**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

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| An Electronic Examination Of The Application Of The Fuel Adjustment Clause Of Kentucky Power Company From November 1, 2020 Through October 31, 2022 | ) ) ) ) | Case No. 2023-00008 |

# ERRATA DIRECT TESTIMONY OF

# DOUGLAS J. ROSENBERGER

# ON BEHALF OF KENTUCKY POWER COMPANY

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## I. INTRODUCTION

**Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.**

A. My name is Douglas J. Rosenberger and my business address is Mitchell Generating Station, 8999 Energy Road, Moundsville, WV 26041. I am the Plant Manager at the Mitchell Generating Station for Wheeling Power Company ("Wheeling Power") and Kentucky Power Company ("Kentucky Power" or the "Company"). Wheeling Power and Kentucky Power are wholly-owned subsidiaries of American Electric Power Company, Inc. ("AEP").

## II. BACKGROUND

**Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.**

A. I hold a Bachelor of Science in Electrical Engineering from Rose-Hulman Institute of Technology and have been employed with AEP for 31 years. I have worked at various power plants across the AEP system as an Engineer, Maintenance Supervisor, Process Owner, Maintenance Superintendent, Operations Superintendent and Plant Manager.

**Q. WHAT ARE YOUR PRINCIPAL AREAS OF RESPONSIBILITY WITH KENTUCKY POWER?**

A. As Plant Manager I am responsible for the safe, reliable and economic operation of the Mitchell Generating Station. Specifically, I plan, organize, coordinate, direct, and control plant activities, including the operations, maintenance, engineering and construction

activities of the plant facilities. I also oversee plant budgets and interface with other AEP functional groups such as accounting, regulatory, and commercial operations to ensure the needs of the generation station are met.

**Q. HAVE YOU PREVIOUSLY TESTIFIED IN ANY REGULATORY PROCEEDINGS?**

A. Yes. I have previously testified before the Public Service Commission of Kentucky ("Commission") in Kentucky Power's previous two-year fuel adjustment clause hearing (Case No. 2021-00053), and sponsored discovery responses in the Company's last seven fuel adjustment clause cases (Case Nos. 2022-00263, 2022-00036, 2021-00292, 2021-00053, 2020-00245, 2020-00004, and 2019-00226).

## III. PURPOSE OF TESTIMONY

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

A. My testimony lists and describes any Planned or Maintenance Outages that lasted longer than the original estimated end time during the Review Period of November 1, 2020 to October 31, 2022. Further, I will discuss the actions taken by Kentucky Power to address and remedy the factors that extended the outages, and to minimize each extension duration.

## IV. MITCHELL EXTENDED PLANNED AND MAINTENANCE OUTAGES

**Q. PLEASE DESCRIBE KENTUCKY POWER'S PRACTICES GENERALLY WITH RESPECT TO OPERATING AND MAINTAINING THE MITCHELL PLANT.**

A. The Company utilizes a robust inspection and Circular Letter Program established by American Electric Power's Corporate Engineering Group. The Circular Letter Program is a very detailed, written set of requirements and recommendations for how to operate and maintain each generating unit focusing on critical equipment. Each generating plant

strongly adheres to the Circular Letter Program and is audited to ensure adherence. The Circular Letter Program, for example, spells out required inspection and replacement intervals for critical equipment based on industry standards, Original Equipment Manufacturer's recommendations, and past experience and expertise. This enables the generating plants to plan several years in advance for planned outage scopes to maintain or improve generating unit availability.

The Company's inspection and maintenance practices allow for not only known issues to be addressed and resolved, but also for discovery of potential issues not previously known. The nature of the operation of generating units brings occasional mechanical issues and the sooner the issues are discovered the better the Company can resolve them in a timely manner.

