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March 1, 2016

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HAND DELIVERED

James W. Gardner
Acting Executive Director
Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602-0615

RE: Case No. 2012-00578

Dear Chairman Gardner:

Enclosed please find and accept for filing the original and ten copies of Kentucky Power Company's Annual Status Report regarding the Mitchell generating station. It is being filed in accordance with Ordering Paragraph 6 of the Commission's October 7, 2013 Order in the above matter.

Please do not hesitate to contact me if you have any questions.

Very truly yours,

Mark R. Overstreet

MRO
Enclosure
cc: Michael L. Kurtz
Rebecca Goodman
Shannon Fisk
Joe F. Childers

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, 2016 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: Plant Performance Data

i. Net Capacity Factor
ii. Equivalent Forced Outage Rate ("EFOR")
iii. Equivalent Availability Factor
iv. Net Unit Heat Rate

Attachment 2: Unplanned System Outages

2) **Mitchell Plant Performance**

Attachment 1 to this report includes performance data for Mitchell Unit 1 (ML1) & Unit 2 (ML2). ML1 had a 10% improvement of year-to-date EFOR compared to its 2014 performance.

The performance of ML1 was affected in April 2015 by unplanned outages that occurred in the 11 days preceding the planned outage of the unit. Because of the way EFOR is calculated, the portions of the month in which a unit is in a planned outage are not included in the calculation. Thus the timing of these unplanned outages resulted in a high calculated EFOR for the month of April.

3) **Mitchell Plant Unplanned System Outages**

Attachment 2 to this report shows the unplanned outage events that occurred at ML1 & ML2 during the 2015 calendar year. The longest outage event at ML1 was a forced outage in December caused by a boiler feed pump thrust bearing failure. The unit was repaired and returned to service within 10 days. The longest outage at ML 2 was 18-day maintenance outage in October to repair the main turbine backup oil pump.

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

The 2015 budgeted and actual O&M expenses for the Mitchell Plant, as well as the budgeted O&M expenses for 2016, are included in Table 1 below. The actual O&M expense in 2015 was approximately $34.1 million, compared to a budgeted amount of approximately $30.4 million. This variance is mostly due to increased expenses for materials and supplies of $7.1 million, offset by a reduction of approximately $3.4 million in outside services as compared to budgeted levels.

The 2016 budgeted O&M expense of $20.7 million is approximately $14 million less than 2015 actuals. This decrease is driven primarily by an approximately $11 million reduction in scheduled outage spending for 2016.

Table 1

Mitchell Plant O&M Expense		
2015		2016
Actuals	Budget	Budget
$34,072,277	$30,404,062	$20,713,055

NOTES:

Totals reflect the 50% of Mitchell Plant owned by KPCo

5) Mitchell Plant Capital Investments

The 2015 actual and budgeted level of capital investment for the Mitchell Plant, as well as the forecasted capital investment for 2016, are included in Table 2.

In 2015, capital spending at the Mitchell Plant was approximately $22.6 million compared to a budget of $18.2 million. Actual costs were greater than budgeted costs primarily due to major capital projects being shifted into 2015 from 2014, such as control upgrades, coping power addition, cooling tower blowdown, and the replacement of an Induced Draft Fan.

The decreased capital expenditures budgeted for 2016 are reflective of the completion of major environmental projects at the plant, such as the dry fly ash conversion and landfill construction.

Table 2

Mitchell Plant Capital Investment		
2015		2016
Actuals	Budget	Budget
$22,603,240	$18,152,553	$7,468,377

NOTES:

Totals reflect the 50% of Mitchell Plant owned by KPCo

6) Discussion of Environmental Regulations and Potential Future Impacts

Mitchell Plant is impacted by air, water, and solid waste regulations. It has fully controlled units with respect to air emissions, meaning that they are equipped with Electrostatic Precipitators ("ESPs") for the removal of approximately 99% of particulate matter; 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 98%. These systems are instrumental in maintaining compliance with existing air pollution control regulations.

