largely due to an increase in scheduled outage costs.

Table 1

Mitchell Plant O&M Expense		
2020		2021
Actuals	Budget	Budget
$26,374,474	$24,121,007	$24,704,273
NOTES: Totals reflect Kentucky Power's 50% ownership share of the Mitchell Plant.		

5) **Mitchell Plant Capital Investments**

Kentucky Power's share of the 2020 actual and budgeted level of capital investment for the Mitchell Plant, as well as the Company's forecasted share of capital investment for 2021, are included below in Table 2.

In 2020, the Company's share of capital spending at the Mitchell Plant was $5.2 million compared to a budget of $16.5 million. Capital spending in 2020 was less than budgeted largely due to a deferral of bottom ash pond, haul road, and dry sorbent injection system capital investments. The increase in the 2021 budget, when compared to the 2020 budget, is primarily due to the projected cost of investments necessary to comply with Coal Combustion Residual (CCR) and Steam Electric Effluent Limitation Guidelines (ELG) regulations.

The Company's application in Case No. 2021-00004 currently is pending before the Commission. Kentucky Power is seeking a certificate of public convenience and necessity in Case No. 2021-00004 to perform the construction required to meet the CCR and ELG regulations to permit the Mitchell Plant to continue to operate until 2040.

Table 2

Mitchell Plant Capital Investment		
2020		2021
Actuals	Budget	Budget
$5,223,708	$16,450,908	$21,379,706
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 Electrostatic Precipitators ("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 flue gas desulfurization ("FGD") systems for the reduction of sulfur dioxide ("SO_2") 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 alter the requirements set forth by these regulations. Because such activities have the potential to materially change the compliance options available to the Company in the future, all potential outcomes cannot be reasonably foreseen or estimated.

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 continue to 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; (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; and (e) the Federal EPA's regulation of greenhouse gas emissions from fossil-fueled electric generating units under Section 111 of the CAA.

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

National Ambient Air Quality Standards

The Federal EPA issued new, more stringent NAAQS for PM in 2012 and ozone in 2015. After review, in December 2020, the Federal EPA announced it will retain both standards without change. The existing standards for NOx and SO_2 were retained after review by the Federal EPA in 2018 and 2019, respectively. Implementation of all of these standards is underway.

The Federal EPA finalized non-attainment designations for the 2015 ozone standard in 2018. The Federal EPA confirmed that the CSAPR program satisfied all interstate transport obligations associated with the 2008 ozone standard, but the U.S. Court of Appeals for the District of Columbia Circuit ("D.C. Circuit") reversed that finding. The D.C. Circuit also remanded the 2015 secondary ozone standard, and it is reviewing Federal EPA's 2018 rule governing implementation of the 2015 ozone standard. The Federal EPA completed external review drafts of the integrated science assessment and policy assessment for the ozone standard in 2019. Any further changes will require additional rulemaking.

Regarding the NAAQS for SO_2, the West Virginia Department of Environmental Protection submitted a nonattainment State Implementation Plan with supporting modeling files, to EPA in late 2016 and provided a revised modeling report in 2019. The State Implementation Plan included a lower SO_2 emission rate for the Mitchell Plant than currently permitted, but still significantly higher than the plant's current emission rate. This lower SO_2 emission rate is currently in effect pursuant to a consent decree with the West Virginia Department of Environmental Protection and is not expected to negatively impact operations. For the remaining revised NAAQS, the scope and timing of potential requirements is uncertain. However, because both units at the Mitchell Plant have already been retrofitted with SCR and FGD systems, the risk from more stringent SO_2 and NO_x limits is expected to be manageable.

Cross-State Air Pollution Rule

In 2011, the Federal EPA issued CSAPR as a replacement for the Clean Air Interstate Rule, 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 SO_2 and NO_x allowances and individual state budgets to compel further emission reductions from electric utility generating units. Interstate trading of allowances is permitted on a restricted sub-regional basis.

Petitions to review the CSAPR were filed in the D.C. Circuit. In 2015, the court found that the Federal EPA over-controlled the SO_2 and/or NO_x budgets of 14 states. The court remanded the rule to the Federal EPA for revision consistent with the court's opinion while CSAPR remained in place.

