STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF DUKE ENERGY INDIANA, LLC PURSUANT TO IND. CODE §§ 8-1-2-42.7 AND 8-1-2-61, FOR (1) AUTHORITY TO MODIFY ITS RATES AND CHARGES FOR ELECTRIC UTILITY SERVICE THROUGH A STEP-IN OF NEW RATES AND CHARGES USING A FORECASTED TEST PERIOD; (2) APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES, GENERAL RULES AND REGULATIONS, AND RIDERS; (3) APPROVAL OF A FEDERAL MANDATE CERTIFICATE UNDER IND. CODE § 8-1-8.4-1; (4) APPROVAL OF REVISED ELECTRIC DEPRECIATION RATES APPLICABLE TO ITS ELECTRIC PLANT IN SERVICE; (5) APPROVAL OF NECESSARY AND APPROPRIATE ACCOUNTING DEFERRAL RELIEF; AND (6) APPROVAL OF A REVENUE DECOUPLING MECHANISM FOR CERTAIN CUSTOMER CLASSES	**)**	**CAUSE NO. 45253**

VERIFIED DIRECT TESTIMONY
OF
CECIL T. GURGANUS

On Behalf of Petitioner,
DUKE ENERGY INDIANA, LLC

Petitioner's Exhibit 20

July 2, 2019

DIRECT TESTIMONY OF CECIL T. GURGANUS
VICE PRESIDENT, EDWARDSPORT GENERATING STATION
DUKE ENERGY BUSINESS SERVICES LLC
ON BEHALF OF DUKE ENERGY INDIANA, LLC
BEFORE THE INDIANA UTILITY REGULATORY COMMISSION

I. INTRODUCTION

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. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

I am employed by Duke Energy Business Services LLC, a service company affiliate of Duke Energy Indiana, LLC ("Duke Energy Indiana" or "Company") and subsidiary of Duke Energy Corporation (together with its subsidiaries "Duke Energy"), as Vice President, Edwardsport Generating Station.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL EXPERIENCE.

A. I graduated from Cape Fear Community College in 1984 with an AAS degree in Engineering Technology. In 1995, I received a B.S. in Business from Shaw University.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE.

A. I have worked for Duke Energy and its predecessor companies for thirty-four years. My career began in the nuclear field working with reactor protection systems and turbine instrumentation, becoming certified as a Senior Reactor Operator. Over the years, I have had opportunities to work in a variety of roles, technologies, sites and areas. Those opportunities include Nuclear, Operations and Maintenance, Training, Projects, Coal, Hydro, Combined Cycle/Gas

Turbines, Construction Start-ups, and Commissioning. I have held leadership roles of Operations, Maintenance, Training, Projects and Technical groups at multiple generation sites prior to my current role as Edwardsport Generating Station Vice President.

Q. PLEASE DESCRIBE YOUR DUTIES AS VICE PRESIDENT FOR THE EDWARDSPORT GENERATING STATION.

A. My responsibilities currently include oversight of approximately 225 operations and maintenance personnel for the Edwardsport Generating Facility ("Edwardsport" or "Station"). I am involved with all aspects of the ongoing operation of the station, including contract administration, personnel matters and other business needs to provide for safe, efficient and reliable plant operations. I am involved with ensuring compliance of my staff with the policies and procedures at the Company and, more specifically, Edwardsport. I am also responsible for development and management of the budgets for the plant, both capital and operations and maintenance ("O&M").

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

A. The purpose of my testimony in this proceeding is to provide an overview of Duke Energy Indiana's Edwardsport Generating Facility. I will discuss the history of the Station, including prior settlement agreements impacting it. I will testify regarding Edwardsport's historical and forecasted operational performance, and specifically its operations from January 1, 2018 through March 31, 2019 as

part of the cessation of the Edwardsport rider proceedings (docketed as Cause No. 43114 IGCC-X) following the completion of this rate case.

I will next review the rate case test period production expenditures for both capital and O&M costs, as well as more broadly discuss historical O&M expenses and future O&M cost forecasts. That will include discussion of corporate and site-specific cost savings and productivity improvement initiatives that have been, are being, or will be implemented, and their impact on costs. I will also discuss historical, test period, and future generation planned outage O&M expenses, focusing on Edwardsport's 2020 major planned outage in detail, and I propose a realistic levelized major planned outage O&M expense for inclusion in base rates. Lastly, I will address the Station's materials and supplies inventory levels.

II. HISTORY OF THE EDWARDSPORT GENERATING FACILITY

Q. PLEASE DESCRIBE THE EDWARDSPORT GENERATING FACILITY.

A. The Edwardsport Generating Facility is located in Knox County, in southwestern Indiana. Edwardsport has a capacity of approximately 618 MW, produced by two gasifiers, with a shared Selexol acid gas removal system and a Clauss process sulfur removal system. Each gasifier train also includes an activated carbon bed for absorption of mercury. Edwardsport also has two GE 7FB combustion turbine generators, each of which is capable of operating on syngas, natural gas, or co-firing for dual fuel operation, two heat recovery steam generators ("HRSGs"), one GE G-13 steam turbine generator, and a multiple cell cooling tower. In addition,

the station is outfitted with a raw water treatment system, grey water treatment facility and two air separation units, which produce liquid nitrogen and liquid oxygen for the station.

Below is a photograph of the Edwardsport Generating Station:

Q. HAS EDWARDSPORT BEEN THE SUBJECT OF PRIOR PROCEEDINGS BEFORE THE COMMISSION?

A. Yes. The Commission granted Edwardsport a certificate of public convenience and necessity ("CPCN") under Indiana Code 8-1-8.5, a clean coal technology CPCN under Indiana Code 8-1-8.7, and approved Edwardsport as a clean energy project and new energy generating facility under Indiana Code 8-1-8.8 on November 20, 2007 in Cause Nos. 43114 and 43114-S1.

The Commission's approvals of and CPCNs for Edwardsport were revised twice – once in Cause No. 43114 IGCC-1, and again in Cause No. 43114 IGCC-4S1.

Q. PLEASE DESCRIBE THE SETTLEMENT AGREEMENT AND COMMISSION ORDER IN CAUSE NO. 43114 IGCC-4S1.

A. At a high level, my understanding is that Cause No. 43114 IGCC-4S1 is where the Commission revised its prior CPCNs to approve a revised cost estimate (described as a "Hard Cost Cap") for Edwardsport's construction of $2.595 billion, plus additional allowance for funds used during construction ("AFUDC") as described in the Order.

Duke Energy Indiana then completed construction of Edwardsport, placing it in-service in June 2013.

Q. PLEASE DESCRIBE THE SETTLEMENT AGREEMENT AND COMMISSION ORDER IN CAUSE NO. 43114 IGCC-15.

A. In 2016, the Company reached a Settlement Agreement with the Indiana Office of the Utility Consumer Counselor ("OUCC"), Citizens Action Coalition of Indiana, Inc. ("CAC"), the Duke Energy Indiana Industrial Group ("Industrial Group"), and Nucor Steel-Indiana, a Division of Nucor Corporation ("Nucor"). This agreement was approved by the Commission on August 24, 2016, and provided:

- An in-service date for Edwardsport of June 7, 2013;
- Caps on recoverable O&M and ongoing capital through 2017;

- An $87.5 million reduction in the operating and maintenance expenses deferred into a regulatory asset; and
- An extension of the amortization period from three to eight years for that regulatory asset.

Q. PLEASE DESCRIBE THE SETTLEMENT AND COMMISSION ORDER IN CAUSE NO. 43114 IGCC-17.

A. In 2017, Duke Energy Indiana reached a Settlement Agreement with the OUCC, the Industrial Group and Nucor ("2018 Settlement Agreement"), which was approved by the Commission on June 5, 2019. This settlement provided for a cap on recoverable O&M for 2018 and 2019 at Duke Energy Indiana's budgeted levels and a further reduction of $30 million in the operating and maintenance expenses deferred into a regulatory asset. It also states that ongoing capital from 2018 through the rate base cutoff date in this rate case may be sought in this rate case proceeding, that Duke Energy Indiana may propose a reasonable level of O&M to be included in base rates in this proceeding (and that the settling parties in the case reserved their rights to challenge that amount should they so choose).

The Settlement Agreement also provided that it was the settling parties' intent to terminate use of a rider for the IGCC plant after amounts were included in base rates for the plant in this proceeding, with a final true up occurring in a subsequent ECR proceeding. On that issue, the Commission indicated it would make that determination in this rate case proceeding.

Q. SINCE JUNE 2013, HOW MANY HOURS HAS EDWARDSPORT OPERATED AND HOW MANY MWH HAS IT PRODUCED?

A. From the time Edwardsport was declared in-service through April 30, 2019, it has operated for 45,306.57 hours and has produced 18,867,630 net MWh.

Q. HAS EDWARDSPORT PROVIDED BENEFITS TO THE STATE OF INDIANA AND KNOX COUNTY BY ITS CONSTRUCTION AND OPERATION?

A. Yes. Duke Energy Indiana has executed contracts with Indiana businesses in excess of $1 billion, and currently approximately employs 225 full-time plant employees and 22 support employees. These full-time employees (excluding highly compensated employees) make an average wage of $87,803. Since the beginning of construction through tax year 2018, Duke Energy Indiana has paid approximately $17.7 million in property-related taxes.

In addition to job creation, economic development and taxes, Edwardsport Station employees have also been significant donors to the United Way in Knox County (2nd highest giving in Knox County), as well as participating in charitable giving campaigns for the Edwardsport Fire Department and the Knox County Salvation Army Angel Tree sponsoring 100 children the last three years.

Q. IS EDWARDSPORT DEVOTED TO AND REASONABLY NECESSARY FOR PROVIDING UTILITY SERVICE TO INDIANA CUSTOMERS?

A. Yes. Since its in-service date, Edwardsport has sent well over 18 million MWh to the grid for the benefit of our Indiana customers. Its equipment and employees are devoted to and reasonably necessary for providing utility service.

Q. MR. GURGANUS, IN YOUR OPINION IS EDWARDSPORT COMPLETED, OPERATIONAL AND IN-SERVICE?

A. Yes, it most certainly is. As mentioned above, it has been operating day in, day out for customers over the past six years.

III. EDWARDSPORT OPERATIONS 2018 THROUGH APRIL 2019

Q. PLEASE PROVIDE AN OVERVIEW OF EDWARDSPORT'S OPERATIONS BETWEEN JANUARY 1, 2018 AND APRIL 30, 2019.

A. Starting on January 1, 2018, Edwardsport's gasifiers, combustion turbines and steam turbine were all operating. Gasifier 2 was then down starting on January 12, 2018 to repair damage to the O_2 piping leading to the feed injector. Train 1 was also removed from service for ten days to inspect similar piping.

After those repairs, the Station was largely online until its 2018 spring planned maintenance that began in April (there was also an emergent issue that arose in this timeframe, which I'll discuss below). This spring planned maintenance was completed as "modular," which I've described in my prior testimony. Basically, it means that we try to schedule maintenance in a way that both allows for necessary maintenance to be completed and also maximizes the opportunity to provide energy for customers at the same time. As planned, both gasifiers were shut down during this spring outage during portions of April and

May, and we staggered our combustion turbine maintenance such that at least one combustion turbine was available most of the maintenance period.

During this 2018 planned maintenance, from April 20-27 we repaired an emergent leak in the cooling water line – this leak was underground, making its repair more challenging. This repair had an impact on the site's equivalent forced outage rate ("EFOR") for the month of April 2018.

Edwardsport operated without significant issues over the summer months. On September 18, 2018, the Fall planned maintenance work began on one system at a time (the modular approach), with all work concluding on November 16, 2018.

In December 2018, Edwardsport set a new net generation record of 404,823 MWh, surpassing the previous record set in March 2017. The entire Station continued to operate with only minor issues from December 2018 through April of 2019.

In a key achievement for the Station, gasifier 1 set a new longest run record of 3,615 run hours (150.6 run days) and was finally shut down on April 28, 2019 due to the need to replace the feed injector and prepare for Spring planned maintenance. In addition, a new record for longest dual gasifier run was set during this time of 1,717 hours (71.6 days) from January 5, 2019 to March 18, 2019.

Finally, and most importantly, the Station has operated safely and environmentally soundly for our employees and community during this period.

Q. MR. GURGANUS, DOES YOUR TEAM REMAIN FOCUSED ON IMPROVING RELIABILITY, EXECUTING PLANNED MAINTENANCE AND REDUCING EXPENSES?

A. Yes. In addition to safety, the Station's main areas of focus continue to be on improving reliability, execution of planned maintenance and reducing expenses.

