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September 13, 2017

VIA FEDERAL EXPRESS

John S. Lyons
Acting Executive Director
Public Service Commission
211 Sower Boulevard, P.O. Box 615
Frankfort, Kentucky 40602-0615

RECEIVED

SEP 14 2017

PUBLIC SERVICE
COMMISSION

Re: *In the Matter of: An Examination of the Application of
the Fuel Adjustment Clause of Big Rivers Electric Corporation
from November 1, 2016 through April 30, 2017*
Case No. 2017-00287

Dear Mr. Lyons:

Enclosed for filing are an original and ten copies of Big River Electric Corporation's revised response to Item 7 of the information requested in the appendix to the Public Service Commission's August 30, 2017, order in the above-referenced matter.

I certify that on this date, a copy of this letter and a copy of the revised response were served on each of the persons listed on the attached service list by first-class mail.

Sincerely,

Tyson Kamuf

TAK/abg

Enclosures

cc: Service List

Service List
PSC Case No. 2017-00287

Michael L. Kurtz, Esq.
Kurt J. Boehm, Esq.
Jody Kyler Cohn, Esq.
BOEHM, KURTZ & LOWRY
36 East Seventh Street, Suite 1510
Cincinnati, Ohio 45202

ORIGINAL



Your Touchstone Energy® Cooperative 

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SEP 14 2017

PUBLIC SERVICE
COMMISSION

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

**AN EXAMINATION OF THE APPLICATION)
OF THE FUEL ADJUSTMENT CLAUSE)
OF BIG RIVERS ELECTRIC CORPORATION)
FROM)
NOVEMBER 1, 2016 THROUGH APRIL 30, 2017)**

**Case No.
2017-00287**

***Revised* Response to Item 7 of
Commission Staff's Request for Information
dated
August 30, 2017**

FILED: September 14, 2017

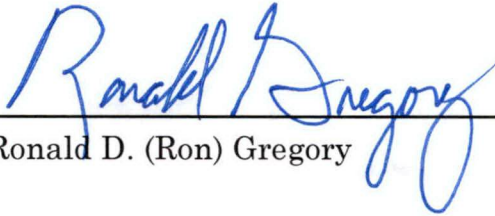
ORIGINAL

BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT
CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
FROM NOVEMBER 1, 2016 THROUGH APRIL 30, 2017
CASE NO. 2017-00287**

VERIFICATION

I, Ronald D. (Ron) Gregory, verify, state, and affirm that the revised data request response filed with this verification for which I am listed as a witness are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



Ronald D. (Ron) Gregory

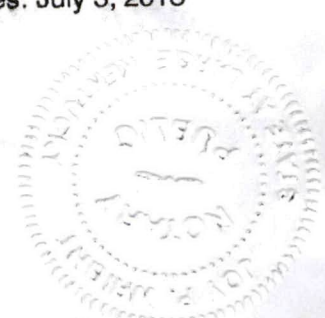
COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Ronald D. (Ron) Gregory on this the 13 day of September, 2017.



Notary Public, Kentucky State at Large
My Commission Expires _____

Notary Public, Kentucky State-At-Large
My Commission Expires: July 3, 2018
ID 513528



BIG RIVERS ELECTRIC CORPORATION

**AN EXAMINATION OF THE APPLICATION OF THE FUEL
ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION
FROM NOVEMBER 1, 2016 THROUGH APRIL 30, 2017
CASE NO. 2017-00287**

**Response to Commission Staff's Request for Information
dated August 30, 2017**

September 13, 2017

Revised Attachment September 14, 2017

1 **Item 7) *List Big Rivers' scheduled, actual, and forced outages from***
2 ***November 1, 2016, through April 30, 2017.***

3

4 **Response)** Please see the attached revised summary for the requested
5 information regarding scheduled ("S"), actual ("A"), and forced ("F") outages.
6 Revisions are the result of typos, expanded acronyms, and phrases inadvertently
7 truncated by Excel. Please note that, to the extent possible, revisions are
8 *italicized and underlined.*

9

10

11 **Witness) Ronald D. Gregory**

12

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Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
 Reid Station Unit #1 - Coal - 65MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
November 2016		No Outages							Following MISO approval of the Attachment Y Suspension Notice, Reid Unit 1 was idled effective 1-Apr-2016 and has not yet been restarted.
December 2016		No Outages							
January 2017		No Outages							
February 2017		No Outages							
March 2017		No Outages							
April 2017		No Outages							

Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
 Reid Station Unit #2 - Combustion Turbine - Oil/Gas - 65MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE	
		Scheduled		Actual		Scheduled	Forced	Actual		
		FROM	TO	FROM	TO					
November 2016		No Outages								
December 2016	S, A	<u>12/1/2016 08:00</u>	<u>12/1/2016 16:00</u>	12/1/2016 8:15	12/1/2016 14:45	8:00		6:30	Unit taken off of Reserve Standby for a Maintenance Outage to make lube oil pump repairs	
	S, A	<u>12/5/2016 09:00</u>	<u>12/7/2016 15:00</u>	12/5/2016 9:00	12/7/2016 15:00	54:00		54:00	Unit taken off of Reserve Standby for a Maintenance Outage to repair bearings in lube oil pump motor.	
January 2017	F			1/3/2017 15:54	1/5/2017 16:50			48:56	48:56	Start signal issued at 15:52 and when the unit reached 3400 rpm, the generator field grounding alarm tripped unit and a starting failure was called at 15:54. A start up was attempted at 10:00 on 1/5/17 and unit tripped, due to loss of flame. Repairs were made to faulty flame detectors and the unit was returned to Reserve Standby.
	F			1/6/2017 15:45	1/7/2017 8:27			16:42	16:42	Turbine tripped due to loss of oil pressure.
	F			1/11/2017 20:10	1/12/2017 14:30			18:20	18:20	Unit was placed into <u>U1 (Unplanned (Forced) Outage - Immediate)</u> , due to Generator Grounding Alarm. Electrical released unit back to Reserve Standby, after finding no problems that caused Grounding alarm.
February 2017	S, A	2/8/2017 07:00	2/8/2017 15:00	2/8/2017 7:00	2/8/2017 14:35	8:00		7:35	Unit removed from Reserve Standby for a Maintenance Outage to repair faulty wiring and flame detectors.	
March 2017		No Outages								
April 2017		No Outages								

Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Henderson Station Two - Unit #1 - Coal - 153MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
November 2016		No Outages							
December 2016	F			12/31/2016 0:42	=====>		23:18	23:18	Unit offline due to tube leak in the high temperature Reheat Section of boiler were caused by a combination of high temperature oxidation and fireside corrosion fatigue at elevation 565', panel 5 from the west wall, on tube #1 counting from south to north.
January 2017	F			=====>	1/5/2017 0:28		96:28	96:28	Unit offline due to tube leak in the high temperature Reheat Section of boiler were caused by a combination of high temperature oxidation and fireside corrosion fatigue at elevation 565', panel 5 from the west wall, on tube #1 counting from south to north.
February 2017		No Outages							
March 2017	F			3/6/2017 9:51	3/9/2017 7:08		69:17	69:17	Unit tripped on low drum level while drum level transmitter sensing line leak was being repaired.
	F			3/9/2017 7:08	3/9/2017 7:58		0:50	0:50	Leak in #4 Heater access door during startup extended startup length past allowed time.
	F			3/9/2017 8:29	3/9/2017 9:13		0:44	0:44	Unit tripped due to high drum level during start-up.
	F			3/16/2017 10:53	3/17/2017 20:01		33:08	33:08	Unit taken offline due to tube leak in Reheat Section of boiler at elevation 569', panel 6 from the west wall, on tube #2 counting from the south to north.
	S, A	3/17/2017 21:00	3/18/2017 9:00	3/17/2017 20:52	3/18/2017 3:48	12:00		6:56	Unit was removed from service to reseal #4 Heater <u>access door</u> .

Case No. 2017-00287

Revised Attachment for Response to Staff Item 7

Witness: Ronald D. Gregory

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Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Henderson Station Two - Unit #1 - Coal - 153MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
March 2017	S, A	3/24/2017 18:30	3/30/2017 18:30	3/24/2017 18:34	3/30/2017 5:57	144:00		131:23	Unit taken offline due to elevated mercury levels.
	F			3/30/2017 8:27	3/30/2017 12:13		3:46	3:46	Unit tripped on low turbine bearing oil pressure.
	F			3/30/2017 13:32	3/30/2017 14:42		1:10	1:10	Unit tripped offline due to high drum level.
April 2017	S, A	4/18/2017 23:00	4/22/2017 0:00	4/18/2017 23:03	4/22/2017 0:00	73:00		72:57	Maintenance Outage for external tube leak near the penthouse.
	S, A	4/22/2017 00:00	5/1/2017 0:00	4/22/2017 0:00	=====>	216:00		216:00	43 day Planned Outage for "A" 4160 auxiliary bus replacement, SCR catalyst replacement, turbine valve overhaul, etc.

Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Henderson Station Two - Unit #2 - Coal - 159MW Net
November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
November 2016	F			=====>	11/1/2016 13:04		13:04		The unit was tripped off line on 10/31/2016 at 16:00 by the sudden pressure relay (63GT3) on the main generator step up transformer. The relay had failed and had to be replaced.
December 2016	F			12/29/2016 17:40	12/29/2016 20:15		2:35	2:35	Loss of O ₂ in boiler manual trip. O ₂ swing was likely caused by an influx of wet fuel into the boiler.
January 2017	F			1/5/2017 16:08	1/9/2017 17:08		97:00	97:00	Unit was removed from service, due to tube leak located in the high temperature Reheat Section of the boiler. Tube leak was caused by a combination of High Temperature Oxidation and Fireside Corrosion Fatigue. Tube leak located at elevation 565' – 6" panel 5 from the east wall on tube #7 counting from the south to north.
February 2017	F			2/9/2017 22:40	2/12/2017 23:20		72:40	72:40	Unit taken offline due to tube leak on the east side lower waterwall terminal tubes 13th tube from the south at elevation 438'-8". Failure was due to external corrosion because of the aggressive atmosphere above the ash hopper and seal trough caused by a gas leak in the seal skirt directly below the tube leak.
	F			2/16/2017 10:00	2/24/2017 14:00		196:00	196:00	Unit taken offline due to tube leak located in the high temperature Reheat Section of the boiler were caused by a combination of High Temperature Oxidation and Fireside Corrosion Fatigue. Tube leak located at elevation 565' – 6" panel 3 from the east wall on tube #9 <i>counting from the south to north</i> .

**Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017**

Big Rivers Electric Corporation
Henderson Station Two - Unit #2 - Coal - 159MW Net
November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
March 2017	S, A	3/18/2017 06:00	3/20/2017 6:00	3/18/2017 6:27	3/19/2017 23:32	48:00		41:05	Unit was removed from service to make repairs to broken precipitator wire in 'B' Inlet field caused the grounding issue.
April 2017	F			4/3/2017 9:34	4/3/2017 18:45		9:11	9:11	Unit taken offline due to #18 observation port penetration allowing boiler flue gas and heat to exit the boiler.
	F			4/5/2017 16:04	4/8/2017 10:10		66:06	66:06	Unit taken offline due to tube leak located in the high temperature Reheat Section of the boiler were caused by a combination of High Temperature Oxidation and Fireside Corrosion Fatigue. Tube leaks located at elevation 565' - 6" panel 2 and panel 3 from the east wall.
	F			4/20/2017 16:01	4/20/2017 22:15		6:14	6:14	Tripped offline due to a generator Main Step-Up Transformer Sudden Pressure Relay (63GT3) Trip caused by a failed relay.

Case No. 2017-00287

Revised Attachment for Response to Staff Item 7

Witness: Ronald D. Gregory

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Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Green Station Unit #1 - Coal/Pet coke - 231MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
November 2016	S, A	11/21/2016 00:00	11/24/2016 0:00	11/21/2016 00:01	11/23/2016 17:20	72:00		65:19	While the unit was on <u>Maintenance Outage</u> to resolve a problem with the thickeners floating and a solids issue in FGD system, several items were inspected, repaired, if need. When the <u>Maintenance Outage</u> work was completed, the unit was released and placed on Reserve Standby.
	F			11/27/2016 22:27	11/28/2016 1:11		2:44	2:44	A starting failure was declared, due to failure to meet 12 hour cold start limit caused by the turbine pre-warm <u>during the start-up</u> .
December 2016		No Outages							
January 2017		No Outages							
February 2017	F			2/10/2017 11:20	2/13/2017 15:28		76:08	76:08	Unit was removed from service via controlled shutdown, due to tube leaks in the <u>Reheat Section of the boiler</u> . Three dutchman were installed in <u>Intermediate</u> and <u>Outlet Reheater</u> banks.
	F			2/19/2017 7:00	2/24/2017 11:00		124:00	124:00	Unit was placed on outage (<u>U2 (Unplanned (Forced) Outage - Delayed</u>) for state operating permit inspection. Upon opening the boiler drum, the west vortex eliminator was found to have one of the five blades missing. The bottom of the downcomer was cut off, missing metal removed and downcomer bottom welded back and the weld was stress relieved.
	S, A	2/24/2017 11:00	3/1/2017 0:00	2/24/2017 11:00	=====>	109:00		109:00	Maintenance <u>Outage</u> for "A" air heater sector plate <u>damage/repair</u> .