In 2016, the Federal EPA issued a final rule, the CSAPR Update, to address the remand and to incorporate additional changes necessary to address the 2008 ozone standard. The CSAPR Update significantly reduced ozone season budgets in many states, and discounted the value of banked

CSAPR ozone season allowances beginning with the 2017 ozone season. The rule was challenged in the courts and in 2019, the D.C. Circuit remanded the CSAPR Update to the Federal EPA because it determined the Federal EPA had not properly considered the attainment dates for downwind areas in establishing its partial remedy, and should have considered whether there were available measures to control emissions from sources other than generating units. In late 2020, EPA proposed a Revised CSAPR Update Rule to address the Court's concerns. The proposed rule reduces the amount of ozone season NOx allowances in West Virginia's state budget and the number of allowances allocated to Mitchell beginning with the 2021 ozone season.

Collectively, the installed Mitchell Plant SCR and FGD systems' respective emission reductions of NO_x and SO_2, the use of allocated NO_X and SO_2 emission allowances in conjunction with adjusted banked allowances, and the purchase of additional allowances as needed through the open market will permit the Mitchell Plant to comply with CSAPR.

Mercury and Other Hazardous Air Pollutants Regulation

In 2012, the Federal EPA issued a rule addressing a broad range of Hazardous Air Pollutants ("HAPs") from coal and oil-fired power plants. 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 HAPs and dioxin/furans. Compliance was required within three years. The Company obtained administrative extensions for up to one year at several units to facilitate the installation of controls or to avoid a serious reliability problem.

In 2014, the D.C. Circuit denied all of the petitions for review of the 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 D.C. Circuit. The court remanded the MATS rule to the Federal EPA to consider costs in determining whether to regulate emissions of HAPs from power plants. In 2016, the Federal 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 Federal EPA's determination were filed in the D.C. Circuit. In 2018, the Federal 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 Federal 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 Federal 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 D.C. Circuit.

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 SO_2 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.

Climate Change, CO_2 Regulation, and Energy Policy

In 2015, the Federal EPA published the final CO_2 emissions standards for new, modified and reconstructed fossil fuel-fired steam generating units and combustion turbines, and final guidelines for the development of state plans to regulate CO_2 emissions from existing sources, known as the Clean Power Plan ("CPP").

The final rules were challenged in the courts. In 2016, the U.S. Supreme Court issued a stay on the final CPP, including all of the deadlines for submission of initial or final state plans, pending a final decision by the D.C. Circuit and any petitions for review to the U.S. Supreme Court. In 2017, the President issued an Executive Order directing the Federal EPA to reconsider the CPP and the associated standards for new sources. The Federal EPA filed a motion to hold the challenges to the CPP in abeyance, and issued a final rule repealing the CPP in 2019. The cases were then dismissed.

In 2019, the Federal EPA finalized the Affordable Clean Energy ("ACE") rule replacing the CPP with new emission guidelines for regulating CO_2 from existing sources. The ACE rule required states to evaluate the applicability and effect of implementing specific heat rate improvement measures at coal-fired generating units, and to develop a standard of performance for each affected unit within their jurisdiction. State plans were due in July 2022; however, in January 2021, the D.C. Circuit vacated the ACE rule and remanded it to the Federal EPA. It is too soon to predict how the Federal EPA will respond to the court's remand.

In 2018, the Federal EPA also proposed to revise the standards for new sources and determined that partial carbon capture and storage is not the best system of emission reduction because it is not available throughout the U.S. and is not cost-effective. That rule has not been finalized.

Coal Combustion Residuals Rule

In 2015, the Federal EPA published a final rule to regulate the disposal and beneficial re-use of Coal Combustion Residuals ("CCR"), including fly ash and bottom ash generated at coal-fired electric generating units and FGD gypsum generated at some coal-fired plants. The rule applies to new and existing CCR landfills and CCR surface impoundments at operating electric utility or independent power production facilities. The rule imposes construction and operating obligations, including location restrictions, liner criteria, structural integrity requirements for impoundments, operating criteria and additional groundwater monitoring requirements to be implemented on a schedule spanning an approximate four-year implementation period. In 2018, some AEP operating company facilities were required to begin monitoring programs to determine if unacceptable groundwater impacts will trigger future corrective measures. Based on additional groundwater data, further studies to design and assess appropriate corrective measures have been undertaken at two facilities.