In 2018, although Edwardsport performed more maintenance (as one example, refractory replacement on both gasifiers) than in 2017, the Station was able to maintain similar operational metrics in 2018 compared to 2017. Approximately the same net generation in 2018 (3,962,016 v. 3,969,291 in 2017) and similar net capacity factor ("NCF") (73.19% average in 2018 v. 73.32% in 2017). We saw slight reductions in availability factor (97.24% average in 2018 v. 99.38% in 2017), gasifier availability (69.35% average in 2018 v. 78.34% in 2017) and in equivalent availability factor (75.70% average in 2018 v. 78.09% in 2017). There was an improvement in EFOR for 2018 of 12.50% compared to 13.58% in 2017.

For the first four months of 2019, the Station has performed well with NCF averaging above 81% and gasifier availability averaging above 96%. I believe the Station's operational metrics show that our prior investments in reliability have proven successful, and we will continue to place the highest priority on reliable and safe operations.

The modular approach to outages is proving to be effective at focusing our work where needed, while also maximizing generation to the extent possible. Of

course, there will be planned maintenance where the entire site needs to be taken off line, but our goal is to maximize production even during planned maintenance.

My team continues its focus on safe and reliable operations while reducing cost. We reduced the number of contractors at the Station by 100 during 2017 and in 2018 contractors were reduced from 124 to 113 by the end of 2018. We continue to strive to take O&M costs out of operations through efficiencies, which will be discussed later in my testimony.

Q. PLEASE DESCRIBE THE WORK PERFORMED DURING THE SPRING 2018 MAINTENANCE PERIOD.

A. The Spring 2018 maintenance period included the largest scope of work since the Fall 2016 outage, including emergent additions to the scope. The Spring outage began on April 13, 2018 with work on combustion turbine 1 beginning and concluding on April 27, 2018. Planned maintenance on combustion turbine 2 then took place starting on April 30, 2018 and concluding on May 8, 2018. Summer prep work (dewinterizing the evaporative cooling and a water wash) was performed on both combustion turbines.

Gasifier 2 was brought down April 6, 2018 and gasifier 1 on April 7, 2018 for planned maintenance, including refractory brick replacements. However, inspection of the gasifiers led my team to also replace the refractory in the dome of gasifier 1 and in the lower throat and intermediate flange of gasifier 2.

In addition, the Station also worked on replacing piping in the flare header, refractory replacement in the furnace of the sulfur recovery unit, and repairs to the condensate ammonia stripper, an emergent project.

The Spring maintenance was intended to last from April 7, 2018 to May 22, 2018, but with the emergent work performed, instead concluded on May 31, 2018, remaining under budget.

Q. PLEASE DESCRIBE THE FALL 2018 PLANNED MAINTENANCE.

A. The Fall 2018 maintenance period was intended to begin on September 14, 2018, but was delayed by four days to September 18, 2018 due to a request to stay online to serve load. The Station performed combustion inspections, borescopes and water washes on combustion turbine 1 from September 18 to October 3, and on combustion turbine 2 from October 4 to October 16, 2018.

Gasifier 1 was offline for planned inspections and maintenance from October 25 to November 6, and gasifier 2 was offline for its planned inspections and maintenance from November 7 to November 16, 2018.

My team also performed needed preventative maintenance on the slurry charge pumps and the slag crushers for each gasifier, process safety valve repairs, and a replacement of the coal conveyor belt and rollers. In addition, we performed safety instrumented system testing, as well as additional planned inspections and repairs.

I was pleased that this fall planned maintenance was performed in a shorter time period than planned and under budget.

Q. WERE THERE ANY OPERATIONAL ISSUES IN 2018 OR THE FIRST PART OF 2019 YOU WOULD LIKE TO MENTION?

A. Yes. The Station has experienced a decrease in High-Pressure ("HP") steam production due to fouling of the Radiant Syngas Coolers ("RSC"). We expect to mitigate this fouling by improving our slurry system and cleaning of the RSC tubes. One area we are addressing is the installation of new Slurry Run Tank Agitators planned for the Spring and Fall Gasifier Outage periods. These new agitators will improve the slurry consistency that is pumped to the gasifiers. Additionally, the site will be performing manual cleaning of the RSC tubes on both gasifiers in the Spring 2020 major outage. These adjustments are expected to improve net energy output of the Plant.

Q. PLEASE DESCRIBE THE OPERATIONAL STATISTICS PROVIDED AS PETITIONER'S EXHIBIT 20-A (CTG).

A. Included in this exhibit are the following performance metrics:

1) Net MWh by month (site-wide)
2) Availability by month (site-wide)
3) Coal / natural gas / syngas usage by month
4) Gasifier starts and run hours by month
5) Combustion turbine and steam turbine starts and run hours by month
6) Gasification availability by month
7) Net capacity factor by month (site-wide)
8) Equivalent availability by month (site-wide)

9) Equivalent forced outage rate by month (site-wide)

Although the performance of Edwardsport should be assessed over the long-term (rather than one month at a time as is presented in my Exhibit 20-A (CTG)) I want the Commission and interested parties to have a transparent view into Edwardsport's operations.

I've also attached a graphical representation of various Edwardsport IGCC performance metrics as Petitioner's Exhibit 20-B (CTG).

IV. HISTORICAL, TEST PERIOD, AND FUTURE O&M COSTS

Q. HOW IS EDWARDSPORT'S NON-FUEL O&M EXPENSE DETERMINED?

A. Non-fuel O&M includes the costs associated with the operation, maintenance, administration and support of Edwardsport. The types of expenses incurred are the same types of expenses all Duke Energy Indiana power plants incur during O&M activities, such as labor, chemicals, maintenance and outage. Labor for operating the Plant includes the shift employees and contractors that are required to operate the plant 24 hours a day, seven days a week, as well as the management team, maintenance personnel, instrument technicians, electricians, and mechanics. Another type of routine O&M is the chemicals used to support the correct chemistry balance for the plant water and treatment systems. Parts for maintenance work, such as motor, breaker, valve, and pump overhauls, worn turbine components, bearings, seals, packing, safety instrumented system and

computer systems that allow proper control and protection of the integrated plant are also included in the station's O&M.

Q. PLEASE DESCRIBE THE MAJOR CATEGORIES FOR O&M EXPENSES.

A. There are two major categories of O&M:

- Basic generating station operations
- Maintenance outages

Basic generating station operations O&M expenses are generally incurred on an ongoing basis. Planned outage O&M expenses however, are generally incurred based on the maintenance outage cycle of the Station components. Of course, there is also emergent work required. When identified during normal operations, it would be included in basic generation station expenses. When identified during outage work, the expenses are included as part of that outage cost.

Q. WHICH REAGENTS ARE INCLUDED IN THE TEST PERIOD AS O&M EXPENSES?

A. The most commonly used reagents include:

Polymers

Acids and bases for pH control

Coagulants

Anti-scalants

Biocides and disinfectants

Corrosion inhibiters and chlorine scavengers

Acid Gas Removal Selexol make up

The annual cost of these reagents depends on operating hours because they are variable in nature. Current 2020 forecast for these chemicals is about $7 million. The level of reagents included in the 2020 forecast is similar to the 2018 historical amount despite the major outage due to expected improvements in reliability and generation levels.

Q. ARE YOU SPONSORING THE POWER PRODUCTION O&M AND CAPITAL EXPENDITURES IN THIS FORECAST?

A. I am sponsoring only a portion of the Power Production O&M and Capital Expenditures in this forecast related to Edwardsport operations. Duke Energy Indiana Witnesses Mr. James Michael Mosley, Mr. Timothy Thiemann and Mr. Andrew Ritch will also be sponsoring other portions of the Power Production O&M and Capital Expenditures forecast.

Q. WHAT LEVEL OF TOTAL O&M EXPENSES ARE REFLECTED IN DUKE ENERGY INDIANA'S 2020 FORECAST FOR EDWARDSPORT?

A. Duke Energy Indiana's total 2020 Edwardsport O&M test period forecast is $145.8 million. This includes $46.4 million in expenses associated with a major outage that occurs about once every seven years, as will be discussed below. Note that the $145.8 million includes the Power Production O&M attributable to Edwardsport of $139.1 million shown in the table below and provided to Company witness Mr. Chris Jacobi, plus $6.7 million in miscellaneous

administrative and general benefit costs for Edwardsport that were forecasted by other corporate groups.

Q. HOW DOES THE 2020 EDWARDSPORT O&M TEST PERIOD FORECAST COMPARE TO THE 2019 O&M BUDGET AND THE ACTUAL 2018 O&M EXPENDITURES?

A. A comparison of the Forecasted 2020 Edwardsport O&M expenses to the 2019 Budget and 2018 Actual O&M expenses is shown in the table below.

Table 1:

$ in Millions	2018 Actual	2019 Budget	2020 Forecast
Edwardsport O&M	$99	$96	$139
Increase / (Decrease)		($3)	$43
Less 2020 Major outage O&M			$46
Adjusted Increase / (Decrease)			($3)

Q. PLEASE DESCRIBE THE MAJOR CHANGES BETWEEN THE 2018 ACTUAL, 2019 BUDGET AND 2020 FORECASTED EDWARDSPORT O&M EXPENDITURES INCLUDING ANY MAJOR ASSUMPTIONS UTILIZED TO ARRIVE AT THE 2020 FORECAST.

A. Edwardsport's actual O&M expense for 2018, 2019 budget and 2020 forecast are actually on a slightly declining trend. The large increase shown in the 2020 forecast is due to the variability of station outages. 2020 happens to be the year of a major outage that occurs approximately every seven years. The Station's O&M

is actually lower in the 2020 forecast than it was in 2018 or budgeted in 2019 when the major maintenance outage planned for 2020 is removed (I will discuss below Duke Energy Indiana's ratemaking proposal for the 2020 outage).

In the initial years of operations for the Station the focus was on operating the Station and increasing reliable operations of this unique generating plant. We learned a lot in those years. Since 2017 we have also keenly focused on reducing O&M through efficient operation and proactive maintenance. We believe these efforts are paying off and the forecasted O&M for 2020 (absent the major outage) demonstrates that. We have included the following reductions to our budget in 2020: decreased costs for slag backhauling, decreased contractor costs, decreased full time employee expenses, improved outage execution efficiency, and improvements to the operation of the gasifier slurry systems and support systems.

Q. DID YOU PROVIDE THE 2020 EDWARDSPORT O&M EXPENSES REFLECTED ABOVE TO WITNESS MR. CHRIS JACOBI FOR INCLUSION IN THE DUKE ENERGY INDIANA FORECASTED 2020 TEST PERIOD PROPOSED IN THIS CASE?

A. Yes.

V. HISTORICAL, TEST PERIOD, AND FUTURE CAPITAL COSTS

Q. PLEASE DESCRIBE HOW POST-IN-SERVICE CAPITAL FOR EDWARDSPORT WAS DEALT WITH IN THE 2018 SETTLEMENT AGREEMENT.

A. Under the terms of the 2018 Settlement Agreement, the Company agreed not to include its ongoing capital in the Edwardsport rider from January 1, 2018 forward. Rather, the settling parties agreed any capital expenditures from 2018 through the test period would be handled in this rate proceeding. Therefore, my testimony will describe the capital investment at Edwardsport from January 1, 2018 through December 31, 2020.

Q. WHAT LEVEL OF EDWARDSPORT CAPITAL EXPENDITURES ARE REFLECTED IN DUKE ENERGY INDIANA'S 2020 FORECAST?

A. Duke Energy Indiana's 2020 Edwardsport Capital Expenditures Forecast is about $51 million.

Q. HOW DOES THE 2020 EDWARDSPORT CAPITAL EXPENDITURES FORECAST COMPARE TO THE 2019 CAPITAL EXPENDITURES BUDGET AND THE ACTUAL 2018 CAPITAL EXPENDITURES?

A. A comparison of the Forecasted 2020 Edwardsport Capital expenditures to the 2019 Budget and 2018 Actual Capital Expenditures is shown in the table below.

Table 2:

$ in Millions	2018 Actual	2019 Budget	2020 Forecast
Edwardsport Capital Expenditures	$31	$19	$51
Increase / (Decrease)		($12)	$32

Q. PLEASE DESCRIBE THE MAJOR CHANGES BETWEEN THE 2018 ACTUAL, 2019 BUDGET AND 2020 FORECASTED EDWARDSPORT

CAPITAL EXPENDITURES INCLUDING ANY MAJOR ASSUMPTIONS UTILIZED TO ARRIVE AT THE 2020 FORECAST.

A. Edwardsport maintenance capital expenditures are largely driven by planned maintenance outage or derate costs in any given year. In years with more major planned maintenance work, the capital expenditures are higher. It can vary from year to year.