**Q. PLEASE EXPLAIN THE DIFFERENT TYPES OF OUTAGES OR REASONS THAT MAY RESULT IN A UNIT NOT RUNNING.**

A. Below are the types of outages that a generating unit can experience:

- A Planned Outage is an outage lasting several weeks to perform work on major equipment groups that is not promptly required for the safe operation of the unit. Planned Outages are scheduled approximately a year in advance and the dates of the Planned Outages are approved by PJM.
- In a Reserve Shutdown Outage the unit is available for generation, but it is placed in stand-by status by PJM because the generation is not needed on the grid at that time.
- Maintenance Outages are shorter in duration (seven to ten days) than Planned Outages and involve emerging issues that typically must be addressed before the next Planned Outage.
- A Forced Outage is an unplanned outage needed 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.

Planned Outages and Maintenance Outages are required to maintain the generating units to ensure the units operate safely, efficiently and prevent issues from causing forced outages or de-rates during times when the units are economic.

**Q. PLEASE LIST THE PLANNED OR MAINTENANCE OUTAGES THAT WERE EXTENDED BEYOND THE ORIGINAL ESTIMATED END DATE DURING THE REVIEW PERIOD.**

A. Mitchell Plant had three Planned and six Maintenance Outages that were extended beyond the original estimated end date during the Review Period. They are listed in Table DJR-1 below with the original planned dates and the actual dates after the extension.

**Table DJR-1**
**Mitchell Maintenance & Planned Outages Extended During Reporting Period**

| Outage Number | Unit | Outage Type | Original Start Date | Original End Date | Original Outage Length (Days) | Actual Start Date | Actual End Date | Actual Outage Length (Days) |
|---|---|---|---|---|---|---|---|---|
| 1 | Mitchell 1 | Planned | 10/3/2020 | 11/15/2020 | 44 | 10/3/2020 | 11/25/2020 | 54 |
| 2 | Mitchell 1 | Planned | 10/16/2021 | 11/21/2021 | 37 | 10/16/2021 | 12/12/2021 | 58 |
| 3 | Mitchell 2 | Planned | 9/10/2022 | 12/5/2022 | 87 | 9/10/2022 | 12/16/2022 | 98 |
| 4 | Mitchell 1 | Maintenance | 1/23/2021 | 2/1/2021 | 9 | 1/23/2021 | 2/4/2021 | 12 |
| 5 | Mitchell 1 | Maintenance | 7/16/2021 | 7/22/2021 | 5 | 7/16/2021 | 7/23/2021 | 6 |
| 6 | Mitchell 1 | Maintenance | 4/15/2022 | 4/18/2022 | 3 | 4/14/2022 | 4/19/2022 | 5 |
| 7 | Mitchell 2 | Maintenance | 6/26/2021 | 7/4/2021 | 8 | 6/26/2021 | 7/4/2021 | 8 |
| 8 | Mitchell 2 | Maintenance | 10/22/2021 | 10/30/2021 | 7 | 10/22/2021 | 11/6/2021 | 14 |
| 9 | Mitchell 2 | Maintenance | 2/20/2022 | 3/6/2022 | 14 | 2/20/2022 | 3/26/2022 | 34 |

**Q. PLEASE DESCRIBE THE REASON OUTAGE NUMBER 1 WAS EXTENDED IN TABLE DJR-1 ABOVE AND WHAT WAS DONE TO ADDRESS THE EXTENSION?**

A. This Planned Outage was taken to replace the number 11 ID fan regulating hub, inspect and repair the boiler, and inspect and repair the electrostatic precipitator. The Planned Outage was extended beyond the original end date due to problems that occurred while installing the number 11 induced draft fan regulating hub and actuator. The actuator would not operate properly after installation. AEP Engineering and Original Equipment Manufacturer engineering were utilized to assess the problem and quickly develop the plan to correct. Contractor resources added nightshifts and Sunday shifts where possible to minimize the extension safely.