Mercury and Air Toxics Standards ("MATS Rule")

The MATS Rule is federal regulation under the Clean Air Act that creates additional environmental requirements for coal- and oil-fired electric generating units for emissions of hazardous air pollutants ("HAPs"). It became effective February 16, 2012 and had a compliance date of April 16, 2015. The emission parameters regulated by this rule are: 1) mercury; 2) several non-mercury metals such as arsenic, lead, cadmium and selenium; 3) various acid gases including hydrochloric acid ("HCl"); and 4) many organic HAPs. The rule establishes stringent emission rate limits for mercury, filterable particulate matter ("PM") as a surrogate for all non-mercury toxic metals, and HCl as a surrogate for all acid gases. Alternative emission limits were also established for the individual non-mercury metals and for sulfur dioxide ("SO_2") (alternate to HCl) for generating units that have operating FGD systems. The rule regulates organic HAPs through work practice standards.

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 HAPs. 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 2015.

Cross-State Air Pollution Rule ("CSAPR")

The CSAPR addresses National Ambient Air Quality Standards ("NAAQS") for ozone and particulate matter, and is focused on the reduction of emissions of SO_2 and NO_X from electric generating units in 28 eastern, southern, and mid-western states—including Kentucky, Indiana and West Virginia.[1] Along with other requirements, the final CSAPR established state-specific annual emission "budgets" for SO_2 and annual and seasonal budgets for NO_X. Based on this budget, each emitting unit within affected states was allocated a specified number of NO_x and SO_2 allowances for the applicable annual or ozone season (May-September) compliance period. Allowance trading within and between states is allowed on a regional basis.

Phase I of the CSAPR took effect on January 1, 2015. The CSAPR Phase 2 emission budgets will be applicable beginning in 2017. The emissions reductions of NO_x and SO_2 created by the SCR and FGD systems' respectively, allow the plant to operate in compliance with emission limits and minimize the cost of emission allowances needed to maintain compliance with both the 2015 and 2017 CSAPR budgets.

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[1] Final CSAPR issued by the USEPA on July 6, 2011 and published in the Federal Register on August 8, 2011.

On December 3, 2015, EPA published a proposed rule that would result in reductions in the ozone season NOx allowances for several states. West Virginia is among the states for which additional reductions are proposed. This proposed regulation was published in the Federal Register on December 3, 2015 and public comments were accepted through Feb. 1, 2016. A final rule is expected sometime in mid-2016. At this time it cannot reasonably be determined what effect this new proposal will ultimately have on the Mitchell Plant.

Clean Water Act ("316(b)") Rule

A final rule under Section 316(b) of the Clean Water Act became effective on October 14, 2014, affecting all existing power plants withdrawing more than two million gallons of cooling water per day. The rule offers seven technology options to comply with a standard that addresses impingement of aquatic organisms on cooling water intake screens, and requires those facilities withdrawing more than 125 million gallons per day to conduct site-specific compliance studies to address entrainment of organisms in cooling water systems. The overall goal of the rule is to decrease impacts on fish and other aquatic organisms from operation of cooling water systems. Additional requirements may be imposed as a result of consultation with other federal agencies to protect threatened and endangered species and their habitats.

Mitchell Plant cooling water withdrawal rate is 31 mgd, which 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 during Mitchell Plant's next National Pollutant Discharge Elimination System ("NPDES") permit renewal cycle. If additional capital investment is required, the amount is expected to be small compared to the cost that would be needed if the plant were not equipped with cooling towers.

Coal Combustion Residuals ("CCR") Rule

The CCR rule regulates flyash as a non-hazardous solid waste under Subtitle D of the Resource Conservation and Recovery Act. It became effective October 19, 2015. The CCR Rule is an extensive rule applicable to new and existing CCR landfills and CCR surface impoundments. It contains requirements for liner design criteria for new landfills, surface impoundment structural integrity requirements, CCR unit operating criteria, groundwater monitoring and corrective actions, closure and post-closure care, and recordkeeping, notification and internet posting obligations. EPA has not included a mandatory liner retrofit requirement for existing, unlined CCR surface impoundments; however operations must cease if groundwater monitoring data indicate there has been a release from the impoundment that exceeds applicable groundwater protection standards. The site-specific analysis of Mitchell Plant to determine the requirements under the final CCR Rule is currently on-going.