The 2018 outage major projects included: the ammonia acid gas flare header replacement, the combustion inspections of both combustion turbines, the addition of two slurry charge booster pumps, heat recovery steam generator ("HRSG") steam blowdown redirection, and VRLA battery replacements. The ammonia acid gas flare header was replaced to improve the reliability by increasing the strength and wall thickness of the existing system. The combustion inspections were a part of our scheduled seven-year outage maintenance cycle, which I will go more in-depth on later. The two (one per train) slurry charge booster pumps will increase the efficiency of the coal preparation stage of the process. The HRSG steam blowdown was redirected due to vapor unintentionally blowing in the exiting area of the HRSG elevator, which created a safety concern for any employees working in that area. The VRLA batteries are the Station's backup batteries if a loss of power event were to occur. These VRLA battery replacements were necessary after several batteries failed tests during their routine inspections.

The 2019 budget reflects a lighter planned maintenance year. The Station expects to replace the refractory of the throat portion of the train 1 gasifier to help increase the heat transfer efficiency of the gasifier. The Station also expects to begin the major outage project of the replacement of the syngas saturator HP feedwater pumps to reduce the amount of maintenance necessary to keep these pumps operational.

As discussed in more detail later in my testimony, 2020 planned maintenance work will be the most significant we have performed to date. In 2020, the Station expects to address the major outage work of: each combustion turbine's major inspections, steam turbine valve delamination, the replacement of gasifier refractory, and the replacement of steam turbine controlling valves. Additionally, the Station expects to replace the rod mill's liners and bolts to improve the slurry consistency of the system. The major 2020 outage, expected to occur approximately every seven years, comes with both increased O&M and capital expenditures.

Q. HAVE THERE BEEN ANY UPDATES ON CAPITAL SPENDING EXPECTED FOR 2019 THAT ARE NOT REFLECTED IN THE TABLE ABOVE?

A. Yes. In 2019, the Station expects to begin the major outage project of replacing the Station's slurry run tank agitators to improve the consistency of the slurry prior to being pumped to the feed injectors. This project was not initially included in the 2019 budget and would increase that expected budget by about $9

million. The Station also plans to complete a cross-tie between the two slurry systems that will increase reliability as it will allow slurry to be moved between the two slurry trains.

Q. DID YOU PROVIDE THE 2020 EDWARDSPORT CAPITAL EXPENDITURES REFLECTED ABOVE TO WITNESS MR. CHRIS JACOBI FOR INCLUSION IN THE DUKE ENERGY INDIANA FORECASTED TEST PERIOD PROPOSED IN THIS CASE?

A. Yes.

Q. IS THE AMOUNT OF CAPITAL INVESTED AT EDWARDSPORT REASONABLE AND NECESSARY FOR ITS OPERATIONS?

A. Yes. The components of all generating stations (such as Edwardsport) deteriorate, fail, or become obsolete over time and must be replaced to maintain safe, reliable, efficient, environmentally-compliant, and low-cost service. Additionally, capital investment must be made in response to evolving environmental and safety-related regulatory requirements. The amount of capital investment to be made at Edwardsport represents an appropriate amount of investment to maintain its expected level of service.

VI. EDWARDSPORT'S 2020 MAJOR OUTAGE

Q. MR. GURGANUS, YOU MENTIONED BEFORE THAT EDWARDSPORT HAS A PLANNED MAJOR OUTAGE IN 2020. PLEASE DESCRIBE THAT PLANNED MAINTENANCE OUTAGE.

A. The 2020 Planned Maintenance outage is scheduled for a duration of 52 days beginning on April 4, 2020 and concluding on May 25, 2020. During this time period, both gasifiers, both combustion turbines and the steam turbine will be offline.

Gasifier 1's planned maintenance will include refractory replacement in the sidewall and the cone, and include summer preparation work. Gasifier 2's planned maintenance will include refractory replacement in the upper throat area, as well as summer preparation work. With both gasifiers offline, the Station will also be replacing the flare pilot thermocouples and performing inspections on common gasification equipment.

Both combustion turbines will have major inspections –combustion inspections and hot gas path inspections. While the Station has performed combustion inspections and hot gas path inspections in the past, this major inspection comprises of inspecting the bearings, the rotor after it is removed, the fits of the blades, the turbine casing and shell, and performing a thorough compressor inspection for the first time. Additionally, each combustion turbine will have generator medium/robotic inspections performed to inspect the generator belly bands and the generator winding without removing the rotor from the generator. Each HRSG will have six valves replaced due to an industry issue of valve seat delamination. This is part of an effort from the utility industry to ensure that these valves will not cause an unplanned outage.

The steam turbine will undergo the most maintenance since it was commissioned. The steam turbine will have a major inspection performed, as well as inspections of the steam turbine main steam, hot reheat, and low-pressure control valves. The major inspection will be like the major inspections performed on both combustion turbines, as it will require that the rotor be removed to inspect the blading of the turbine. However, when the rotor is removed, it will be sandblasted to reveal any defects, and the steam turbine's diaphragms and seals will be inspected once it is disassembled. Also, like the combustion turbines, the generator winding will be inspected. Unlike the combustion turbine generators, the rotor will be removed to perform a more thorough inspection without the use of robotics.

Q. WHAT ARE THE OUTAGE-RELATED O&M EXPENDITURES EXPECTED IN 2020?

A. The Station's 2020 outage has an O&M budget of $46.4 million, and it will be the largest outage at Edwardsport to date. In addition to the other Station systems being due for major maintenance (gasifiers and combustion turbines), this will also be the first time the steam turbine is due for its major planned maintenance.

Q. DO YOU ANTICIPATE OPERATIONAL BENEFITS FROM THIS FIRST MAJOR OUTAGE AT EDWARDSPORT?

A. Yes, I do. These inspections will allow the Station to identify and correct issues during a planned outage that would necessitate multiple pieces of equipment being offline, improving the Station's reliability. By repairing the refractory on

the gasifiers, the Station will be able to maintain longer runs. Additionally, this period of gasifier unavailability will allow for a thorough cleaning of the radiant syngas cooler ("RSC") tubes, which will help increase the HP steam flow to the steam turbine.

The major inspections of both combustion turbines and the steam turbine will allow the Station to ascertain the condition of the equipment, and to identify and address any potential deficiencies that may exist.

Q. HOW OFTEN DOES EDWARDSPORT HAVE MAJOR OUTAGES SUCH AS THE ONE PLANNED IN 2020?

A. Edwardsport has worked closely with our regional project engineering group and have developed a seven-year outage cycle. This schedule was developed to optimize the amount of generation that is being provided to the grid by the fleet while maximizing the output of the Station.

At Edwardsport, we have identified several major components that will be tracked and addressed during this seven-year cycle. These include items such as: the gasifier refractory replacement, combustion turbine inspections (major, combustion, and hot gas path), and the steam turbine inspections (major and HP/IP).

While the 2020 outage will require that all major components be removed from service, these outages will be infrequent, not occurring again until approximately 2027. The next planned dual gasifier outage is tentatively scheduled for 2023.

Q. WHAT IS DUKE ENERGY INDIANA PROPOSING IN THIS CASE FOR THIS CYCLICAL MAINTENANCE?

A. Duke Energy Indiana understands that building the full amount of 2020 outage expense into base rates does not make sense given that it will only occur approximately every seven years. Therefore, the Company is proposing to include 1/7 of this planned maintenance into its base rates – meaning that the Company will recover the costs of the 2020 outage over the following seven years. The intent is to recover the expense of the 2020 outage before a second major outage occurs in approximately 2027. Ms. Diana Douglas discusses this proposal more in her testimony.

VII. EDWARDSPORT INVENTORY LEVELS

Q. PLEASE DESCRIBE THE MATERIALS AND SUPPLIES EDWARDSPORT KEEPS AS INVENTORY.

A. The Edwardsport inventory consists of items that are required to maintain the site's equipment in a safe and reliable manner. The amount of inventory included in the 2020 test period forecast is $154,767,343. A portion of this inventory includes combustion turbine repair and replacement parts which are required because the Edwardsport combustion turbines are designed to fire a range of either natural gas or synthetic gas. This inventory also includes, but is not limited to:

- spare heat exchangers and repair components,
- gasifier feed injectors and repair assemblies,

- gasifier refractory,
- gas compressor repair components,
- repair and replacement components for pumps, motors, piping, and valves,
- electrical, controls, monitoring, and measuring repair and replacement components.

The Edwardsport inventory is required to be on site due to lead times of materials based on vendor availability, domestic and foreign supplier fabrication, shipping, handling, and freight which are aligned with repair and replacement maintenance cycles of critical plant equipment.

Q. IS THIS LEVEL OF INVENTORY REASONABLE AND NECESSARY FOR THE OPERATION OF THE STATION?

A. Yes, it is. It is critical that we have replacement parts available for unplanned maintenance and planned maintenance work. Many of our vendors are overseas and lead time is longer. Additionally, requesting on demand material and supplies when they are needed would likely add increased cost. So, to be ready to provide reliable service, we need spare parts on hand. The level of inventory has worked well to ensure we can timely repair and replace worn or broken materials and supplies. However, we are also making efforts to source more domestic materials and supplies and that will enable us to reduce inventory in the future.

VIII. CONCLUSION

Q. ARE THE EDWARDSPORT EXPENSES INCLUDED IN THIS PROCEEDING REASONABLY REPRESENTATIVE OF DUKE ENERGY INDIANA'S EXPECTED ACTIVITIES AND EXPENSES REASONABLE AND NECESSARY TO PROVIDE ONGOING SAFE, RELIABLE, EFFICIENT AND ENVIRONMENTALLY-COMPLIANT GENERATION OF ELECTRICITY FOR THE COMPANY'S CUSTOMERS?

A. Yes. Duke Energy Indiana operates Edwardsport safely and reliably, which allows for reasonable forecasting of O&M and capital expenditures. The forecasted level of O&M expense represents a reasonable level going forward. These expenses have been scrutinized at the station, operating company and corporate level, and are representative of the level of O&M expense necessary to continue to provide ongoing safe, reliable, and efficient generation to Duke Energy Indiana customers.

Q. WERE PETITIONER'S EXHIBITS 20-A (CTG) AND 20-B (CTG) PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PREFILED DIRECT TESTIMONY?

A. Yes, it does.

Summary of Net Generation and Operational Metrics

2013 - 2014	Net Generation MWH(a)	Net Capacity Factor	Availability Factor	Gasifier(b) Availability Factor	Equivalent Availability Factor	Equivalent Forced Outage Rate
2013						
June(c)	117,411	26.39	99.72	29.55	82.37	48.89
July	119,268	26.19	94.52	14.45	68.97	34.53
August	272,509	60.39	100.00	76.01	80.83	9.67
September	138,340	31.66	98.73	47.96	63.36	30.29
October	195,973	43.31	75.74	58.60	61.32	15.26
November	124,650	28.28	75.76	32.19	65.87	1.07
December	147,071	32.39	90.36	41.69	61.46	29.94
Com 2013 Averages(d)	1,115,222	35.61	90.68	43.00	69.15	23.57
2014						
January	81,316	17.54	89.93	4.84	60.78	39.09
February	21,697	5.21	58.23	0.61	41.72	31.03
March	148,195	32.77	97.73	50.93	77.25	26.39
April	164,869	37.99	94.55	61.56	68.26	21.35
May	302,967	66.80	99.74	82.79	87.77	6.61
June	256,362	58.39	93.19	84.74	73.02	19.89
July	308,374	67.63	100.00	90.99	79.27	12.14
August	283,701	61.70	99.37	90.02	75.35	17.09
September	66,419	14.93	57.11	26.57	27.15	33.61
October	122,085	26.55	100.00	21.60	70.58	28.09
November	315,521	70.91	100.00	84.35	87.13	12.87
December	107,302	23.34	100.00	29.34	82.20	20.10
2014 Averages(d)	2,178,808	40.54	91.13	52.66	69.49	21.24

2015 - 2016	Net Generation MWH(a)	Net Capacity Factor	Availability Factor	Gasifier(b) Availability Factor	Equivalent Availability Factor	Equivalent Forced Outage Rate
2015						
January	305,460	66.43	100.00	76.34	80.95	19.05
February	287,843	69.31	99.86	82.85	78.60	21.40
March	350,543	76.24	100.00	77.32	87.31	12.69
April	85,979	19.32	40.00	10.65	26.49	12.68
May	116,476	25.33	77.28	4.92	47.36	41.70
June	307,236	69.05	100.00	56.93	76.30	16.09
July	368,309	80.10	100.00	87.18	83.67	8.39
August	278,768	60.63	100.00	57.37	70.13	19.37
September	361,116	81.16	100.00	92.04	85.37	7.02
October	242,372	52.71	100.00	62.74	64.37	16.16
November	61,803	13.89	87.96	0.00	42.25	46.95
December	341,566	74.29	100.00	37.46	78.61	21.39
2015 Averages(d)	3,107,471	57.40	92.14	53.73	68.49	18.82
2016						
January	342,873	74.57	100.00	82.55	82.92	17.08
February	376,695	87.58	100.00	100.00	90.13	9.87
March	351,127	76.37	100.00	69.52	78.29	21.50
April	230,299	51.76	75.72	57.11	51.48	37.77
May	152,651	33.20	83.25	3.76	34.73	31.67
June	361,110	81.16	100.00	77.35	83.76	12.58
July	347,328	75.54	100.00	60.37	77.55	16.46
August	385,398	83.82	100.00	90.17	85.91	10.37
September	276,943	62.24	77.79	64.87	66.63	8.84
October	-6,819	0.00	0.00	0.00	0.00	0.00
November	19,815	4.45	11.34	0.00	6.74	38.26
December	255,127	55.49	100.00	19.54*	57.78	34.28
2016 Averages(d)	3,092,547	56.97	79.03	52.27*	59.57	19.94

