REBUTTAL TESTIMONY OF CECIL T. GURGANUS
VICE PRESIDENT, EDWARDSPORT GENERATING STATION
ON BEHALF OF DUKE ENERGY INDIANA, LLC
CAUSE NO. 43114 IGCC-17 BEFORE THE
INDIANA UTILITY REGULATORY COMMISSION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Cecil T. Gurganus and my business address is 15424 East State Road 358, Edwardsport, Indiana 47528.

Q. ARE YOU THE SAME CECIL T. GURGANUS WHO OFFERED PETITIONER'S EXHIBIT 1, YOUR DIRECT TESTIMONY, IN THIS PROCEEDING?

A. Yes, I am.

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

A. The purpose of my rebuttal testimony is to respond to the testimony provided by Citizens Action Coalition, Inc. ("CAC") witness Mr. David A. Schlissel. Specifically, I will address the reasonableness of the 2018 Settlement Agreement as both a way to resolve the pending proceeding and as a bridge to the next retail base rate case planned to be filed in 2019 by Duke Energy Indiana, LLC ("Duke Energy Indiana" or the "Company"). In addition, I will address Mr. Schlissel's opinions of Edwardsport's operating performance during these first five years of commercial operation and the Company's performance and cost expectations going forward.

Q. MR. GURGANUS, ARE ANY OF THE OTHER SETTLING PARTIES SUBMITTING REBUTTAL TESTIMONY IN THIS PROCEEDING?

A. Yes. In addition to my rebuttal testimony, Duke Energy Indiana witness Ms. Diana L. Douglas and Duke Industrial Group witness Mr. Michael P. Gorman are also submitting testimony.

Q. MR. GURGANUS, ARE YOU FAMILIAR WITH THE 2018 SETTLEMENT AGREEMENT?

A. Yes, I am familiar with it.

Q. PLEASE PROVIDE A HIGH-LEVEL OVERVIEW OF THE SETTLEMENT AGREEMENT.

A. Basically, the 2018 Settlement Agreement includes caps on Duke Energy Indiana's recoverable retail operating expenses for 2018 and 2019, provides that a review of ongoing capital costs incurred from January 1, 2018 through the Company's next retail base rate case test period cutoff date will occur in the Company's next rate case; reduces the value of the Company's regulatory asset containing deferred operating expenses by $30 million, and provides funding for low income assistance and clean energy projects. In addition, the 2018 Settlement Agreement provides that Duke Energy Indiana will not file an IGCC Rider proceeding in either 2019 or 2020, that O&M incurred after January 1, 2020 will be addressed in the next rate case, and that the Settling Parties intend for the Company to include Edwardsport investment and operating expenses in base rates in its next retail base rate case and to discontinue the tracking of Edwardsport via the IGCC Rider thereafter.

Q. MR. SCHLISSEL STATES THAT THE COMMISSION APPROVING THE SETTLEMENT AGREEMENT, SPECIFICALLY ITS COST CAPS, WOULD BE

A "GOOD, STEP IN THE RIGHT DIRECTION." SCHLISSEL 25:20-21. DO YOU AGREE?

A. Yes, I do. The Settling Parties agree that the 2018 Settlement Agreement balances the interest of customers and the Company in a reasonable way by providing for a planned end to the IGCC Rider and an additional approximately 0.51% reduction in rates anticipated to occur in April 2019 upon approval of the 2018 Settlement Agreement. Additionally, customers will benefit from rate certainty until the IGCC Rider is discontinued in the Company's next base rate case, with new base rates anticipated to be implemented during mid-2020.

Duke Energy Indiana, and the other Settling Parties, agree with Mr. Schlissel that this 2018 Settlement Agreement is a step in the right direction – while also setting forth the opportunity for a more final determination of issues relating to Edwardsport to be made in the Company's next retail base rate case next year.

Q. DO YOU AGREE WITH MR. SCHLISSEL'S OTHER TESTIMONY REGARDING THE 2018 SETTLEMENT AGREEMENT?

A. While I do agree that the 2018 Settlement Agreement is a step in the right direction, I cannot agree with his statements that Edwardsport will remain a "catastrophe" without further action from the Commission above and beyond approval of this Settlement Agreement.