In a challenge to the final 2015 rule, the parties initially agreed to settle some of the issues. In 2018, the D.C. Circuit addressed or dismissed the remaining issues in its decision vacating and remanding certain provisions of the 2015 rule. The provisions addressed by the court's decision, including changes to the provisions for unlined impoundments and legacy sites, will be the subject of further rulemaking consistent with the court's decision.

Prior to the court's decision, the Federal EPA issued the July 2018 rule that modifies certain compliance deadlines and other requirements in the 2015 rule. In December 2018, challengers filed a motion for partial stay or vacatur of the July 2018 rule. On the same day, the Federal EPA filed a motion for partial remand of the July 2018 rule. The court granted the Federal EPA's motion. During 2019 and 2020, Federal EPA proposed multiple rulemakings to address the court's decisions and stakeholder concerns. In August 2019, the Federal EPA published a proposal to revise the beneficial use criteria and definition of CCR piles. In December 2019, the Federal EPA published proposed revisions to implement the court's decision regarding timing for closure of unlined surface impoundments and impoundments not meeting the required distance from an aquifer. The comment period closed in January 2020. The Federal EPA also published a proposed federal CCR permit program in February 2020, implementing the Water Infrastructure Improvements for the Nation Act, which will apply in states that do not have a federally approved state CCR program. In March 2020, the Federal EPA published a proposed rule that would allow a facility to make an alternative demonstration to continue operating unlined surface impoundments. In August 2020, the Federal EPA finalized its proposed revisions to 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. One option is a retirement option. A second 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 Federal 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. AEP has submitted an application under the second option for additional time to develop alternative disposal capacity at the Mitchell plant. Still pending, the application must undergo formal review, including public comments, and be approved by the Federal EPA.

Because AEP operating companies currently use surface impoundments and landfills to manage CCR materials at generating facilities, 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.

Some surface impoundments and/or landfills in Virginia, West Virginia, and Kentucky have already been closed in place in accordance with state requirements. The Company will continue to participate in rulemaking activities and make adjustments based on new federal and state requirements affecting its ash disposal 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 U.S. 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, the Federal 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 Federal 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. 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. While the site-specific analysis to determine CCR Rule requirements at Mitchell Plant is ongoing, the existing dry fly ash handling and disposal systems will mitigate the impact of the CCR Rule on the plant's future compliance costs.

Clean Water Act Regulations

In 2014, the Federal 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.

In 2015, the Federal EPA issued a final rule revising ELG for generating facilities. The rule established limits on FGD wastewater, fly ash and bottom ash transport water and flue gas mercury control wastewater to be imposed as soon as possible after November 2018 and no later than December 2023. These requirements would be implemented through each facility's wastewater discharge permit. The rule was challenged in the U.S. Court of Appeals for the Fifth Circuit. In 2017, the Federal EPA announced its intent to reconsider and potentially revise the standards for FGD wastewater and bottom ash transport water. The Federal EPA postponed the compliance deadlines for those wastewater categories to be no earlier than 2020, to allow for reconsideration. In April 2019, the Fifth Circuit vacated the standards for landfill leachate and legacy wastewater, and remanded them to the Federal EPA for reconsideration. Those standards have not been reissued. In November 2019, the Federal EPA proposed revisions to the standards for FGD wastewater and bottom ash transport water discharges from existing generation facilities. A final rule was published in the Federal Register on October 13, 2020, establishing 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 is published but no later than December 2025. The Company has assessed technology additions and retrofits to comply with the rule and the impacts of the Federal EPA's

recent actions on facilities' wastewater discharge permitting for FGD wastewater and bottom ash transport water. Permit modifications for affected facilities, including the Mitchell Plant, were filed in January 2021 that reflect the outcome of that assessment.

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 as part of its current renewal review of Mitchell Plant's National Pollutant Discharge Elimination System permit. If additional capital investment is required, the magnitude is expected to be relatively small compared to the investment that would be needed if the plant was not equipped with cooling towers, and would likely be limited to the installation of flow measurement equipment.