Case No. 2017-00287

Revised Attachment for Response to Staff Item 7

Witness: Ronald D. Gregory

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Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Green Station Unit #1 - Coal/Pet coke - 231MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
March 2017	S, A	3/1/2017 00:00	3/5/2017 0:00	=====>	3/5/2017 15:00	96:00		111:00	Maintenance <u>Outage</u> for "A" air heater sector plate <u>damage/repair</u> .
March 2017	F			3/12/2017 16:00	3/13/2017 1:13		9:13	9:13	A starting failure was declared (12 hour cold start limit exceeded) while coming from <u>Reserve Standby</u> after a <u>Maintenance Outage</u> , due to "A" air heater motor had to be replaced for vibration/alignment issues.
	F			3/22/2017 13:19	3/22/2017 16:01		2:42	2:42	Unit tripped on high drum level while removing #6 <u>High Pressure Feedwater Heater</u> from service.
	F			3/22/2017 16:36	3/22/2017 18:23		1:47	1:47	Unit tripped on low drum level during start-up.
April 2017	F			4/2/2017 16:02	4/3/2017 12:03		20:01	20:01	Unit was removed from service to check for condenser tube leaks indicated by high Silica. Found one leak in each condenser water box and those tubes were plugged.

Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Green Station Unit #2 - Coal/Pet coke - 223MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
November 2016		No Outages							
December 2016		No Outages							
January 2017		No Outages							
February 2017	F			2/20/2017 18:32	2/22/2017 5:58		35:26	35:26	Unit was tripped from service due <u>to</u> a high furnace pressure caused by a waterwall tube leak on the 5th floor at elevation 486.1', east side wall, 94th tube from the north wall. An 8 foot Dutchman was installed.
March 2017	S, A	3/25/2017 00:00	4/15/2017 0:00	3/25/2017 0:54	4/14/2017 18:00	504:00		497:06	21 day Planned Outage for turbine valve overhaul, <u>waterwall</u> panels, <u>air preheater</u> repairs, etc.
April 2017	F			4/20/2017 23:10	4/21/2017 12:44		13:34	13:34	A cold startup failure was declared while coming from <u>Reserve Standby</u> after a 21 day Maintenance Outage, due to 3 hour turbine soak not complete. After the 3 hour turbine soak was complete, the turbine tripped on overspeed and the turbine valves settings had to be adjusted.

Case No. 2017-00287

Revised Attachment for Response to Staff Item 7

Witness: Ronald D. Gregory

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Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Coleman Station Unit #1 - Coal - 150MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

		MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
MONTH	TYPE	FROM	TO	FROM	TO				
November 2016	No Outages								Coleman Unit 1 was idled on May 1, 2014, and has not yet been returned to service.
December 2016	No Outages								
January 2017	No Outages								
February 2017	No Outages								
March 2017	No Outages								
April 2017	No Outages								

Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Coleman Station Unit #2 - Coal - 138MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
November 2016	No Outages								Coleman Unit 2 was idled on May 1, 2014, and has not yet been returned to service.
December 2016	No Outages								
January 2017	No Outages								
February 2017	No Outages								
March 2017	No Outages								
April 2017	No Outages								

Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Coleman Station Unit #3 - Coal - 155MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
November 2016		No Outages							Coleman Unit 3 was idled on May 8, 2014, and has not yet been returned to service.
December 2016		No Outages							
January 2017		No Outages							
February 2017		No Outages							
March 2017		No Outages							
April 2017		No Outages							

Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Wilson Station - Unit #1 - Coal/Pet Coke - 417MW Net
November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
November 2016	F			=====>	11/1/2016 15:18		15:18	15:18	Unit trip due to waterwall tube leak in the west wall on the 10th floor elevation.
	S, A	11/5/2016 00:00	11/6/2016 00:00	11/5/2016 01:00	11/5/2016 18:15	24:00		17:15	Leaks in 1st stage <i>east Superheat Spray</i> instrument line header and Platen root valve that could not be isolated for repair. The pressure <i>gauge</i> tap was fractured at the top of the weld where the tap is inserted into the header connection. The pipe failed at the top of the fillet weld coming off the header.
	F			11/12/2016 00:48	11/12/2016 05:36		4:48	4:48	Unit tripped when <i>Induced Draft Fan (IDF)</i> tripped.
	F			11/13/2016 16:44	11/14/2016 14:08		21:24	21:24	Unit tripped, due to failed electronics component indicating loss of SCR flow path and resulting in master fuel trip.
December 2016	F			12/24/2016 18:50	12/26/2016 19:03		48:13	48:13	Unit was removed from service in a forced shutdown, due to a waterwall tube leak on the 10 1/2th floor immediately above the tube weld overlay on the west waterwall.
	F			12/26/2016 19:03	12/27/2016 10:23		15:20	15:20	A Starting Failure was declared, due to a bad <i>coupling capacitor voltage transformer</i> (CCVT) on B phase in switchyard preventing synchronization with the grid when bringing the unit online.
	F			12/28/2016 16:20	12/28/2016 23:06		6:46	6:46	Lightening strike in the switchyard blew a fuse for 48VDC power to the 63-1/AST trip circuit and Main Generator Breaker closed indication. When the fuse blew, the turbine controls saw a zero state on the generator breaker which told the breaker was open, so the turbine tripped.

Case No. 2017-00287

Revised Attachment for Response to Staff Item 7

Witness: Ronald D. Gregory

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Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017

Big Rivers Electric Corporation
Wilson Station - Unit #1 - Coal/Pet Coke - 417MW Net
 November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
January 2017	S, A	1/2/2017 16:00	1/4/2017 00:00	1/2/2017 16:26	1/3/2017 11:30	32:00		19:04	Unit was removed from service in a controlled shutdown, due to leaking pressure gauge tap on the sensing line on 1st stage east <u>Superheat Spray</u> line that could not be isolated for repair.
	F			1/3/2017 11:30	1/4/2017 15:07		27:37	27:37	During the hydro at the end of the previous outage, a waterwall tube leak was discovered on the 11th floor west side wall in the 38th tube from corner tube.
February 2017	F			2/4/2017 14:48	2/8/2017 19:38		100:50	100:50	Platen <u>Superheater</u> tube leak, due to an attachment lug pulling loose and causing tube failure.
	F			2/8/2017 19:52	2/8/2017 22:55		3:03	3:03	Unit tripped due to crossover differential pressure
	F			2/9/2017 04:05	2/9/2017 07:15		3:10	3:10	Unit tripped on low drum level due to #1 boiler feed pump turbine trip.
	F			2/12/2017 17:13	2/12/2017 21:02		3:49	3:49	Unit tripped off due to #1 boiler feed pump turbine high vibration.
	S, A	2/15/2017 23:00	2/19/2017 23:00	2/15/2017 23:00	2/19/2017 15:00	96:00		88:00	Unit taken offline to repair #2 and #3 <u>FGD</u> module inlet damper seals and to inspect #1 boiler feed pump due to pump tripping off line due to vibration. After the inspection into vibration, it was determined to overhaul the pump.
March 2017	F			3/9/2017 21:28	3/10/2017 05:48		8:20	8:20	Unit tripped when lost #1 IDF, while #2 IDF was out of service. The drive Linkage to inlet damper came apart with no control of fan dampers.
April 2017	F			3/10/2017 05:49	3/10/2017 07:29		1:40	1:40	The unit experienced a no load trip, one minute after tie.

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Witness: Ronald D. Gregory

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**Big Rivers Electric Corporation
Scheduled ("S"), Actual ("A"), and Forced ("F") Outages
November 1, 2016 thru April 30, 2017**

Big Rivers Electric Corporation
Wilson Station - Unit #1 - Coal/Pet Coke - 417MW Net
November-1-2016 thru April-30-2017

Schedule vs. Actual

MONTH	TYPE	MAINTENANCE				HOURS OF DURATION			REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE OR REASON FOR FORCED OUTAGE AS APPROPRIATE
		Scheduled		Actual		Scheduled	Forced	Actual	
		FROM	TO	FROM	TO				
	F			4/15/2017 19:03	4/18/2017 06:08	59:05	59:05		Waterwall tube leak at floor 10 1/2 in tube #35 from north wall.
	F			4/21/2017 07:27	4/21/2017 11:42	4:15	4:15		Lightening strike tripped the Generator and Startup Buses offline when the 86GP-1, 86ST-1 and 86ST-2 Lock-Out Relays (LOR) Tripped.
	F			4/29/2017 19:04	4/30/2017 17:46	22:42	22:42		Unit tripped while troubleshooting C-Phase coupling capacitor voltage transformer (CCVT) issue in the switchyard, because of a MISO MW discrepancy.

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