The Settling Parties decided to reach agreement in this proceeding because they wanted to resolve all ratemaking issues for calendar years 2018 and 2019, leaving issues beyond that timeframe for determination in Duke Energy Indiana's next retail base rate

case, anticipated to be filed mid-2019. Generally speaking, all parties to a settlement appreciate the increased certainty that comes with settlement – the hope of all settling parties is that the Commission will agree with them that a particular agreement is just, reasonable, in the public interest and will approve it without change. This hope exists because each settlement is a carefully crafted balance of all the parties' interests and any changes to that settlement could result in an agreement that no longer remains in balance and becomes unacceptable to one or more of the parties.

The Settling Parties reached their agreement only after careful consideration of all of the same issues Mr. Schlissel raised in his testimony. The Settling Parties believe that in the 2018 Settlement Agreement offers important consumer benefits. In particular, in exchange for agreement on two years of IGCC tracker ratemaking, consumer parties will receive a $30 million benefit through the reduction in the regulatory asset, as well as $1.7 million for low income assistance and/or clean energy related projects.

Q. MR. SCHLISSEL SPENDS THE MAJORITY OF HIS TESTIMONY CRITICIZING THE OPERATING PERFORMANCE AND COSTS OF EDWARDSPORT. PLEASE RESPOND.

A. The Company has responded to such criticisms multiple times over the short operating history of Edwardsport. We have consistently noted each time we respond that Edwardsport's performance metrics should not be judged over a short period of time, but rather over longer periods of time, especially given that the asset will be available for thirty years. For example, one of my predecessors, Mr. Jack Stultz, specifically testified that "the assumed availability is over the life of the plant; so even annual availability may

(and due to planned maintenance outages likely will) vary from 85% in any given year. Some years will be higher and some will be lower." Stultz Rebuttal, Petitioner's Exhibit FFF, 4:1-4, Cause No. 43114 IGCC 4S1.

Even making that clear seven years ago (while still under construction), we continue to respond to criticism that Edwardsport has not lived up to the Company's originally stated expectations. I believe the Company's original expectations were reasonable at the time they were presented in the original Certificate of Public Convenience and Necessity proceeding, and they remain reasonable today. The performance metrics attached to my testimony demonstrate year after year improvement of performance and reliability. Edwardsport has not even gotten through its full maintenance cycle yet – its final outage in the first maintenance cycle will be executed in 2020 – that outage will also be the first time the steam turbine has had major scheduled maintenance. I point this out because I believe that there are no known equipment or operational issues that will prevent the Plant from performing as expected in the long term. This is a long-lived asset, which has already experienced improving reliability and output and recent reductions in station operating expenses. My team is committed to get it operating at its optimal reliability and efficiency.

Q. MR. SCHLISSEL ALSO CRITICIZES EDWARDSPORT'S AUXILIARY LOAD. WAS EDWARDSPORT CONSTRUCTED WITH THE KNOWLEDGE THAT IT WOULD HAVE A LARGER AUXILIARY LOAD THAN OTHER GENERATING UNITS?

A. Yes, it was. The station was designed to have auxiliary loads, and the Company has always assumed such loads in its planning and disclosed them to the Commission and parties. During the construction phase of the project, the Company explained in prior testimony:

> "First, the addition of the grey water disposal system has added a net auxiliary power load of 6.4 MW. Secondly, small individual changes in the power usage of many components of the plant have increased the auxiliary power load from all other sources in the plant by 7.5 MW. Lastly, the elimination of a planned slurry pre-heater due to technical challenges with design of the equipment and perceived operational risks associated with those technical challenges has negatively impacted both the net capacity and the heat rate slightly. Taking all these factors into consideration, the net output of the plant has declined from approximately 631.8 MW to approximately 617.7 MW…."[1]

Simply put, the station was designed to have a best case auxiliary load as a percentage of gross output for all syngas production at 59 degrees F of approximately 22%.