**Includes Gasifier 2 Available but unused due to CT2 issues (December 2016 and 2016 YTD Gasifier On-Stream Percentage was 17.65% and 51.71%, respectively)*

2017 - 2018	Net Generation MWH(a)	Net Capacity Factor	Availability Factor	Gasifier(b) Availability Factor	Equivalent Availability Factor	Equivalent Forced Outage Rate
2017						
January	310,090	67.44	93.28	70.62	72.24	27.76
February	365,765	88.07	100.00	100.00	91.74	8.26
March	402,039	87.44	100.00	93.95	89.34	10.66
April	297,422	66.84	100.00	84.56	68.19	13.96
May	247,705	53.87	100.00	61.40	68.31	6.27
June	372,725	83.77	100.00	92.49	85.78	10.13
July	359,305	78.15	100.00	97.50	79.20	17.08
August	366,476	79.70	100.00	97.50	80.78	15.50
September	268,135	60.26	100.00	59.44	71.23	10.81
October	228,519	49.70	99.39	50.03	61.09	14.31
November	393,360	88.40	100.00	91.48	90.21	7.74
December	357,749	77.81	100.00	43.69	80.44	19.56
2017 Averages(d)	3,969,291	73.32	99.38	78.34	78.09	13.58
2018						
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
November	330,772	74.34	96.99	65.04	78.06	17.57
December	404,823	88.04	100.00	100.00	89.74	10.26
2018 Averages	3,962,016	73.19	97.24	69.35	75.70	12.50

2019	Net Generation MWH(a)	Net Capacity Factor	Availability Factor	Gasifier(b) Availability Factor	Equivalent Availability Factor	Equivalent Forced Outage Rate
2019						
January	393,466	85.57	100.00	95.40	87.68	9.14
February	352,992	85.00	100.00	100.00	87.00	12.32
March	365,274	79.44	100.00	95.73	81.12	18.85
April	330,543	74.29	100.00	96.53	75.80	21.03
May						
June						
July						
August						
September						
October						
November						
December						
2019 Averages(d)	1,442,275	81.03	100.00	96.84	82.86	15.36

Notes:

(a) – Source of net MWH is Duke EMS

(b) – Gasifier availability is based on the hours that the gasifiers were producing syngas.

(c) – Net Generation, Net Capacity Factor and Gasifier Availability Factor are based on the entire 30 day month (pre-commercial and commercial). The remaining metrics are based solely on the commercial portion of the month due to the limitations of the tracking program (commercial data only is entered).

(d) – Time period averages, typically annual, except for Net Generation. Net Generation is the time period total, in MWH.

BDB&BAC – 5/3/2019

Coal Received and Consumed (tons)

2012	Beginning Inventory	Received	Consumed in Generation	Consumed in Light Off	Ending Inventory
January	58,901.93	26,654.89	0	0	85,556.82
February	85,556.82	37,407.23	0	0	122,964.05
March	122,964.05	66,464.46	0	0	189,428.51
April	189,428.51	38,463.93	0	0	227,892.44
May	227,892.44	52,547.16	0	0	280,439.60
June	280,439.60	34,717.21	0	0	315,156.81
July	315,156.81	43,538.10	0	0	358,694.91
August	358,694.91	0	0	0	358,694.91
September	358,694.91	0	0	446.00	358,248.91
October	358,248.91	8,598.30	305.76	1,640.24	364,901.21
November	364,901.21	8,710.53	8,860.34	1,972.66	362,778.74
December	362,778.74	8,715.53	11,605.98	3,428.02	399,381.57*****
2012 Total	58,901.93	325,817.34	20,772.08	7,486.92	399,381.57

***** Includes a 42,921ton adjustment from a flyover inventory conducted in December.

2013	Beginning Inventory	Received	Consumed in Generation	Consumed in Light Off	Ending Inventory
January	399,381.57	0.00	1,066.89	306.11	398,008.57
February	398,008.57	0.00	20,318.33	1,937.67	375,752.57
March	375,752.57	8,709.85	15,828.69	1,218.31	367,415.42
April	367,415.42	17,499.20	0.00	0.00	384,914.62
May	384,914.62	17,419.33	20,948.78	2,211.22	379,173.95
June	379,173.95	25,776.23	51,768.55	1,833.45	351,348.18
July	351,348.18	17,412.90	23,349.97	2,202.03	343,209.08
August	343,209.08	86,165.48	126,344.94	2,898.06	300,131.55
September	300,131.55	87,115.53	69,786.06	2,352.94	315,108.08
October	315,108.08	77,721.78	105,816.13	245.87	286,767.85
November	286,767.85	78,412.15	55,321.55	390.20	309,468.25
December	309,468.25	80,967.95	62,630.74	3,307.51	324,497.95
YTD	399,381.57	497,200.38	553,180.63	18,903.37	324,497.95

2014	Beginning Inventory	Received	Consumed in Generation	Consumed in Light Off	Ending Inventory
January	324,498.00	45,229.60	6,927.80	621.95	362,177.85
February	362,177.85	0.00	476.47	137.78	361,563.60
March	361,563.60	81,024.30	81,123.51	495.24	360,969.15
April	360,969.15	104,437.65	99,455.72	399.13	365,551.95
May	365,551.95	135,604.89	154,235.45	1,309.01	345,612.38
June	345,612.38	143,067.53	139,166.32	1,301.62	348,211.98
July	348,211.98	139,298.30	151,353.48	376.02	335,780.78
August	335,780.78	162,798.25	155,483.04	598.46	342,497.53
September	342,497.53	69,682.70	41,888.00	0.00	370,292.23
October	370,292.23	46,477.55	38,538.46	929.48	377,301.84
November	377,301.84	127,756.88	125,137.46	273.74	379,647.51
December	379,647.51	46,457.71	52,351.34	1,226.66	393,225.65*
YTD	324,498.00	1,101,835.36	1,046,134.27	7,671.87	393,225.65

* Includes a 20,698.43 ton adjustment from the annual flyover inventory.

2015	Beginning Inventory	Received	Consumed in Generation	Consumed in Light Off	Ending Inventory
January	393,225.65	137,475.65	138,931.38	196.62	391,573.30
February	391,573.30	111,173.28	117,301.00	0.00	385,445.58
March	385,445.58	77,312.47	126,026.95	230.05	336,501.05
April	336,501.05	69,696.39	19,967.72	153.78	386,075.94
May	386,075.94	11,589.70	8,245.74	398.68	389,021.22
June	389,021.22	81,273.29	92,856.51	329.07	377,108.93
July	377,108.93	150,802.75	164,286.46	178.04	363,447.18
August	363,447.18	139,231.59	106,260.78	330.02	396,087.97
September	396,087.97	139,405.60	159,862.32	255.88	375,375.37
October	375,375.37	127,582.39	111,898.50	0.00	391,059.26
November	391,059.26	0.00	0.00	0.00	391,059.26
December	391,059.26	81,221.74	75,057.86	130.81	370,287.72**
YTD	393,225.65	1,126,764.85	1,120,695.22	2,202.95	370,287.72

** Includes a (26,804.61) ton adjustment from the annual flyover inventory.

2016	Beginning Inventory	Received	Consumed in Generation	Consumed in Light Off	Ending Inventory
January	370,287.72	138,333.70	145,115.25	175.58	363,330.59
February	363,330.59	184,193.91	182,600.00	0.00	364,924.50
March	364,924.50	127,818.42	126,830.36	428.64	365,483.92
April	365,483.92	116,345.34	97,006.74	541.76	384,280.76
May	384,280.76	0.00	5,203.09	410.69	378,666.98
June	378,666.98	151,280.44	148,588.06	1,129.56	380,229.80
July	380,229.80	116,202.89	119,391.63	111.97	376,929.09
August	376,929.09	174,575.39	168,449.86	214.64	382,839.98
September	382,839.98	127,968.67	124,417.72	129.78	386,261.15
October	386,261.15	0.00	0.00	0.00	386,261.15
November	386,261.15	0.00	0.00	0.00	386,261.15
December	386,261.15	11,607.25	26,396.37	940.22	370,531.81
YTD	370,287.72	1,148,326.01	1,143,999.08	4,082.84	370,531.81

2017	Beginning Inventory	Received	Consumed in Generation	Consumed in Light Off	Ending Inventory
January	370,531.81	115,974.08	111,406.50	454.41	374,644.98
February	374,644.98	116,112.61	158,027.50	0.00	332,730.09
March	332,730.09	127,466.31	185,745.52	82.48	274,368.40
April	274,368.40	116,049.61	121,353.17	329.33	268,735.51
May*	271,267.51	116,299.87	103,022.40	560.60	283,984.38
June	283,984.38	162,390.49	167,876.67	414.83	278,083.37
July	278,083.37	174,265.60	177,164.57	191.23	274,993.17
August	274,993.17	185,869.97	178,259.29	157.91	282,445.94
September	282,445.94	116,176.87	104,027.16	0.00	294,595.65
October	294,595.65	116041.37	93,975.99	615.85	316,045.18
November	316,045.18	150,858.78	174,382.38	249.12	292,272.46
December	292,272.46	92,775.98	84,683.75	701.75	275,384.75**
YTD	370,531.81	1,590,281.54	1,659,924.90	3,757.51	275,384.75

*An accounting discrepancy was discovered with Comtrac during the end of month finalization of April's numbers. The beginning of May's inventory was found to be 2,532 tons higher than previously thought.

** Includes a (24,278.19) ton adjustment from the annual flyover inventory.

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	298,342.69	104,607.21	111,132.77	1,200.13	290,617.00
December	290,617.00	162,533.06	187,673.24	0.00	265,476.82
YTD	275,384.75	1,433,416	1,438,818	4,506.61	265,476.82

2019	Beginning Inventory	Received	Consumed in Generation	Consumed in Light Off	Ending Inventory
January	265,476.82	139,380.07	158,355.97	160.39	246,340.53
February	246,340.53	112,838.33	170,736.91	0.00	188,441.95
March	188,441.95	172,841.50	160,207.18	76.41	200,999.86
April	200,999.86	150,658.79	164,033.20	0.00	187,625.45
May					
June					
July					
August					
September					
October					
November					
December					
YTD	265,476.82	575,719	653,333	236.81	187,625.45

Natural Gas Purchased and Consumed (dekatherms)

2012	CTs Consumed in Generation	CTs Consumed in Light Off	Consumed in Balance of Plant	Total Consumed by All Sources
January	-	-	30,265	30,265
February	-	-	30,894	30,894
March	426	240	42,819	43,485
April	20,146	1,766	25,840	47,751
May	296,609	1,697	39,703	338,009
June	1,201,377	705	45,355	1,247,437
July	-	-	9,333	9,333
August	1,175,635	570	26,161	1,202,367
September	1,554,061	464	10,776	1,565,301
October	731,135	122	112,592	843,849
November	409,441	196	111,291	520,928
December	552,600	4,637	184,778	742,015
2012 Total	5,941,430	10,396	669,808	6,621,634

2013	CTs Consumed in Generation	CTs Consumed in Light Off	Consumed in Balance of Plant	Total Consumed by All Sources
January	350,545	3,244	105,505	459,294
February	267,773	762	110,219	378,754
March	333,674	162	105,007	438,844
April	55,267	1,750	51,538	108,555
May	1,464,853	2,456	165,149	1,632,458
June	364,745	0	79,946	444,691
July	1,049,958	2,167	162,425	1,214,550
August	478,102	486	110,600	589,188
September	379,206	6,694	86,931	472,831
October	115,770	474	70,526	186,770
November	276,902	393	69,907	347,202
December	835,072	2,315	174,072	1,011,459
YTD	5,971,868	20,903	1,291,825	7,284,596

2014	CTs Consumed in Generation	CTs Consumed in Light Off	Consumed in Balance of Plant	Total Consumed by All Sources
January	1,057,086	1,988	190,723	1,249,797
February	439,715	709	114,404	554,828
March	312,247	228	115,871	428,347
April	198,003	466	112,296	310,765
May	67,036	227	65,655	132,919
June	158,638	320	109,739	268,697
July	197,406	82	70,060	267,548
August	97,464	175	33,523	131,162
September	94,375	877	56,329	151,582
October	879,810	3,820	114,794	998,424
November	688,123	66	20,697	708,887
December	493,474	634	132,603	626,710
YTD	4,683,378	9,593	1,136,694	5,829,665