Installation of a groundwater monitoring network is in progress at the Mitchell Plant. Once established, sampling data for the groundwater monitoring will provide the information necessary to determine any further action with respect to the bottom ash pond. In addition, the Mitchell Plant has completed a dry fly ash conversion and dry ash landfill construction to meet current permit requirements. These projects, along with the groundwater monitoring network, have positioned the Mitchell Plant well for compliance with the CCR rulemaking.

Effluent Limitation Guidelines and Standards ("ELG")

On September 30, 2015 EPA finalized a revision to the Effluent Limitation Guidelines and Standards (ELG Rule) for the Steam Electric Power Generating category. The ELG Rule requires more stringent controls on certain discharges from certain electric generating units, and will set technology-based limits for waste water discharges from power plants. The main focus of the rule is on process water and wastewater from FGD, fly ash sluice water, bottom ash sluice water and landfill/pond leachate. Specifically, the ELG Rule will prohibit the discharge of fly ash and bottom ash transport water; while also will requiring physical/chemical/biological treatment for FGD wastewater.

Kentucky Power anticipates that wastewater treatment projects will be necessary at the Mitchell units and these have been considered as part of the long-term unit evaluations. Similar to the effect on CCR compliance mentioned above, Mitchell Plant's dry fly ash conversion and dry ash landfill construction should position the plant well for compliance with the final ELG rulemaking.

National Ambient Air Quality Standards ("NAAQS")

The Clean Air Act requires EPA to establish and periodically review the NAAQS designed to protect public health and welfare. Several NAAQS have been recently revised or are under review, which could lead to more stringent SO2 and NOx limits. This includes the NAAQS for SO_2 (last revised in 2010), NO_x (last revised in 2010), fine particulate matter (last revised in 2013), and ozone (last revised in 2015).

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.

Clean Power Plan ("CPP")

On August 3, 2015, EPA finalized the CPP, which establishes CO_2 emission guidelines for existing fossil generation sources under Section 111(d) of the Clean Air Act. The CPP establishes national CO_2 emission performance rates for fossil steam units (coal-, oil-, and gas-steam based units) and for stationary combustion turbines (which EPA defines as natural gas combined cycle units). From the national emission performance rates, EPA also developed equivalent state-specific emission goals and required the states to develop their state plan for compliance with both the interim and final goals. Also on August 5, 2015, EPA proposed a

Federal Implementation Plan ("FIP") to implement the CPP if states fail to submit or do not wish to develop an approvable state plan for compliance.

On February 9, 2016 the U.S. Supreme Court issued a stay of implementation of the CPP. The stay allows for an appropriate legal review of the CPP before state plans are developed. While Kentucky Power is currently in the process of reviewing the rulemaking and the court ruling to understand the impacts of both on Mitchell operations, its long-term commitment to serving its customers in a cost effective and environmentally responsible way remains unchanged.

Mitchell Generating Plant
Performance Data
2015

Mitchell Unit 1
Net Max Capacity: 770

Month	Forced Outage Rate (%)	Equiv Forced Outage Rate (%)	Equiv. Avail. Factor (%)	Net Cap. Factor (%)	Heat Rate Actual (BTU/KWH)
Jan 15	0.59	2.48	82.29	68.53	10,159
Feb 15	22.09	22.66	78.02	68.53	12,346
Mar 15	3.97	26.70	52.15	46.54	12,354
Q1 Total	**9.49**	**16.82**	**70.59**	**60.96**	**11,501**
Apr 15	100.00	100.00	0.31	0.00	0
May 15	8.14	10.37	39.89	27.34	9,973
Jun 15	1.00	2.93	96.11	75.91	10,034
Q2 Total	**6.60**	**8.54**	**45.38**	**34.34**	**10,019**
Jul 15	21.43	24.10	70.75	47.42	10,568
Aug 15	0.00	2.21	97.28	75.03	10,731
Sep 15	0.00	12.10	32.57	25.02	9,027
Q3 Total	**8.39**	**12.25**	**67.24**	**49.42**	**10,397**
Oct 15	0.00	0.00	0.00	0.00	0
Nov 15	0.00	2.03	53.19	38.22	10,612
Dec 15	42.79	44.62	65.46	30.98	10,420
Q4 Total	**25.36**	**27.28**	**39.41**	**22.91**	**10,525**
YTD TOTAL	11.44	15.69	55.60	41.82	10,734