Q. MR. SCHLISSEL STATES THAT DATA SUGGESTS MISO HAS DISPATCHED EDWARDSPORT BELOW ITS MAXIMUM OFFER IN MANY HOURS. IS THAT A CORRECT STATEMENT?

[1] See Pet. Exh. C, Direct Testimony of Michael Womack, filed April 16, 2010 in Cause No. 43114 IGCC-4S1.

A. No, it is not. It is my understanding that MISO has only dispatched Edwardsport down when operating on syngas a handful of times over the past five years. The reason for this is that Edwardsport is valued by MISO.

Q. MR. GURGANUS, HOW WOULD YOU DESCRIBE EDWARDSPORT'S PERFORMANCE SINCE GOING IN-SERVICE IN 2013?

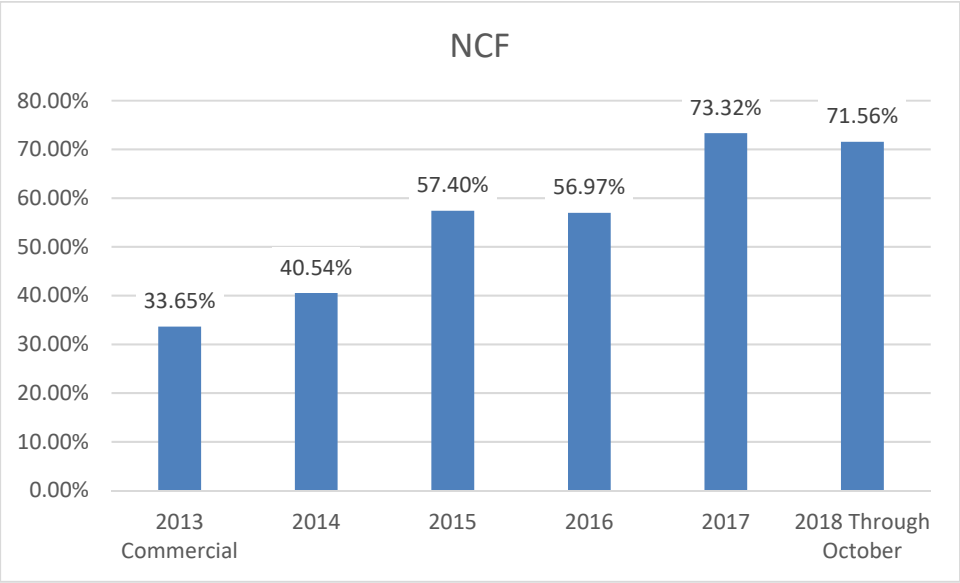
A. From my perspective, Edwardsport has performed increasingly well, with increasing reliability and generation output year after year. Just as with other generating facilities, there have been equipment issues to resolve and maintenance outages to perform. I believe that it is difficult to really have a view into a generating station's long-range operations until they can be reviewed over the timeframe of a typical maintenance cycle or even several. The reason is, while forced events usually come in small, more frequent blocks of time, planned outage events come in larger, less frequent blocks of time. Until enough data has been accumulated to represent the full extent of typical forced and planned events, of all sizes and durations, the data is not sufficiently representative of the long-term operations of the station.