2015	CTs Consumed in Generation	CTs Consumed in Light Off	Consumed in Balance of Plant	Total Consumed by All Sources
January	374,059	238	26,304	400,601
February	618,540	566	32,242	651,349
March	888,635	0	11,922	900,557
April	496,155	0	61,559	557,714
May	897,438	594	78,098	976,130
June	1,250,722	108	41,816	1,292,646
July	365,420	0	10,808	376,227
August	659,207	474	64,368	724,050
September	243,356	0	20,704	264,060
October	370,911	226	127,631	498,768
November	632,775	680	83,210	716,665
December	1,658,880	146	73,007	1,732,033
YTD	8,456,099	3,033	631,671	9,090,802

2016	CTs Consumed in Generation	CTs Consumed in Light Off	Consumed in Balance of Plant	Total Consumed by All Sources
January	811,933	767	22,092	834,792
February	20,556	51	4,220	24,827
March	882,438	198	67,291	949,927
April	427,027	-	155,353	582,380
May	1,399,309	534	85,844	1,485,688
June	593,978	87	75,565	669,629
July	909,258	90	110,320	1,019,668
August	285,477	32	179,011	464,520
September	322,495	-	222,060	544,555
October	-	-	78,040	78,040
November	206,495	456	20,348	227,299
December	1,969,798	1,736	249,579	2,221,112
YTD	7,828,764	3,951	1,269,722	9,102,437

2017	CTs Consumed in Generation	CTs Consumed in Light Off	Consumed in Balance of Plant	Total Consumed by All Sources
January	820,490	602	245,927	1,067,019
February	239,547	0	18,352	257,899
March	142,253	228	21,948	164,429
April	593,462	319	67,352	661,133
May	584,912	132	125,528	710,572
June	269,057	0	76,016	345,073
July	131,062	270	25,575	156,907
August	91,683	106	31,049	122,838
September	560,652	224	80,160	641,036
October	628,379	1,158	112,360	741,897
November	237,699	122	44,346	282,167
December	1,630,070	0	127,870	1,757,940
YTD	5,929,267	3,159	976,484	6,908,910

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	1,032,953	922	208,973	1,242,848
December	223,672	-	74,100	297,772
YTD	9,657,079	6,625	2,044,152	11,707,856

2019	CTs Consumed in Generation	CTs Consumed in Light Off	Consumed in Balance of Plant	Total Consumed by All Sources
January	721,273	-	112,304	833,577
February	204,011	116	109,240	313,366
March	525,312	-	115,519	640,831
April	254,241	-	194,538	448,779
May				
June				
July				
August				
September				
October				
November				
December				
YTD	1,704,837	116	531,601	2,236,554

Syngas Consumed (dekatherms)

2012	CTs Consumed in Generation	CTs Consumed in Light Off	Total Consumed by All Sources
January	-	-	-
February	-	-	-
March	-	-	-
April	-	-	-
May	-	-	-
June	-	-	-
July	-	-	-
August	-	-	-
September	-	-	-
October	4,925	31,346	36,271
November	155,132	8,531	163,663
December	168,723	49,896	218,619
2012 Total	328,780	89,773	418,553

2013	CTs Consumed in Generation	CTs Consumed in Light Off	Total Consumed by All Sources
January	28,652	4,007	32,659
February	279,557	29,198	308,755
March	224,685	19,333	244,018
April	0.00	0.00	0.00
May	307,890	35,044	342,935
June	657,474	29,068	686,542
July	322,769	33,977	356,747
August	1,872,084	46,152	1,918,235
September	1,058,697	37,434	1,096,130
October	1,542,535	3,945	1,546,480
November	837,533	6,213	843,746
December	805,430	52,662	858,093
YTD	7,937,305	297,034	8,234,340

2014	CTs Consumed in Generation	CTs Consumed in Light Off	Total Consumed by All Sources
January	106,271	9,576	115,847
February	8,591	2,183	10,774
March	1,185,155	7,847	1,193,002
April	1,432,097	6,357	1,438,453
May	2,300,111	20,848	2,320,959
June	2,043,957	20,601	2,064,558
July	2,282,629	5,973	2,288,602
August	2,289,287	9,577	2,298,864
September	602,653	0	602,653
October	561,632	13,609	575,241
November	1,882,307	4,015	1,886,322
December	783,233	17,992	801,226
YTD	15,477,922	118,579	15,596,501

2015	CTs Consumed in Generation	CTs Consumed in Light Off	Total Consumed by All Sources
January	2,101,451	2,861	2,104,312
February	1,730,317	0	1,730,317
March	1,894,405	3,387	1,897,791
April	287,749	2,233	289,982
May	119,082	5,761	124,843
June	1,330,279	4,793	1,335,073
July	2,483,069	2,618	2,485,687
August	1,695,624	4,916	1,700,540
September	2,469,043	3,834	2,472,878
October	1,600,216	0	1,600,216
November	0	0	0
December	1,091,198	1,902	1,093,099
YTD	16,802,434	32,305	16,834,739

2016	CTs Consumed in Generation	CTs Consumed in Light Off	Total Consumed by All Sources
January	1,887,162	2,561	1,889,724
February	2,718,133	0	2,718,130
March	1,860,343	6,279	1,866,623
April	1,386,913	8,032	1,394,945
May	84,424	5,971	90,395
June	2,158,893	16,716	2,175,608
July	1,751,128	1,671	1,752,798
August	2,510,532	3,193	2,513,725
September	1,788,644	1,926	1,790,570
October	0	0	0
November	0	0	0
December	320,869	13,463	334,332
YTD	16,467,041	59,812	16,526,853

2017	CTs Consumed in Generation	CTs Consumed in Light Off	Total Consumed by All Sources
January	1,666,748	6,693	1,673,441
February	2,312,815	0	2,312,815
March	2,674,374	1,218	2,675,592
April	1,724,602	4,820	1,729,422
May	1,467,727	8,128	1,475,855
June	2,450,686	6,268	2,456,954
July	2,529,047	2,837	2,531,884
August	2,570,663	2,341	2,573,004
September	1,456,537	0	1,456,537
October	1,330,901	9,223	1,340,125
November	2,562,712	3,684	2,566,396
December	1,231,006	10,276	1,241,282
YTD	23,977,819	55,490	24,033,309

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	1,621,163	17,323	1,638,486
December	2,684,067	0	2,684,067
YTD	21,190,099	65,662	21,255,761

2019	CTs Consumed in Generation	CTs Consumed in Light Off	Total Consumed by All Sources
January	2,224,891	2,307	2,227,198
February	2,338,948	-	2,338,948
March	2,235,692	1,113	2,236,805
April	2,291,967	-	2,291,967
May			
June			
July			
August			
September			
October			
November			
December			
YTD	9,091,499	3,419	9,094,919

Summary of Gasifier Run Time

	G1		G2	
2012	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
August	0	0	0	0
September	0	0	0	0
October	2	12.43	0	0
November	3	153.26	0	0
December	0	0	4	140.49
Total for 2012	5	165.69	4	140.49

	G1		G2	
2013	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	1	7.38	1	24.52
February	0	0.00	2	199.67
March	0	0.00	1	153.68
April	0	0.00	0	0.00
May	1	161.70	5	47.48
June	2	133.38	0	292.12
July	3	99.62	3	115.35
August	2	514.92	2	616.08
September	2	378.15	0	312.50
October	1	489.28	1	382.65
November	1	250.87	1	212.62
December	2	272.33	4	347.97
Year to Date	15	2307.63	20	2704.63

	G1		G2	
2014	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	2	5.72	2	66.23
February	0	0	1	8.17
March	1	434.23	2	323.58
April	1	408.17	2	478.23
May	3	615.60	0	616.38
June	1	654.47	2	565.82
July	1	664.05	1	689.88
August	1	655.78	1	683.78
September	0	113.07	0	269.55
October	3(a)	215.60	2	105.77
November	1	688.48	2(a)	526.10
December	3	350.23	3	86.28
Year to Date	17	4,805.40	18	4,419.78

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

	G1		G2	
2015	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	1	391.95	0	744.00
February	0	441.52	0	672.00
March	1	556.63	1	593.87
April	0	73.18	2(a)	80.22
May	1	73.28	0	0
June	1	332.03	1	487.80
July	2(a)	553.27	0	744.00
August	0	322.67	2	531.03
September	2	605.35	0	720.00
October	0	383.50	0	550.12
November	0	0	0	0
December	2(a)	556.47	1	0.90
Year to Date	10	4,289.85	7	5,123.93

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

	G1		G2	
2016	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	0	744.00	1	484.28
February	0	696.00	0	696.00
March	2(a)	459.52	1	574.90
April	2	390.10	0	432.27
May	1(a)	0.00	1	55.92
June	3(a)	514.18	1	599.70
July	0	267.22	1	631.13
August	1	681.13	0	660.67
September	0	543.23	2(a)	390.93
October	0	0.00	0	0.00
November	0	0.00	0	0.00
December	1	262.68	0	0.00
Year to Date	10	4,558.07	7	4,525.80

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

	G1		G2	
2017	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	2	570.05	2	480.77
February	0	672.00	0	672.00
March	2(a)	653.95	0	744.00
April	1	607.30	2	610.33
May	2	451.42	1	462.27
June	1	678.82	2	653.05
July	0	744.00	1	706.83
August	0	744.00	1	706.75
September	0	189.85	0	666.03
October	1	370.62	2	373.80
November	1	674.92	0	642.40
December	1	572.60	2(a)	77.57
Year to Date	11	6,929.52	13	6,795.80

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

	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	4	416.18	1	520.35
December	0	744.00	0	744.00
Year to Date	17	6,060.45	10	6,090.07

	G1		G2	
2019	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	0	744.00	1	675.53
February	0	672.00	0	672.00
March	0	744.00	1	680.45
April	0	670.02	0	720.00
May				
June				
July				
August				
September				
October				
November				
December				
Year to Date	0	2,830.02	1	2,747.98

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

2013	Delivered MWH	Received MWH	Net MWH
January	18,078	32,354	(14,276)
February	54,436	35,845	18,591
March	64,568	32,926	31,642
April	4,331	12,009	(7,678)
May	194,895	24,437	170,458
June	128,314	9,282	119,032
July	152,640	32,202	120,438
August	286,593	8,902	277,691
September	166,485	25,632	140,853
October	213,338	14,209	199,129
November	138,074	12,254	125,820
December	175,609	26,691	148,918
Year To-Date	1,597,361	266,743	1,330,618

	CT1		CT2		Steam Turbine	
2013	**Starts**	**Run Hours**	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	1	1.67	8	283.05	2	1.65
February	3	36.75	3	316.13	2	145.85
March	3	30.03	2	305.57	6	285.83
April	1	3.30	1	33.60	0	0.00
May	7	334.53	2	719.53	5	704.67
June	0	292.12	0	292.12	0	292.12
July	4	409.08	6	412.08	4	549.73
August	3	708.65	5	668.87	1	740.87
September	3	448.77	2	397.38	1	527.22
October	0	548.03	1	383.87	0	549.00
November	2	324.48	2	323.18	1	294.38
December	6	583.03	12	426.37	5	559.32
Year To-Date	33	3,720.45	44	4,561.75	27	4,650.63

2014	Delivered MWH	Received MWH	Net MWH
January	117,480	36,839	80,641
February	36,147	14,515	21,632
March	180,009	29,331	150,678
April	205,985	36,923	169,062
May	323,678	16,545	307,133
June	279,356	19,547	259,809
July	315,097	4,125	310,972
August	307,849	18,197	289,652
September	84,113	17,446	66,667
October	158,943	35,322	123,621
November	323,566	4,904	318,662
December	152,046	43,883	108,163
Year To-Date	2,484,269	277,577	2,206,692

	CT1		CT2		Steam Turbine	
2014	**Starts**	**Run Hours**	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	5	489.08	6	233.00	5	479.57
February	2	54.20	2	263.35	2	230.23
March	2	535.53	4	346.17	2	585.97
April	5	438.60	5	478.55	2	643.27
May	1	579.57	3	686.68	2	708.40
June	5	596.77	3	610.97	3	654.60
July	1	706.93	1	686.00	1	683.02
August	1	730.05	4	572.80	2	730.53
September	1	278.17	1	113.83	1	283.28
October	3	644.67	4	209.65	1	705.33
November	1	708.05	1	644.93	0	720.00
December	5	489.33	4	232.38	3	600.53
Year To-Date	32	6,250.95	38	5,078.32	24	7,024.73