Mitchell Unit 2
Net Max Capacity: 790

Month	Forced Outage Rate (%)	Equiv Forced Outage Rate (%)	Equiv. Avail. Factor (%)	Net Cap. Factor (%)	Heat Rate Actual (BTU/KWH)
Jan 15	0.00	6.11	72.89	65.82	9,536
Feb 15	0.00	1.79	96.30	76.71	11,617
Mar 15	0.00	0.00	0.00	0.00	0
Q1 Total	**0.00**	**3.96**	**55.09**	**46.56**	**10,608**
Apr 15	0.00	0.00	0.00	0.00	0
May 15	0.00	0.00	0.00	0.00	0
Jun 15	51.91	63.66	18.58	5.72	11,756
Q2 Total	**51.91**	**63.66**	**6.13**	**1.89**	**11,756**
Jul 15	1.63	3.84	95.63	77.36	9,628
Aug 15	8.88	12.44	69.95	51.26	10,187
Sep 15	0.00	1.94	97.15	71.18	9,896
Q3 Total	**3.07**	**5.56**	**87.47**	**66.55**	**9,867**
Oct 15	55.69	55.69	31.05	1.93	12,244
Nov 15	17.67	19.82	61.40	40.47	9,756
Dec 15	37.49	37.56	62.05	54.12	9,037
Q4 Total	**30.87**	**31.72**	**51.40**	**32.09**	**9,398**
YTD Total	11.69	14.53	50.11	36.81	10,019

Mitchell Generating Plant
Unplanned Outages
2015

Kentucky Power Co.
01/01/2015 To 12/31/2015
Mitchell Unit 1

			HOURS OF DURATION		
Month	**From**	**To**	**Unplanned**	**Event Type**	**Reason for Outage**
January	1/2/2015 01:07 AM	1/6/2015 08:45 PM	115.6	MO	Inspect / Repair ESP
January	1/9/2015 04:16 PM	1/9/2015 07:50 PM	3.6	U1	Unit trip d/t bad absorber temperature probe indication on FGD system.
February	2/5/2015 02:14 PM	2/10/2015 04:00 AM	109.8	U3	Duct Work Leaking causing opacity to be out of control
February	2/11/2015 06:53 PM	2/13/2015 02:37 AM	31.7	U1	Hydraulic oi leak internal of #11 I.D. Fan
March	3/10/2015 12:45 PM	3/10/2015 09:00 PM	8.3	U1	Loss of 4kv buss due to DC Ground
March	3/10/2015 09:00 PM	3/17/2015 04:10 AM	151.2	MO	Slag/Clinker Removal
March	3/17/2015 12:00 PM	3/20/2015 11:30 AM	71.5	MO	Due to #11 ID Fan Vibration
March	3/31/2015 12:42 PM	4/1/2015 02:45 PM	26.1	U3	Repair 12 ID fan hyd leak
April	4/1/2015 05:00 PM	4/2/2015 04:10 PM	23.2	U1	Economizer leak.
April	4/2/2015 04:10 PM	4/11/2015 12:00 AM	199.8	MO	ID Fan Repairs
May	5/21/2015 02:25 AM	5/22/2015 04:05 AM	25.7	U3	Deaerator Leak
June	6/1/2015 08:14 AM	6/1/2015 03:26 PM	7.2	U1	Loss of Unit ID Fans
July	7/11/2015 12:19 AM	7/13/2015 05:00 PM	64.7	MO	DC ground investigation
July	7/18/2015 12:08 AM	7/23/2015 04:05 PM	136.0	U2	RH tube leak
December	12/1/2015 03:29 AM	12/10/2015 04:00 PM	228.5	U1	Due to Boiler Feed Pump Thrust Bearing. Unit was tripped due to vibrations on #3 and #4 bearings reaching 10 mils. Temperature on thrust was in excess of 300 degrees.
December	12/22/2015 02:53 PM	12/23/2015 12:56 AM	10.1	U1	ID Fan Motor Overload Trip
December	12/23/2015 01:02 PM	12/23/2015 08:55 PM	7.9	U1	ID fan