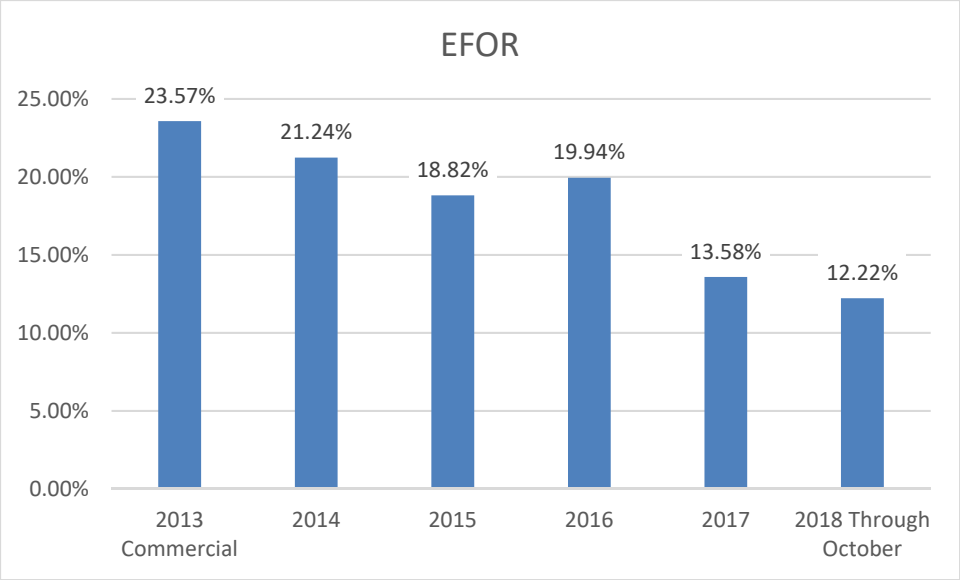
The station's performance is improving every year, provides dual fuel capabilities in its ability to run on both coal and natural gas, and produces energy from both fuels to benefit our customers. Edwardsport was built to be a long-term asset for Duke Energy Indiana's customers. In my opinion, adopting Mr. Schlissel's short term view is not the best course of action for Duke Energy Indiana and its customers.

Q. PLEASE DESCRIBE THE GRAPHS BELOW.

A. These graphs simply represent the station's annual net capacity factor ("NCF") and equivalent forced outage rate ("EFOR") from 2013 through October 2018 (the most recent date performance data is available). It helps to visually depict the year over year improvements achieved by the plant, while also demonstrating the variability that can be seen due to planned events.

Planned maintenance cycles can certainly impact Edwardsport's (and all generating facilities') performance metrics. For example, year-to-date 2018 net capacity factor is lower than the annual figure from 2017. 2018 had an entire station maintenance outage in the spring while 2017 had a planned maintenance derate. As I explained in my direct testimony, when possible, we plan Edwardsport's maintenance one major component at a time in order to maintain positive generation at the site. When a common component (such as the flare) requires maintenance, that practice is not possible. We saw such an instance in 2018, but not in 2017.





Q. PLEASE COMPARE EDWARDSPORT'S PERFORMANCE TO OTHER DUKE ENERGY INDIANA GENERATING FACILITIES.

A. I do not believe that comparing a little over five years of data for Edwardsport with the historical performance of the Company's mature, coal-fired generating facilities that are well into their operating lives is an appropriate comparison. Edwardsport has the combustion turbines and a steam turbine of a natural gas-fired plant (but optimized to run on syngas), as well as the coal handling equipment of a pulverized coal unit. In addition, it has gasifiers, air separation units, slag handling systems, acid gas systems to control emissions, and grey water systems. It can also operate on syngas, natural gas or any combination of the two. There is no true comparable out there.

With that said, following is a comparison of Edwardsport's EFOR, Equivalent Availability Factor ("EAF") and NCF from 2018 (through October 2018) to Duke Energy Indiana's large, mature coal units. While I'm not convinced this is a valid comparison for Edwardsport's performance, I understand the interest in putting its operational

performance in some sort of context. After just five years of operation, Edwardsport is performing in line with Duke Energy Indiana's largest, most established coal units.

I am proud of my hard-working team and their dedication to providing a safe, reliable and cost-effective generating resource for our customers. Our focus remains on continued improvement of plant operations and reducing operating expenses. I believe the Company has appropriately managed all issues that have been presented and reasonably managed the planning and execution of its maintenance, focusing on trying to first resolve the main causes of station derates and forced events.

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Q. DO YOU BELIEVE EDWARDSPORT'S 2017 OPERATING AND MAINTENANCE EXPENSES WERE REASONABLY INCURRED?

A. Yes. While the station was capped in 2017 on the recovery of both its operating and maintenance expenses and its ongoing capital costs, the expenses were reasonable and prudently incurred. As I explained in my direct testimony, the types of expenses incurred are the same types of expenses incurred at all Duke Energy Indiana power plants: labor, chemicals, maintenance and outage expenses. In addition, we decided to spend additional expenses above the 2016 Settlement Agreement caps to work on Process Safety Management and other safety-related projects and the station's reliability improvement projects.