2015	GROSS MWH	AUXILIARY MWH	Net MWH
January	429,182	123,722	305,460
February	388,534	100,691	287,843
March	463,087	112,544	350,543
April	119,468	33,489	85,979
May	143,165	26,689	116,476
June	412,847	105,611	307,236
July	500,996	132,687	368,309
August	397,720	118,952	278,768
September	481,919	120,803	361,116
October	335,108	92,736	242,372
November	85,402	23,599	61,803
December	433,104	91,538	341,566
Year To-Date	4,190,532	1,083,061	3,107,471

	CT1		CT2		Steam Turbine	
2015	**Starts**	**Run Hours**	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	2	710.82	3	569.17	4	724.63
February	1	601.62	1	671.07	1	632.17
March	0	744.00	0	744.00	0	744.00
April	0	212.33	0	212.37	0	212.45
May	2	320.80	2	304.50	2	292.50
June	3	707.83	0	720.00	0	720.00
July	0	744.00	0	744.00	0	744.00
August	2	499.38	0	744.00	0	744.00
September	0	720.00	0	720.00	0	720.00
October	0	385.82	1	655.52	1	740.83
November	4(a)	249.27	1	132.57	1	316.60
December	1	693.38	1	735.58	0	744.00
Year To-Date	15	6,589.25	9	6,952.77	9	7,335.18

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

2016	GROSS MWH	AUXILIARY MWH	Net MWH
January	469,121	126,248	342,873
February	499,819	123,124	376,695
March	475,371	124,244	351,127
April	318,216	87,917	230,299
May	206,371	53,720	152,651
June	486,624	125,514	361,110
July	453,763	106,435	347,328
August	516,247	130,849	385,398
September	386,369	109,426	276,943
October	0	6,819	(6,819)
November	25,806	5,991	19,815
December	329,705	74,578	255,127
Year To-Date	4,167,412	1,074,865	3,092,547

	CT1		CT2		Steam Turbine	
2016	**Starts**	**Run Hours**	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	2	682.78	2	703.57	1	742.63
February	1	673.12	0	696.00	1	665.80
March	7(b)	678.90	0	744.00	0	744.00
April	0	545.17	1(a)	402.88	0	545.23
May	1	477.07	4	399.28	1	415.23
June	1	714.82	1	719.78	0	720.00
July	0	744.00	2	681.30	0	744.00
August	1	733.72	0	744.00	0	744.00
September	0	551.68	0	560.07	0	560.07
October	0	0.00	0	0.00	0	0.00
November	2	67.62	1	79.47	1	60.08
December	4	596.72	2	678.37	1	726.13
Year To-Date	19	6,465.58	13	6,408.72	5	6,667.18

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

(b)-Includes 4 attempted starts that had no run hours

2017	GROSS MWH	AUXILIARY MWH	Net MWH
January	424,731	114,641	310,090
February	473,431	107,666	365,765
March	530,413	128,374	402,039
April	409,346	111,924	297,422
May	351,323	103,618	247,705
June	497,433	124,708	372,725
July	490,696	131,391	359,305
August	492,492	126,016	366,476
September	354,467	86,332	268,135
October	327,610	99,091	228,519
November	517,462	124,102	393,360
December	468,931	111,182	357,749
Year To-Date	5,338,335	1,369,043	3,969,291

	CT1		CT2		Steam Turbine	
2017	**Starts**	**Run Hours**	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	3	696.95	2	676.12	2	670.90
February	0	672.00	0	672.00	0	672.00
March	1	728.22	1	737.50	0	744.00
April	3	569.95	0	720.00	0	720.00
May	0	744.00	1	360.85	1	712.40
June	0	720.00	0	720.00	0	720.00
July	1	737.95	1	738.55	0	744.00
August	1	733.98	0	744.00	0	744.00
September	2	398.23	0	720.00	0	720.00
October	2	667.10	2	388.22	1	736.53
November	0	720.00	2(a)	700.58	0	720.00
December	0	744.00	0	744.00	0	744.00
Year To-Date	13	8,132.38	9	7,921.82	4	8,647.83

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

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	442,779	112,008	330,772
December	535,837	131,014	404,823
Year To-Date	5,246,547	1,284,531	3,962,016

	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	1	688.18	1	702.37	1	698.42
December	0	744.00	0	744.00	0	744.00
Year To-Date	18	7,920.00	10	7,997.78	3	8,491.97

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

2019	GROSS MWH	AUXILIARY MWH	Net MWH
January	525,726	132,260	393,466
February	469,791	116,799	352,992
March	494,740	129,466	365,274
April	457,656	127,113	330,543
May			
June			
July			
August			
September			
October			
November			
December			
Year To-Date	1,947,913	505,638	1,442,275

	CT1		CT2		Steam Turbine	
2019	**Starts**	**Run Hours**	**Starts**	**Run Hours**	**Starts**	**Run Hours**
January	0	744.00	0	744.00	0	744.00
February	1	667.15	0	672.00	0	672.00
March	0	744.00	0	744.00	0	744.00
April	0	720.00	0	720.00	0	720.00
May						
June						
July						
August						
September						
October						
November						
December						
Year To-Date	1	2,875.15	0	2,880.00	0	2,880.00

Power Generation Events and Run Times

CT1		
Close Breaker	**Open Breaker**	**On-Line Time, hours**
1/6/2013 18:31	1/6/2013 20:11	1.67
2/21/2013 10:58	2/22/2013 0:47	13.82
2/23/2013 8:13	2/23/2013 19:03	10.83
2/23/2013 19:10	2/23/2013 20:29	1.32
2/27/2013 13:27	2/28/2013 0:14	10.78
3/1/2013 9:42	3/1/2013 16:39	6.95
3/2/2013 10:50	3/2/2013 16:51	6.02
3/5/2013 8:26	3/6/2013 1:30	17.07
4/30/2013 17:21	4/30/2013 20:39	3.30
5/1/2013 4:50	5/3/2013 20:09	63.32
5/15/2013 17:17	5/16/2013 10:55	17.63
5/16/2013 16:54	5/22/2013 8:40	135.77
5/22/2013 9:52	5/23/2013 18:12	32.33
5/27/2013 21:10	5/28/2013 17:41	20.52
5/28/2013 22:16	5/29/2013 8:18	10.03
5/29/2013 17:04	6/1/2013 0:00	54.93
6/1/2013 0:00	6/7/2013 0:00	144.00
6/7/2013 0:00	6/13/2013 4:07	148.12
7/1/2013 9:18	7/2/2013 12:38	27.33
7/8/2013 10:53	7/13/2013 21:23	130.50
7/17/2013 8:25	7/27/2013 17:56	249.52
7/31/2013 22:16	8/1/2013 0:00	1.73
8/1/2013 0:00	8/1/2013 19:05	19.08
8/3/2013 0:37	8/12/2013 21:43	237.10
8/13/2013 0:53	8/16/2013 8:48	79.92
8/16/2013 11:27	9/1/2013 0:00	372.55
9/1/2013 0:00	9/12/2013 21:38	285.63
9/23/2013 8:27	9/23/2013 14:32	6.08
9/23/2013 17:48	9/24/2013 4:36	10.80
9/24/2013 21:45	10/1/2013 0:00	146.25
10/1/2013 0:00	10/23/2013 20:02	548.03
11/15/2013 16:26	11/15/2013 16:44	0.30
11/17/2013 11:49	12/1/2013 0:00	324.18
12/1/2013 0:00	12/7/2013 14:22	158.37
12/11/2013 7:53	12/11/2013 8:37	0.73
12/11/2013 8:54	12/24/2013 13:09	316.25
12/24/2013 13:13	12/24/2013 13:16	0.05

12/26/2013 20:25	12/27/2013 0:09	3.73
12/27/2013 11:54	12/29/2013 15:39	51.75
12/29/2013 19:51	1/1/2014 0:00	52.15
1/1/2014 0:00	1/3/2014 0:09	48.15
1/5/2014 3:11	1/6/2014 3:27	24.27
1/8/2014 22:30	1/14/2014 23:46	145.27
1/15/2014 11:22	1/23/2014 2:05	182.72
1/23/2014 15:22	1/23/2014 15:23	0.02
1/23/2014 16:44	1/27/2014 9:24	88.67
2/4/2014 0:35	2/4/2014 10:35	10.00
2/26/2014 19:47	2/28/2014 15:59	44.20
3/6/2014 8:14	3/26/2014 6:26	478.20
3/29/2014 14:40	4/1/2014 00:00	57.33
4/1/2014 00:00	4/6/2014 6:28	126.47
4/8/2014 21:49	4/9/2014 8:45	10.93
4/10/2014 9:38	4/12/2014 14:22	52.73
4/19/2014 1:17	4/19/2014 21:42	20.42
4/20/2014 21:21	4/21/2014 17:44	20.38
4/21/2014 23:13	4/30/2014 14:53	207.67
5/2/2014 12:41	5/26/2014 16:15	579.57
6/2/2014 8:10	6/2/2014 17:04	8.90
6/4/2014 6:36	6/5/2014 16:55	34.32
6/6/2014 4:23	6/9/2014 15:50	83.45
6/10/2014 23:59	6/18/2014 23:54	191.92
6/19/2014 9:49	7/1/2014 0:00	278.18
7/1/2014 0:00	7/14/2014 19:17	331.28
7/16/2014 8:21	8/1/2014 0:00	375.65
8/1/2014 0:00	8/14/2014 23:30	335.50
8/15/2014 13:27	9/1/2014 0:00	394.55
9/1/2014 0:00	9/4/2014 8:33	80.55
9/4/2014 20:28	9/13/2014 2:05	197.62
10/1/2014 15:13	10/25/2014 13:13	574.00
10/27/2014 0:06	10/27/2014 6:59	6.88
10/29/2014 8:13	11/1/2014 0:00	63.78
11/1/2014 0:00	11/8/2014 0:38	168.63
11/8/2014 12:35	12/1/2014 0:00	539.42
12/1/2014 0:00	12/11/2014 0:35	240.58
12/14/2014 1:18	12/14/2014 6:51	5.55
12/17/2014 20:32	12/18/2014 14:26	17.90
12/22/2014 6:49	12/22/2014 16:24	9.58

12/22/2014 20:55	12/30/2014 19:08	190.22
12/30/2014 22:30	1/1/2015 0:00	25.50
1/1/2015 0:00	1/25/2015 14:58	590.97
1/26/2015 1:33	1/27/2015 0:09	22.60
1/27/2015 22:45	2/1/2015 0:00	97.25
2/1/2015 0:00	2/23/2015 15:44	543.73
2/26/2015 14:07	3/1/2015 0:00	57.88
3/1/2015 0:00	4/1/2015 0:00	744.00
4/1/2015 0:00	4/9/2015 20:20	212.33
5/14/2015 21:17	5/22/2015 2:55	173.63
5/25/2015 20:50	6/1/2015 0:00	147.17
6/1/2015 0:00	6/17/2015 22:49	406.82
6/18/2015 3:27	6/18/2015 3:33	0.10
6/18/2015 7:15	6/29/2015 21:48	278.55
6/30/2015 1:38	7/1/2015 0:00	22.37
7/1/2015 0:00	8/1/2015 0:00	744.00
8/1/2015 0:00	8/12/2015 1:44	265.73
8/14/2015 7:08	8/23/2015 1:44	210.60
8/31/2015 0:57	9/1/2015 0:00	23.05
9/1/2015 0:00	10/1/2015 0:00	720.00
10/1/2015 0:00	10/17/2015 1:49	385.82
11/3/2015 22:13	11/12/2015 23:15	217.03
11/29/2015 3:34	11/29/2015 3:35	0.02
11/29/2015 5:18	11/29/2015 5:18	0.00
11/29/2015 15:47	12/1/2015 0:00	32.22
12/1/2015 0:00	12/25/2015 21:30	597.50
12/28/2015 0:07	1/1/2016 0:00	95.88
1/1/2016 0:00	1/4/2016 4:59	76.98
1/5/2016 8:11	1/16/2016 7:05	262.90
1/17/2016 17:06	2/1/2016 0:00	342.90
2/1/2016 0:00	2/8/2016 12:41	180.68
2/9/2016 11:34	3/1/2016 0:00	492.43
3/1/2016 0:00	3/7/2016 16:57	160.95
3/8/2016 10:09	3/8/2016 14:34	4.42
3/10/2016 5:46	3/10/2016 12:47	7.02
3/10/2016 21:29	4/1/2016 0:00	506.52
4/1/2016 0:00	4/23/2016 17:10	545.17
5/12/2016 2:56	6/1/2016 0:00	477.07
6/1/2016 0:00	6/18/2016 16:57	424.95
6/18/2016 22:08	7/1/2016 0:00	289.87