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 - required removal from service within 6 hours
U3	Unplanned (Forced) Outage - can be postponed beyond 6 hours but requires removal from service before the end of the next weekend

Mitchell Generating Plant
Unplanned Outages
2015

Kentucky Power Co.

01/01/2015 To 12/31/2015

Mitchell Unit 2

			HOURS OF DURATION		
Month	**From**	**To**	**Unplanned**	**Event Type**	**Reason for Outage**
January	1/28/2015 01:42 AM	2/1/2015 12:00 AM	94.3	MO	Precipitator Inspection & Repairs
February	2/28/2015 01:23 PM	3/7/2015 12:00 AM	154.6	MO	Tube Leak
June	6/15/2015 12:00 AM	6/20/2015 02:30 AM	122.5	MO	Incorrect grade of babbitt in T-9 Bearing
June	6/21/2015 10:24 AM	6/23/2015 05:24 PM	55.0	U1	#22 ID fan blade control problems
June	6/24/2015 09:05 AM	6/24/2015 07:02 PM	10.0	SF	Start Up Failure
June	6/27/2015 02:49 AM	6/28/2015 06:00 PM	39.2	U2	High Turbine Vibration
June	6/14/2015 11:59 PM	6/15/2015 12:00 AM	0.0	U1	Incorrect grade of babbitt in T-9 Bearing
July	7/22/2015 05:59 PM	7/23/2015 06:00 AM	12.0	U1	Loose connection in the IO cabinet for the ID fans
August	8/6/2015 01:25 AM	8/12/2015 08:00 AM	150.6	MO	200lb. header and 21A circulator isolation valve repair
August	8/19/2015 04:35 PM	8/20/2015 12:42 AM	8.1	U1	Low absorber levels due to false Indications; ID Fan Issues
August	8/27/2015 11:10 PM	8/29/2015 12:30 AM	25.3	U3	Injection Water Leak
August	8/29/2015 09:52 AM	8/30/2015 02:15 AM	16.4	U1	Main Attemperator Root Valveblown packing
October	10/2/2015 10:00 AM	10/10/2015 01:05 AM	183.1	MO	Due to 200 lb header repairs and boiler fill valve
October	10/15/2015 04:00 AM	10/16/2015 12:00 AM	20.0	MO	Maint outage to inspect aux condenser
October	10/18/2015 02:30 PM	10/19/2015 09:25 PM	30.9	U1	Leak downstream of UMO-103 (Above Seat Drain).
October	10/20/2015 09:00 AM	11/7/2015 05:45 AM	428.8	MO	Main Turbine Backup Oil PP
November	11/23/2015 02:17 AM	11/26/2015 06:28 AM	76.2	U2	Removing Unit from service due to a suspected water wall tube leak.
November	11/26/2015 06:28 AM	11/26/2015 02:35 PM	8.1	U1	Removing Unit from service due to a suspected water wall tube leak.
November	11/26/2015 02:35 PM	11/27/2015 08:02 PM	29.5	MO	Coal leak and precip. repairs
December	12/20/2015 09:03 AM	1/2/2016 02:30 AM	279.0	U1	Expansion joint failure

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 - required removal from service within 6 hours
U3	Unplanned (Forced) Outage - can be postponed beyond 6 hours but requires removal from service before the end of the next weekend