Q. DO YOU ALSO BELIEVE THE EDWARDSPORT'S OPERATING AND MAINTENANCE BUDGETS FOR 2018 AND 2019 ARE REASONABLE?

A. Yes, I do. Those budgets include important and necessary funds for planned maintenance, ongoing operations and both summer and winter preparations. Obviously, our expenses will vary depending on the timing of maintenance cycles, unexpected costs, operating characteristics and operating time of the station. However, the 2018 Settlement Agreement protects customers from any increase in expense over our budgeted amounts. Further, the budget amounts represent a decrease in the amounts spent in 2016 and 2017, and I expect that trend to continue (but for significant planned maintenance in 2020).

Q. MR. SCHLISSEL'S TESTIMONY COMPARES EDWARDSPORT'S NON-FUEL O&M TO THE AVERAGE COST OF BUYING ENERGY AT THE MISO INDIANA HUB. PLEASE RESPOND.

A. While my job is focused on safe, reliable and efficient operations of Edwardsport and not on the monitoring of MISO energy and capacity markets, I do certainly know that comparing the non-fuel O&M cost of any unit to a Locational Marginal Price ("LMP") is an inappropriate and misleading analysis. My understanding is that Mr. Schlissel is comparing the yearly cost to maintain and operate Edwardsport to an energy market representation of one additional Megawatt of energy at the MISO Indiana Hub. However, this energy market representation does not represent the price of power that Duke Indiana customers, or any customers, pay to meet load requirements. More basically, LMP primarily represents short term marginal production costs, *i.e.* fuel, given MISO's objective to efficiently dispatch the MISO generating units to meet the MISO load. I believe this is an apples to oranges comparison designed to portray Edwardsport as not providing value to customers.

Q. THERE IS ALSO A COMPARISON OF EDWARDSPORT'S "ALL IN" COST TO MISO ENERGY PRICES INCLUDED IN MR. SCHLISSEL'S TESTIMONY. IN YOUR OPINION, IS THAT A VALID COMPARISON?

A. No. Greater that 90% of the generation supply in MISO is supported by cost of service ratemaking, where investment decisions are made hand in hand with state regulators to support long term planning objectives. The result is, the majority of costs are recovered through rates (and not through markets) and MISO economic dispatches the units to minimize fuel and other marginal costs for all customers.

Q. PLEASE SUMMARIZE YOUR POSITION REGARDING EDWARDSPORT'S OPERATING EXPENSES.

A. My direct testimony has explained the reasonableness of the Company's O&M costs and budget presented in this proceeding. I believe the Company has managed Edwardsport's operating expenses reasonably, and the O&M and additional capital requested in this proceeding are reasonable and necessary. My team will continue to improve the economics and efficiency of Edwardsport, and I believe the station will ultimately benefit customers with clean and reliable energy for the remainder of its expected thirty-year life.

Q. PLEASE DESCRIBE PETITIONER'S EXHIBIT 4-A.

A. Petitioner's Exhibit 4-A provides the station's 2018 (through October 2018) performance metrics that are typically attached to my testimony. Although this proceeding was intended to discuss Edwardsport's operations through 2017, Mr. Schlissel's more recent testimony filing included 2018 data. Therefore, Duke Energy Indiana is providing its most recently available data on Edwardsport's operations.

Q. WAS PETITIONER'S EXHIBIT 4-A PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes, it was.

Q. DOES THIS CONCLUDE YOUR PREPARED REBUTTAL TESTIMONY?

A. Yes.

Summary of Net Generation and Operational Metrics

2018	Net Generation MWH	Net Capacity Factor	Availability Factor	Gasifier Availability Factor	Equivalent Availability Factor	Equivalent Forced Outage Rate
January	363,080	78.97	100.00	45.89	83.80	16.20
February	340,008	81.87	100.00	67.40	85.62	14.38
March	395,881	86.10	100.00	91.64	88.86	10.62
April	197,940	44.48	70.25	20.08	46.61	29.23
May	266,860	58.04	99.15	5.61	59.48	5.38
June	323,412	72.68	100.00	83.57	75.43	14.29
July	399,370	86.86	100.00	94.09	88.28	7.78
August	397,584	86.47	100.00	89.14	88.66	7.11
September	269,420	60.55	100.00	78.45	62.38	10.65
October	272,865	59.35	100.00	90.16	61.10	8.73
2018 Averages	3,226,420	71.56	96.98	66.65	74.03	12.22