7/1/2016 0:00	8/1/2016 0:00	744.00
8/1/2016 0:00	8/27/2016 0:24	624.40
8/27/2016 10:41	9/1/2016 0:00	109.32
9/1/2016 0:00	9/23/2016 23:41	551.68
11/27/2016 14:20	11/30/2016 2:53	60.55
11/30/2016 16:56	12/1/2016 0:00	7.07
12/1/2016 0:00	12/10/2016 14:06	230.10
12/11/2016 12:55	12/17/2016 1:15	132.33
12/17/2016 7:58	12/22/2016 20:05	132.12
12/24/2016 23:33	12/25/2016 0:34	1.02
12/27/2016 18:51	1/1/2017 0:00	101.15
1/1/2017 0:00	1/6/2017 8:45	128.75
1/7/2017 12:22	1/7/2017 20:52	8.50
1/8/2017 10:44	1/15/2017 6:56	164.20
1/15/2017 12:30	2/1/2017 0:00	395.50
2/1/2017 0:00	3/1/2017 0:00	672.00
3/1/2017 0:00	3/3/2017 10:30	58.50
3/4/2017 2:17	4/1/2017 0:00	669.72
4/1/2017 0:00	4/21/2017 21:24	501.40
4/27/2017 22:48	4/28/2017 1:32	2.73
4/28/2017 1:43	4/28/2017 7:12	5.48
4/28/2017 11:40	5/1/2017 0:00	60.33
5/1/2017 0:00	6/1/2017 0:00	744.00
6/1/2017 0:00	7/1/2017 0:00	720.00
7/1/2017 0:00	7/13/2017 0:33	288.55
7/13/2017 6:36	8/1/2017 0:00	449.40
8/1/2017 0:00	8/3/2017 9:29	57.48
8/3/2017 19:30	9/1/2017 0:00	676.50
9/1/2017 0:00	9/8/2017 0:33	168.55
9/14/2017 8:22	9/16/2017 0:23	40.02
9/21/2017 20:38	9/29/2017 18:18	189.67
10/3/2017 3:55	10/16/2017 16:38	324.72
10/17/2017 17:37	11/1/2017 0:00	342.38
11/1/2017 0:00	12/1/2017 0:00	720.00
12/1/2017 0:00	1/1/2018 0:00	744.00
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
11/1/2018 0:00	11/10/2018 6:10	222.17
11/11/2018 13:59	12/1/2018 0:00	466.02
12/1/2018 0:00	1/1/2019 0:00	744.00
1/1/2019 0:00	2/1/2019 0:00	744.00
2/1/2018 0:00	2/1/2019 16:56	16.93
2/1/2019 21:47	3/1/2019 0:00	650.22
3/1/2019 0:00	4/1/2019 0:00	744.00
4/1/2019 0:00	5/1/2019 0:00	720.00

CT2		
Close Breaker	**Open Breaker**	**On-Line Time, hours**
10/1/2012 0:00	10/9/2012 20:35	212.58
10/15/2012 10:06	10/16/2012 23:45	37.65
10/21/2012 14:26	10/31/2012 1:52	227.43
11/1/2012 7:44	11/2/2012 14:16	30.53
11/2/2012 18:14	11/3/2012 5:03	10.82
11/3/2012 14:18	11/3/2012 16:16	1.97
11/6/2012 3:03	11/14/2012 1:55	190.87
11/15/2012 1:22	11/20/2012 21:01	139.65
12/3/2012 19:19	12/7/2012 5:04	81.75
12/7/2012 16:31	12/8/2012 2:28	9.95
12/8/2012 13:19	12/8/2012 14:39	1.33
12/13/2012 15:49	12/19/2012 15:51	144.03
12/19/2012 19:25	12/22/2012 7:25	60.00
12/22/2012 21:20	12/22/2012 21:45	0.42
12/22/2012 23:35	12/30/2012 10:48	179.22
12/31/2012 11:27	12/31/2012 15:05	3.63
1/1/2013 0:42	1/1/2013 14:34	13.87
1/18/2013 10:49	1/18/2013 18:18	7.48
1/18/2013 21:07	1/22/2013 1:18	76.18
1/23/2013 17:54	1/24/2013 11:40	17.77
1/24/2013 17:32	1/25/2013 1:55	8.38
1/25/2013 2:11	1/27/2013 12:24	58.22
1/27/2013 14:41	1/28/2013 18:25	27.73
1/28/2013 22:35	2/1/2013 0:00	73.42
2/1/2013 0:00	2/5/2013 6:53	102.88
2/20/2013 1:07	2/22/2013 1:08	48.02
2/22/2013 1:54	2/28/2013 0:19	142.42
2/28/2013 1:11	3/1/2013 0:00	22.82
3/1/2013 0:00	3/5/2013 20:18	116.30
3/5/2013 20:56	3/7/2013 23:12	50.27
3/16/2013 3:26	3/21/2013 22:26	139.00
4/29/2013 14:24	5/1/2013 0:00	33.60
5/1/2013 0:00	5/17/2013 9:45	393.75
5/18/2013 10:08	5/22/2013 8:49	94.68
5/22/2013 8:54	6/1/2013 0:00	231.10
6/1/2013 0:00	6/7/2013 0:00	144.00
6/7/2013 0:00	6/13/2013 4:07	148.12
7/1/2013 11:09	7/3/2013 17:00	53.85

7/7/2013 1:30	7/13/2013 20:15	162.75
7/13/2013 21:25	7/13/2013 21:44	0.32
7/16/2013 6:59	7/19/2013 6:21	71.37
7/19/2013 12:41	7/20/2013 0:07	11.43
7/27/2013 7:38	8/1/2013 0:00	112.37
8/1/2013 0:00	8/3/2013 7:35	55.58
8/4/2013 9:30	8/4/2013 9:48	0.30
8/4/2013 14:03	8/15/2013 13:00	262.95
8/15/2013 16:36	8/23/2013 21:18	196.70
8/25/2013 7:19	8/31/2013 14:22	151.05
8/31/2013 20:51	8/31/2013 23:08	2.28
9/1/2013 5:37	9/17/2013 18:56	397.32
9/23/2013 10:39	9/23/2013 10:43	0.07
10/7/2013 21:08	10/23/2013 21:00	383.87
11/15/2013 14:24	11/15/2013 14:34	0.17
11/17/2013 9:57	11/30/2013 20:58	323.02
12/3/2013 04:00	12/5/2013 0:11	44.18
12/5/2013 23:03	12/7/2013 14:37	39.57
12/8/2013 11:00	12/10/2013 18:42	55.70
12/10/2013 19:39	12/11/2013 4:38	8.98
12/11/2013 7:35	12/11/2013 9:30	1.92
12/11/2013 13:49	12/11/2013 17:02	3.22
12/11/2013 17:10	12/12/2013 2:33	9.38
12/12/2013 2:40	12/14/2013 14:25	59.75
12/14/2013 15:19	12/14/2013 15:58	0.65
12/14/2013 22:23	12/15/2013 5:47	7.40
12/15/2013 16:12	12/16/2013 7:19	15.12
12/16/2013 20:54	12/24/2013 9:24	180.50
1/1/2014 11:46	1/3/2014 0:30	36.73
1/3/2014 1:49	1/6/2014 5:31	75.70
1/8/2014 5:39	1/9/2014 12:23	30.73
1/9/2014 12:30	1/10/2014 20:28	31.97
1/22/2014 22:17	1/23/2014 1:58	3.68
1/29/2014 17:49	2/1/2014 0:00	54.18
2/1/2014 0:00	2/1/2014 3:22	3.37
2/3/2014 12:21	2/13/2014 10:19	237.97
2/27/2014 17:47	2/28/2014 15:48	22.02
3/6/2014 10:09	3/6/2014 20:03	9.90
3/12/2014 22:45	**3/21/2014 14:27**	**207.70**
3/25/2014 22:34	3/26/2014 7:50	9.27

3/27/2014 0:42	4/1/2014 0:00	119.30
4/1/2014 0:00	4/6/2014 6:28	126.47
4/7/2014 16:15	4/10/2014 14:11	69.93
4/11/2014 23:47	4/21/2014 16:06	232.32
4/25/2014 5:01	4/25/2014 19:46	14.75
4/26/2014 9:00	4/27/2014 2:02	17.03
4/30/2014 5:57	5/1/2014 0:00	18.05
5/1/2014 0:00	5/11/2014 23:16	263.27
5/13/2014 2:36	5/26/2014 16:09	325.55
5/27/2014 21:12	5/28/2014 20:43	23.52
5/28/2014 21:39	6/1/2014 0:00	74.35
6/1/2014 0:00	6/2/2014 16:49	40.82
6/6/2014 11:27	6/12/2014 0:20	132.88
6/12/2014 14:32	6/24/2014 8:59	282.45
6/24/2014 13:11	7/1/2014 0:00	154.82
7/1/2014 0:00	7/14/2014 14:12	326.20
7/17/2014 0:12	8/1/2014 0:00	359.80
8/1/2014 0:00	8/3/2014 13:07	61.12
8/7/2014 4:12	8/14/2014 23:42	187.50
8/15/2014 4:21	8/22/2014 9:03	172.70
8/23/2014 8:22	8/25/2014 23:04	62.70
8/28/2014 7:13	9/1/2014 0:00	88.78
9/1/2014 0:00	9/4/2014 8:41	80.68
9/4/2014 12:28	9/5/2014 21:37	33.15
10/1/2014 9:38	10/2/2014 2:51	17.22
10/2/2014 9:09	10/2/2014 22:32	13.38
10/24/2014 4:07	10/24/2014 16:25	12.30
10/25/2014 1:15	11/1/2014 0:00	166.75
11/1/2014 0:00	11/22/2014 23:46	527.77
11/23/2014 3:37	11/28/2014 0:47	117.17
12/4/2014 8:17	12/4/2014 22:16	13.98
12/13/2014 13:37	12/15/2014 15:47	50.17
12/17/2014 23:10	12/24/2014 18:18	163.13
12/25/2014 4:16	12/25/2014 9:22	5.10
1/7/2015 14:39	1/8/2015 10:44	20.08
1/8/2015 22:19	1/8/2015 22:25	0.10
1/9/2015 3:01	2/1/2015 0:00	548.98
2/1/2015 0:00	2/25/2015 11:36	587.60
2/25/2015 12:32	3/1/2015 0:00	83.47
3/1/2015 0:00	4/1/2015 0:00	744.00

4/1/2015 0:00	4/9/2015 20:22	212.37
5/15/2015 10:35	5/22/2015 1:52	159.28
5/25/2015 22:47	6/1/2015 0:00	145.22
6/1/2015 0:00	7/1/2015 0:00	720.00
7/1/2015 0:00	8/1/2015 0:00	744.00
8/1/2015 0:00	9/1/2015 0:00	744.00
9/1/2015 0:00	10/1/2015 0:00	720.00
10/1/2015 0:00	10/6/2015 6:49	126.82
10/9/2015 23:18	11/1/2015 0:00	528.70
11/1/2015 0:00	11/4/2015 9:31	81.52
11/28/2015 20:57	12/1/2015 0:00	51.05
12/1/2015 0:00	12/24/2015 1:34	553.57
12/24/2015 9:59	1/1/2016 0:00	182.02
1/1/2016 0:00	1/14/2016 4:43	316.72
1/15/2016 19:54	1/15/2016 21:47	1.88
1/15/2016 23:02	2/1/2016 0:00	384.97
2/1/2016 0:00	3/1/2016 0:00	696.00
3/1/2016 0:00	4/1/2016 0:00	744.00
4/1/2016 0:00	4/17/2016 18:53	402.88
5/6/2016 4:35	5/6/2016 5:53	1.30
5/12/2016 4:24	5/12/2016 4:52	0.47
5/13/2016 22:22	5/27/2016 6:26	320.07
5/27/2016 7:30	5/30/2016 12:57	77.45
6/1/2016 0:13	7/1/2016 0:00	719.78
7/1/2016 0:00	7/16/2016 0:30	360.50
7/17/2016 17:27	7/19/2016 9:05	39.63
7/20/2016 6:50	8/1/2016 0:00	281.17
8/1/2016 0:00	9/1/2016 0:00	744.00
9/1/2016 0:00	9/24/2016 8:04	560.07
11/27/2016 16:32	12/1/2016 0:00	79.47
12/1/2016 0:00	12/19/2016 19:06	451.10
12/20/2016 1:51	12/28/2016 3:38	193.78
12/30/2016 14:31	1/1/2017 0:00	33.48
1/1/17 0:00	1/6/2017 8:45	128.75
1/8/2017 12:48	1/12/2017 15:12	98.40
1/13/2017 7:02	2/1/2017 0:00	448.97
2/1/2017 0:00	3/1/2017 8:45	672.00
3/1/2017 0:00	3/20/2017 18:20	474.33
3/21/2017 0:50	4/1/2017 0:00	263.17
4/1/2017 0:00	5/1/2017 0:00	720.00