**Q. PLEASE DESCRIBE THE REASON OUTAGE NUMBER 2 WAS EXTENDED IN TABLE DJR-1 ABOVE AND WHAT WAS DONE TO ADDRESS THE EXTENSION?**

A. This Planned Outage was taken to replace the fourth layer of catalyst in the Selective Catalytic Reduction System (SCR), replace the boiler feed pump rotating element, and inspect and repair the boiler. The Planned Outage was extended beyond the original end date due to problems and a significant contractor safety event that occurred during the catalyst replacement. This project was the critical path of the outage. A critical path for an outage is the project with the longest duration and that will dictate the length of the outage. During the delay, manpower loading and work schedules were modified to include weekends and nights where applicable. AEP Engineering was utilized to assess the problem found and quickly develop the plan to correct. Contractor resources added Sunday shifts where possible to minimize the extension safely, in addition to these resources already working a dayshift and a nightshift six days a week.

**Q. PLEASE DESCRIBE THE REASON OUTAGE NUMBER 3 WAS EXTENDED IN TABLE DJR-1 ABOVE AND WHAT WAS DONE TO ADDRESS THE EXTENSION?**

A. This Planned Outage was taken to replace the boiler air heater baskets, repair the cooling tower, replace low pressure turbines A & B, and inspect and repair the boiler. The Planned Outage was extended beyond the original end date due to problems found inside both air heaters during planned inspections performed in the outage. The stay plates (critical components inside the air heaters to hold the air heater baskets in place) were found eroded beyond repair and had to be completely replaced. Once this problem was found materials had to be located and procured. During the delay manpower loading and work schedules were modified to include weekends and nights where applicable. AEP Engineering was utilized to assess the problem found and quickly develop the plan to correct. Contractor resources added Sunday shifts where possible to minimize the extension safely.

**Q. PLEASE DESCRIBE THE REASON OUTAGE NUMBER 4 WAS EXTENDED IN TABLE DJR-1 ABOVE AND WHAT WAS DONE TO ADDRESS THE EXTENSION?**

A. This Maintenance Outage was taken to locate and repair a condenser tube leak, inspect and repair the number 11 turbine bearing, inspect and repair the number 16 pulverizer, and inspect and repair the boiler. The Maintenance Outage was extended beyond the original end date due to difficulties locating the condenser tube leak and then repairing the leak. A third-party contractor that utilizes a helium leak detection system was brought in to assist locating the leak. Once the leak was located, the contractor resources added nightshifts and Sunday shifts where possible to minimize the extension safely.

**Q. PLEASE DESCRIBE THE REASON OUTAGE NUMBER 5 WAS EXTENDED IN TABLE DJR-1 ABOVE AND WHAT WAS DONE TO ADDRESS THE EXTENSION?**

A. This Maintenance Outage was taken to repair the number 11 induce draft fan pitch blade operator, install the number 11A circulating water pump, and inspect and repair the boiler. The Maintenance Outage was extended beyond the original end date due to the extent of the problems found with the induced draft fan pitch blade actuator. During inspections and troubleshooting it was determined the actuator had to be disassembled and rebuilt, which was not expected. Contractor resources added nightshifts and Sunday shifts where possible to minimize the extension safely.

**Q. PLEASE DESCRIBE THE REASON OUTAGE NUMBER 6 WAS EXTENDED IN TABLE DJR-1 ABOVE AND WHAT WAS DONE TO ADDRESS THE EXTENSION?**

A. This Maintenance Outage was taken to inspect and repair the deaerator level control valve, inspect and repair the boiler, and repair a hydraulic oil leak on the reheat turbine stop valve. The Maintenance Outage was extended beyond the original end date due to problems found with the deaerator control valve. During inspections and troubleshooting it was determined the valve had to be disassembled to repair an internal problem that was not expected. Contractor resources added nightshifts and Sunday shifts where possible to minimize the extension safely.