Coal Received and Consumed (tons)

2018	Beginning Inventory	Received	Consumed in Generation	Consumed in Light Off	Ending Inventory
January	275,384.75	111,687.37	91,331.80	635.20	295,105.12
February	295,105.12	104,516.98	114,796.71	469.29	284,356.10
March	284,356.10	138,353.73	177,941.37	241.63	244,526.83
April	244,526.83	92,720.22	39,601.00	0.00	297,646.05
May	297,646.05	57,879.98	8,183.39	329.28	347,013.36
June	347,013.36	139,108.21	134,739.00	483.10	350,899.47
July	350,899.47	139,025.62	182,929.83	72.17	306,923.09
August	306,923.09	162,555.19	178,156.26	276.57	291,045.45
September	291,045.45	115,938.21	108,495.43	799.24	297,688.99
October	297,688.99	104,490.70	103,837.00	0.00	298,342.69
November					
December					
YTD	275,384.75	1,166,276	1,140,012	3,306.48	298,342.69

Natural Gas Purchased and Consumed (dekatherms)

2018	CTs Consumed in Generation	CTs Consumed in Light Off	Consumed in Balance of Plant	Total Consumed by All Sources
January	1,586,108	522	122,572	1,709,201
February	898,957	341	61,245	960,543
March	297,513	565	53,764	351,842
April	1,083,519	743	198,739	1,283,001
May	2,154,728	1,422	111,256	2,267,406
June	561,803	1,316	246,946	810,065
July	165,441	0	206,090	371,531
August	299,887	0	256,223	556,110
September	618,501	0	351,614	970,114
October	733,998	795	152,631	887,425
November				
December				
YTD	8,400,454	5,703	1,761,079	10,167,236

Syngas Consumed (dekatherms)

2018	CTs Consumed in Generation	CTs Consumed in Light Off	Total Consumed by All Sources
January	1,321,633	9,348	1,330,981
February	1,703,715	6,909	1,710,624
March	2,574,188	3,517	2,577,705
April	568,862	0	568,862
May	140,775	4,892	145,667
June	2,028,457	7,101	2,035,557
July	2,809,254	1,067	2,810,321
August	2,662,360	3,902	2,666,262
September	1,587,007	11,603	1,598,610
October	1,488,618	0	1,488,618
November			
December			
YTD	16,884,869	48,339	16,933,208

Summary of Gasifier Run Time

	G1		G2	
2018	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	2	443.25	1	239.67
February	2	464.40	1	441.40
March	1	686.97	1	676.57
April	0	146.92	0	142.23
May	1	73.30	1	10.20
June	3	561.28	1	642.15
July	1	656.02	0	744.00
August	1	678.07	1	648.30
September	2	592.47	3	537.20
October	0	597.60	0	744.00
November				
December				
Year to Date	13	4,900.27	9	4,825.72

Summary of Power Generated, Power Consumed, Net Power Generated and Run Time by Month

2018	GROSS MWH	AUXILIARY MWH	Net MWH
January	472,621	109,541	363,080
February	446,764	106,756	340,008
March	521,409	125,528	395,881
April	261,565	63,625	197,940
May	317,508	50,648	266,860
June	447,351	123,939	323,412
July	533,016	133,646	399,370
August	531,329	133,745	397,584
September	376,008	106,588	269,420
October	360,360	87,495	272,865
November			
December			
Year To-Date	4,267,931	1,041,509	3,226,422