ATTACHMENT 1

Mitchell Generating Plant
Unplanned Outages
2020

Unit	Start Date	End Date	Duration [Hours]	Event Type	Event Description
Mitchell 1	1/2/2020 4:00	1/7/2020 23:00	139	MO	Inspect and repair phase 3 main transformer oil cooler and replace absorber 1D agitator seal.
Mitchell 1	1/7/2020 23:00	1/9/2020 14:20	39	MO	Inspect and repair #2 induced draft fan hub and replace the voltage regulator control board.
Mitchell 1	1/12/2020 7:00	1/21/2020 9:08	218	MO	Inspect and repair 200lb header check valve, 2 river water makeup system isolation valves and the #2 induced draft fan.
Mitchell 1	1/21/2020 9:08	1/22/2020 5:40	21	SF	Induced draft fan issues.
Mitchell 1	1/23/2020 23:59	1/27/2020 1:53	74	MO	Inspect and repair Hydraulic System to the # 2 ID Fan.
Mitchell 1	3/20/2020 8:49	3/26/2020 7:00	142	U1	Loss of air heater.
Mitchell 1	3/26/2020 7:00	4/11/2020 0:00	377	MO	Inspect and repair the pulverizer air duct, the T11 main turbine bearing oil leak, and the "A" oxygen air blower check valve, and repack the main steam attemperator hand shutoff valve.
Mitchell 1	4/11/2020 10:18	4/21/2020 3:42	233	U1	Main condenser tube leak.
Mitchell 1	5/30/2020 0:00	6/10/2020 1:44	266	MO	Inspect and repair ARV-542, FMO-74, induced draft fan and ductwork, furnace, and economizer.
Mitchell 1	6/13/2020 7:00	6/14/2020 3:30	21	MO	Auxiliary boiler tube leak.
Mitchell 1	6/15/2020 10:05	6/15/2020 18:47	9	SF	Auxiliary boiler issues.
Mitchell 1	7/21/2020 22:33	7/29/2020 16:00	185	U3	Inspect and repair #10 & #11 main turbine bearings.
Mitchell 1	7/29/2020 16:00	7/31/2020 0:00	32	MO	Boiler deslag.
Mitchell 1	8/5/2020 7:00	8/7/2020 0:00	41	MO	Inspect and repair UMO-251, turbine exhaust hood spray valves, and FGD absorber mist eliminator wash valves.
Mitchell 1	8/16/2020 0:00	8/21/2020 0:00	120	MO	Inspect and repair #2 induced draft (ID) fan and main condenser, and replace #1 ID fan lube oil pump.
Mitchell 1	8/21/2020 10:12	8/21/2020 15:10	5	U1	Flashtank return valve (UMO-201).
Mitchell 1	8/22/2020 20:12	8/29/2020 19:45	168	U1	Feed tank A" and "B" agitators out of service.
Mitchell 1	12/7/2020 7:00	12/16/2020 20:30	230	MO	Rebuild the Uninterruptible Power Supply (UPS) inverters.
Mitchell 1	12/20/2020 20:50	12/21/2020 8:20	12	SF	Generator exciter fan issues & oil leak between 8 & 9 turbine bearings.
Mitchell 2	1/12/2020 7:00	1/16/2020 15:14	104	MO	Inspect and repair the 200lb header check valve, 2 river water makeup system isolation valves, plant air control valve, and #1 and #2 induced draft fan hub oil levels.
Mitchell 2	3/20/2020 0:55	3/26/2020 0:00	143	MO	Inspect and repair a leak on the #3 hydrogen cooler inlet piping, the boiler, waste water sump discharge header, condenser tube leaks, precipitator, Trona vin vent filter, "C" oxygen air blower, boiler safety valves, and cooling tower.
Mitchell 2	3/26/2020 0:00	3/30/2020 23:48	120	MO	FGD Service Water Strainer and Bypass Valve i/r, Sparger Vessel Safety Valve i/r, CO2 Tank Hand Shutoff packing repairs, Coal handling feed Throw Over Switch repairs, Waste Water Sump Discharge Header Isolation Valves i/r, ARV-542 Hand Shut-off Valve work
Mitchell 2	4/25/2020 0:00	5/8/2020 0:00	312	MO	Inspect and repair the clarite filter impulse lines, cracks in the waste water sump ring header, bottom ash line leaks and drain valve, furnace slope jets, electrohydraulic control pump expansion joints, bus duct damper and motor, #1 induced draft fan lube oil filter, and nondestructive examination of the circulating water pump shafts.
Mitchell 2	6/9/2020 14:38	6/21/2020 16:28	290	U1	Cracked weld on the line from the hydrostatic test pump to the economizer inlet header.
Mitchell 2	6/21/2020 16:28	6/29/2020 0:04	176	MO	Install economizer inlet pad welds.
Mitchell 2	8/22/2020 20:12	8/31/2020 12:19	208	U1	Feed tank A" and "B" agitators out of service.
Mitchell 2	8/31/2020 12:19	9/6/2020 23:51	156	MO	Inspect and repair main condenser tube leaks, deaerator recirculation line, cooling tower deck, and FRV-13.
Mitchell 2	9/9/2020 7:00	9/11/2020 16:00	57	MO	Inspect and repair cooling tower hot deck, drip pot leak, and 1st Reheat Baker valve, repack DMO-151, replace UMO-102, and replace IRV-1.
Mitchell 2	9/22/2020 7:00	9/23/2020 17:30	35	MO	Upgrade the generator stator water temperature indicators.
Mitchell 2	10/9/2020 0:00	10/9/2020 16:54	17	MO	Repair the common service water header.