**Q. PLEASE DESCRIBE THE REASON OUTAGE NUMBER 7 WAS EXTENDED IN TABLE DJR-1 ABOVE AND WHAT WAS DONE TO ADDRESS THE EXTENSION?**

A. This Maintenance Outage was taken to repair the electrostatic precipitator inlet duct and repair the agitator seal and level probe B on the flue gas desulfurization absorber. The Maintenance Outage was extended beyond the original end date and time due to repairs to the electrostatic precipitator inlet section structural steel taking longer than estimated by four hours. The Contractor was already working the most aggressive schedule possible safely including night shift and weekends.

**Q. PLEASE DESCRIBE THE REASON OUTAGE NUMBER 8 WAS EXTENDED IN TABLE DJR-1 ABOVE AND WHAT WAS DONE TO ADDRESS THE EXTENSION?**

A. This Maintenance Outage was taken to repair a hydraulic line leak on the turbine number 1 control valve, inspect and repair the boiler, inspect and repair unit motor-operated valve 803, inspect and repair feedwater motor-operated valve 101, and inspect and repair the dry flyash system. The Maintenance Outage was extended beyond the original end date due to a hydraulic line leak on the turbine number 1 control valve. The leak was located where the hydraulic line attaches to the turbine number 1 control valve body. Because this repair was going to involve working on the valve body itself it required additional engineering support to develop the repair plan to prevent future failures and potential safety issues. AEP resources were allocated to minimize the extension safely which included night shift and weekends.

**Q. PLEASE DESCRIBE THE REASON OUTAGE NUMBER 9 WAS EXTENDED IN TABLE DJR-1 ABOVE AND WHAT WAS DONE TO ADDRESS THE EXTENSION?**

A. This Maintenance Outage was taken to inspect and repair the electrostatic precipitator, inspect and repair the boiler, inspect and repair a leak in the deaerator, inspect and repair several valves, and inspect and repair flue gas desulfurization system. The Maintenance Outage was extended beyond the original end date due to problems found inside the electrostatic precipitator inlet section. Extensive pluggage (very hard ash built up across approximately 60% of the electrostatic precipitator inlet section) was found unexpectedly in the inlet section preventing proper distribution of steam generator exit gas flow across the electrostatic precipitator. The extensive pluggage was not expected and required considerable employee hours to remove. Contractor resources added nightshifts and Sunday shifts where possible to minimize the extension safely.

## V. COAL CONSUMPTION DURING RESERVE SHUTDOWN

**Q. HOW IS COAL CONSUMPTION RECORDED FOR A UNIT THAT IS IN RESERVE SHUTDOWN?**

A. When a unit is in reserve shutdown it is not running or in service. Therefore, coal is neither consumed nor recorded.

## VI. CONCLUSION

**Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

A. Yes, it does.

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# Rosenberger Testimony Verification Form.doc

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## E-Signature Summary

**E-Signature 1: Douglas J Rosenberger (DJR)**
February 05, 2024 12:21:17 -8:00 [659628051734] [167.239.221.104]
djrosenberger@aep.com (Principal) (Personally Known)

**E-Signature Notary: Marilyn Michelle Caldwell (MMC)**
February 05, 2024 12:21:17 -8:00 [FEF60A4F9924] [167.239.221.101]
mmcaldwell@aep.com
I, Marilyn Michelle Caldwell, did witness the participants named above electronically sign this document.

## VERIFICATION

The undersigned, Douglas J. Rosenberger, being duly sworn, deposes and says he is the Mitchell Plant Manager for Kentucky Power Company, that he has personal knowledge of the matters set forth in the foregoing testimony and the information contained therein is true and correct to the best of his information, knowledge, and belief after reasonable inquiry.

Douglas J Rosenberger

Douglas J. Rosenberger

Commonwealth of Kentucky )
) Case No. 2023-00008
County of Boyd )

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Douglas J. Rosenberger, on February 5, 2024.

Notary Public

MARILYN MICHELLE CALDWELL
ONLINE NOTARY PUBLIC
STATE AT LARGE KENTUCKY
Commission # KYNP71841
My Commission Expires May 05, 2027

Notarial act performed by audio-visual communication

My Commission Expires May 5, 2027

Notary ID Number KYNP71841