	CT1		CT2		Steam Turbine	
2018	Starts	Run Hours	Starts	Run Hours	Starts	Run Hours
January	2(a)	726.73	0	744.00	0	744.00
February	0	672.00	2(a)	665.13	0	672.00
March	0	744.00	3(a)	717.37	0	744.00
April	2	392.35	2	502.20	1	489.93
May	1	737.70	1	554.78	1	727.62
June	6(a)	630.82	0	720.00	0	720.00
July	0	744.00	0	744.00	0	744.00
August	0	744.00	0	744.00	0	744.00
September	0	409.20	0	720.00	0	720.00
October	6(a)	687.02	1	439.93	0	744.00
November						
December						
Year To-Date	17	6487.82	9	6551.42	2	7049.55

(a)-Includes an attempted start that had no run hours

Power Generation Events and Run Times

CT1		
Close Breaker	**Open Breaker**	**On-Line Time, hours**
1/1/2018 0:00	1/25/2018 12:12	588.20
1/26/2018 5:28	2/1/2018 0:00	138.53
2/1/2018 0:00	3/1/2018 0:00	672.00
3/1/2018 0:00	4/1/2018 0:00	744.00
4/1/2018 0:00	4/11/2018 14:11	254.18
4/12/2018 3:06	4/13/2018 23:07	44.02
4/27/18 1:51	5/1/2018 0:00	94.15
5/1/18 0:00	5/2/2018 4:05	28.08
5/2/2018 10:23	6/1/2018 0:00	709.62
6/1/18 0:00	6/1/2018 23:53	23.88
6/3/2018 8:26	6/4/2018 22:52	38.43
6/7/2018 7:30	7/1/2018 0:00	568.50
7/1/2018 0:00	8/1/2018 0:00	744.00
8/1/2018 0:00	9/1/2018 0:00	744.00
9/1/18 0:00	9/18/2018 1:12	409.20
10/3/2018 8:40	10/3/2018 10:30	1.83
10/3/18 10:49	11/1/2018 0:00	685.18

CT2		
Close Breaker	**Open Breaker**	**On-Line Time, hours**
1/1/2018 0:00	2/1/2018 0:00	744.00
2/1/2018 0:00	2/27/2018 9:15	633.25
2/27/2018 16:07	3/1/2018 0:00	31.88
3/1/2018 0:00	3/17/2018 0:21	384.35
3/17/18 14:33	3/25/2018 13:26	190.88
3/26/2018 1:52	4/1/2018 0:00	142.13
4/1/2018 0:00	4/18/2018 1:42	409.70
4/26/2018 19:47	4/26/2018 21:50	2.05
4/27/2018 3:57	4/30/2018 22:24	90.45
5/8/18 21:13	6/1/2018 0:00	554.78
6/1/18 0:00	7/1/2018 0:00	720.00
7/1/2018 0:00	8/1/2018 0:00	744.00
8/1/2018 0:00	9/1/2018 0:00	744.00
9/1/18 0:00	10/1/2018 0:00	720.00
10/1/2018 0:00	10/4/2018 2:00	74.00
10/16/2018 18:04	11/1/2018 0:00	365.93

Steam Turbine		
Close Breaker	**Open Breaker**	**On-Line Time, hours**
1/1/2018 0:00	2/1/2018 0:00	744.00
2/1/2018 0:00	3/1/2018 0:00	672.00
3/1/2018 0:00	4/1/2018 0:00	744.00
4/1/2018 0:00	4/18/2018 1:37	409.62
4/27/2018 15:41	5/1/2018 0:00	80.32
5/1/18 0:00	5/2/2018 4:07	28.12
5/2/18 20:30	6/1/2018 0:00	699.50
6/1/18 0:00	7/1/2018 0:00	720.00
7/1/2018 0:00	8/1/2018 0:00	744.00
8/1/2018 0:00	9/1/2018 0:00	744.00
9/1/18 0:00	10/1/2018 0:00	720.00
10/1/2018 0:00	11/1/2018 0:00	744.00

VERIFICATION

I hereby verify under the penalties of perjury that the foregoing representations are true to the best of my knowledge, information and belief.

Signed: _____ Dated: 11-16-18

Cecil T. Gurganus