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	shutdown.
U1	Unplanned (Forced) Outage - requires immediate removal from service
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
2020

Unit	Year	Month	Forced Outage Rate [%]	Equivalent Forced Outage Rate [%]	Equivalent Availability Factor [%]	Net Capacity Factor [%]	Net Heat Rate [Btu/kWh]
Mitchell 1	2020	Jan	11.35	24.31	30.87	11.36	11195
Mitchell 1	2020	Feb	0.00	1.11	98.47	47.79	10676
Mitchell 1	2020	Mar	23.46	23.48	61.45	30.48	10458
Mitchell 1	2020	Apr	49.69	49.99	34.05	15.34	11046
Mitchell 1	2020	May	0.00	0.71	91.96	43.73	10654
Mitchell 1	2020	Jun	2.33	4.45	64.49	26.67	10693
Mitchell 1	2020	Jul	26.95	27.13	69.71	40.98	10607
Mitchell 1	2020	Aug	71.97	71.97	54.00	5.00	11005
Mitchell 1	2020	Sep	0.00	15.67	86.22	27.58	11597
Mitchell 1	2020	Oct	0.00	0.00	4.61	4.25	11132
Mitchell 1	2020	Nov	0.00	0.00	17.11	0.00	0
Mitchell 1	2020	Dec	4.30	5.43	67.11	17.01	10476
Mitchell 1	2020	Jan-Dec	16.66	19.16	56.51	22.43	10775

Unit	Year	Month	Forced Outage Rate [%]	Equivalent Forced Outage Rate [%]	Equivalent Availability Factor [%]	Net Capacity Factor [%]	Net Heat Rate [Btu/kWh]
Mitchell 2	2020	Jan	0.00	7.48	82.02	29.88	10645
Mitchell 2	2020	Feb	0.00	5.54	92.45	55.07	10362
Mitchell 2	2020	Mar	0.00	4.22	60.34	33.68	10156
Mitchell 2	2020	Apr	0.00	0.00	80.00	0.00	0
Mitchell 2	2020	May	0.00	3.51	14.05	9.50	10311
Mitchell 2	2020	Jun	58.38	58.38	31.86	16.01	10284
Mitchell 2	2020	Jul	0.00	2.16	96.91	52.64	10167
Mitchell 2	2020	Aug	28.42	30.05	67.96	42.15	10400
Mitchell 2	2020	Sep	0.00	0.00	67.31	0.00	0
Mitchell 2	2020	Oct	0.00	1.32	97.19	26.33	10587
Mitchell 2	2020	Nov	0.00	14.78	84.84	53.11	10846
Mitchell 2	2020	Dec	0.00	0.22	97.11	43.99	10346
Mitchell 2	2020	Jan-Dec	9.89	14.40	72.64	30.20	10422