5/1/2017 0:00	5/6/2017 1:30	121.50
5/22/2017 0:39	6/1/2017 0:00	239.35
6/1/2017 0:00	7/1/2017 0:00	720.00
7/1/2017 0:00	7/23/2017 4:47	532.78
7/23/2017 10:14	8/1/2017 0:00	205.77
8/1/2017 0:00	9/1/2017 0:00	744.00
9/1/2017 0:00	10/1/2017 0:00	720.00
10/1/2017 0:00	10/6/2017 22:43	142.72
10/16/2017 18:26	10/18/2017 15:11	44.75
10/23/2017 15:15	11/1/2017 0:00	200.75
11/1/2017 0:00	11/18/2017 15:25	423.42
11/19/2017 10:50	12/1/2017 0:00	277.17
12/1/2017 0:00	1/1/2018 0:00	744.00
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
11/1/2018 0:00	11/10/2018 6:10	222.17
11/10/18 23:48	12/1/2018 0:00	480.20
12/1/2018 0:00	1/1/2019 0:00	744.00
1/1/2019 0:00	2/1/2019 0:00	744.00
2/1/2019 0:00	3/1/2019 0:00	672.00
3/1/2019 0:00	4/1/2019 0:00	744.00
4/1/2019 0:00	5/1/2019 0:00	720.00

Steam Turbine		
Close Breaker	**Open Breaker**	**On-Line Time, hours**
10/1/2012 0:00	10/5/2012 9:37	105.62
11/9/2012 22:11	11/14/2012 1:55	99.73
11/15/2012 2:34	11/20/2012 21:04	138.50
12/19/2012 21:24	12/21/2012 15:15	41.85
12/21/2012 17:49	12/22/2012 7:25	13.60
12/23/2012 1:18	12/30/2012 5:35	172.28
12/31/2012 14:19	12/31/2012 15:05	0.77
1/1/2013 4:27	1/1/2013 4:42	0.25
2/22/2013 20:08	2/28/2013 0:11	124.05
2/28/2013 2:12	3/1/2013 0:00	21.80
3/1/2013 0:00	3/2/2013 19:09	43.15
3/2/2013 21:04	3/7/2013 22:53	121.82
3/16/2013 21:02	3/21/2013 21:54	120.87
5/1/2013 19:47	5/8/2013 17:50	166.05
5/9/2013 2:07	5/15/2013 7:32	149.42
5/15/2013 10:56	5/22/2013 8:51	165.92
5/22/2013 9:23	5/25/2013 10:58	73.58
5/25/2013 18:18	6/1/2013 0:00	149.70
6/1/2013 0:00	6/7/2013 0:00	144.00
6/7/2013 0:00	6/13/2013 4:07	148.12
7/1/2013 13:55	7/3/2013 16:16	50.35
7/8/2013 13:42	7/13/2013 21:29	127.78
7/16/2013 10:05	7/19/2013 6:21	68.27
7/19/2013 8:40	8/1/2013 0:00	303.33
8/1/2013 0:00	8/3/2013 7:41	55.68
8/3/2013 10:49	9/1/2013 0:00	685.18
9/1/2013 0:00	9/17/2013 18:53	402.88
9/25/2013 19:40	10/1/2013 0:00	124.33
10/1/2013 0:00	10/23/2013 21:00	549.00
11/18/2013 17:37	12/1/2013 0:00	294.38
12/1/2013 0:00	12/7/2013 14:27	158.45
12/8/2013 15:30	12/10/2013 16:05	48.58
12/10/2013 21:05	12/10/2013 21:34	0.48
12/11/2013 2:42	12/11/2013 4:38	1.93
12/11/2013 21:26	12/24/2013 13:13	303.78
12/30/2013 1:55	1/1/2014 0:00	46.08
1/1/2014 0:00	1/3/2014 0:30	48.50
1/3/2014 19:06	1/6/2014 3:27	56.35

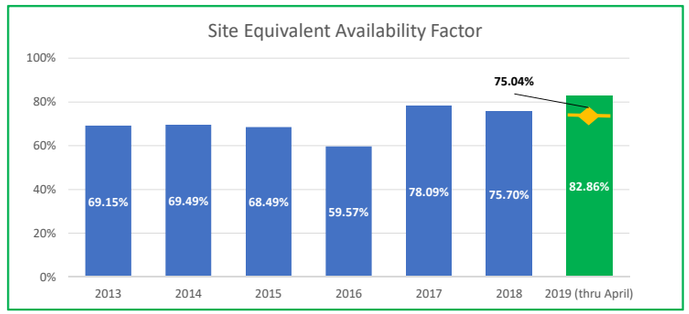
1/9/2014 15:28	1/14/2014 23:46	128.30
1/15/2014 17:10	1/21/2014 4:39	131.48
1/21/2014 12:59	1/23/2014 1:53	36.90
1/24/2014 3:19	1/27/2014 9:21	78.03
2/4/2014 3:25	2/13/2014 9:56	222.52
2/28/2014 8:13	2/28/2014 15:56	7.72
3/6/2014 14:32	3/26/2014 6:26	471.90
3/27/2014 5:56	4/1/2014 0:00	114.07
4/1/2014 0:00	4/6/2014 6:09	126.15
4/9/2014 2:48	4/21/2014 17:44	302.93
4/22/2014 1:49	5/1/2014 0:00	214.18
5/1/2014 0:00	5/26/2014 16:12	616.20
5/28/2014 1:30	5/28/2014 20:43	19.22
5/28/2014 23:01	6/1/2014 0:00	72.98
6/1/2014 0:00	6/2/2014 16:49	40.82
6/4/2014 15:25	6/5/2014 16:55	25.50
6/6/2014 9:03	6/12/2014 0:20	135.28
6/12/2014 3:00	7/1/2014 0:00	453.00
7/1/2014 0:00	7/14/2014 14:43	326.72
7/17/2014 3:42	8/1/2014 0:00	356.30
8/1/2014 0:00	8/3/2014 13:07	61.12
8/3/2014 14:02	8/14/2014 23:13	273.18
8/15/2014 11:46	9/1/2014 0:00	396.23
9/1/2014 0:00	9/4/2014 8:41	80.68
9/4/2014 15:20	9/13/2014 1:56	202.60
10/2/2014 14:40	11/1/2014 0:00	705.33
11/1/2014 0:00	12/1/2014 0:00	720.00
12/1/2014 0:00	12/11/2014 0:28	240.47
12/14/2014 4:10	12/15/2014 12:08	31.97
12/18/2014 2:33	12/30/2014 19:11	304.63
12/31/2014 0:32	1/1/2015 0:00	23.47
1/1/2015 0:00	1/8/2015 10:49	178.82
1/8/2015 14:14	1/8/2015 14:15	0.02
1/8/2015 15:04	1/8/2015 15:05	0.02
1/8/2015 16:05	1/8/2015 16:06	0.02
1/9/2015 6:14	2/1/2015 0:00	545.77
2/1/2015 0:00	2/24/2015 0:17	552.28
2/25/2015 16:07	3/1/2015 0:00	79.88
3/1/2015 0:00	4/1/2015 0:00	744.00
4/1/2015 0:00	4/9/2015 20:27	212.45

5/15/2015 18:13	5/22/2015 2:48	152.58
5/26/2015 4:05	6/1/2015 0:00	139.92
6/1/2015 0:00	7/1/2015 0:00	720.00
7/1/2015 0:00	8/1/2015 0:00	744.00
8/1/2015 0:00	9/1/2015 0:00	744.00
9/1/2015 0:00	10/1/2015 0:00	720.00
10/1/2015 0:00	10/26/2015 17:05	617.08
10/26/2015 20:15	11/1/2015 0:00	123.75
11/1/2015 0:00	11/12/2015 23:18	287.30
11/29/2015 18:42	12/1/2015 0:00	29.30
12/1/2015 0:00	1/1/2016 0:00	744.00
1/1/2016 0:00	1/18/2016 12:30	420.50
1/18/2016 13:52	2/1/2016 0:00	322.13
2/1/2016 0:00	2/8/2016 13:07	181.12
2/9/2016 19:19	3/1/2016 0:00	484.68
3/1/2016 0:00	4/1/2016 0:00	744.00
4/1/2016 0:00	4/23/2016 17:10	545.17
5/14/2016 16:46	6/1/2016 0:00	415.23
6/1/2016 0:00	7/1/2016 0:00	720.00
7/1/2016 0:00	8/1/2016 0:00	744.00
8/1/2016 0:00	9/1/2016 0:00	744.00
9/1/2016 0:00	9/24/2016 8:04	560.07
11/28/2016 11:55	12/1/2016 0:00	60.08
12/1/2016 0:00	12/21/2016 7:24	487.40
12/22/2016 1:16	1/1/2017 0:00	238.73
1/1/17 0:00	1/6/2017 8:43	128.72
1/8/2017 17:28	1/15/2017 7:03	157.58
1/15/2017 23:24	2/1/2017 0:00	384.60
2/1/2017 0:00	3/1/2017 0:00	672.00
3/1/2017 0:00	4/1/2017 0:00	744.00
4/1/2017 0:00	5/1/2017 0:00	720.00
5/1/2017 0:00	5/19/2017 13:39	445.65
5/20/2017 21:15	6/1/2017 0:00	266.75
6/1/2017 0:00	7/1/2017 0:00	720.00
7/1/2017 0:00	8/1/2017 0:00	744.00
8/1/2017 0:00	9/1/2017 0:00	744.00
9/1/2017 0:00	10/1/2017 0:00	720.00
10/1/2017 0:00	10/16/2017 16:38	376.63
10/17/2017 0:06	11/1/2017 0:00	359.90
11/1/2017 0:00	12/1/2017 0:00	720.00

12/1/2017 0:00	1/1/2018 0:00	744.00
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
11/1/2018 0:00	11/10/2018 6:10	222.17
11/11/2018 3:45	12/1/2018 0:00	476.25
12/1/2018 0:00	1/1/2019 0:00	744.00
1/1/2019 0:00	2/1/2019 0:00	744.00
2/1/2019 0:00	3/1/2019 0:00	672.00
3/1/2019 0:00	4/1/2019 0:00	744.00
4/1/2019 0:00	5/1/2019 0:00	720.00

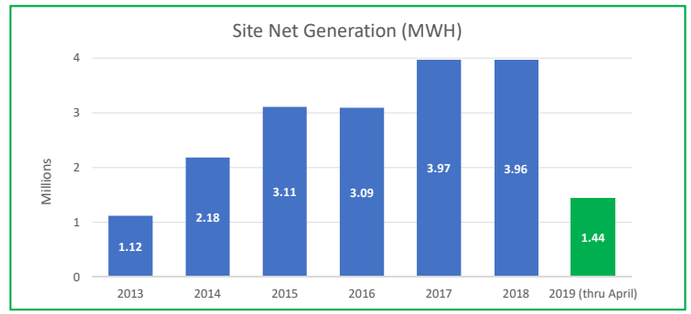
Site Equivalent Availability Factor

2013	69.15%
2014	69.49%
2015	68.49%
2016	59.57%
2017	78.09%
2018	75.70%
2019 (thru	82.86%



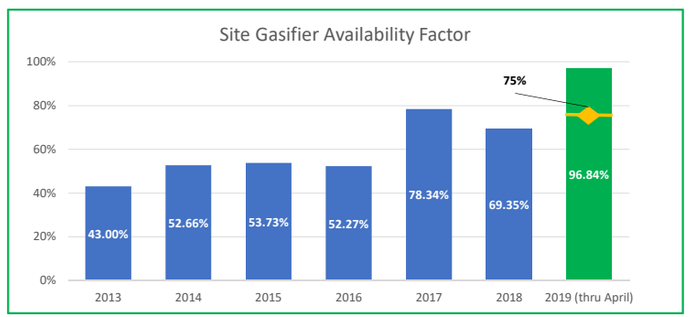
Site Net Generation (MWH)

2013	1115222
2014	2178808
2015	3107471
2016	3092547
2017	3969291
2018	3962016
2019 (thru	1442275



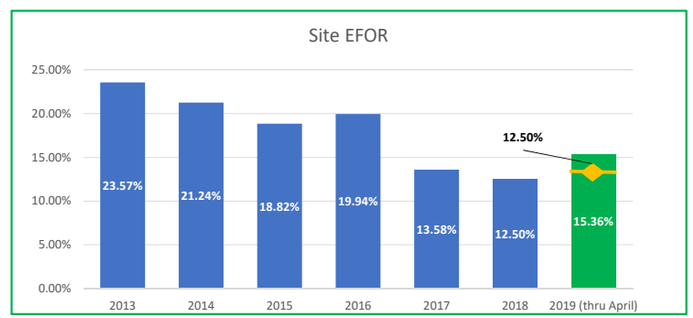
Site Gasifier Availability Factor

2013	43.00%
2014	52.66%
2015	53.73%
2016	52.27%
2017	78.34%
2018	69.35%
2019 (thru	96.84%



Site EFOR

2013	23.57%
2014	21.24%
2015	18.82%
2016	19.94%
2017	13.58%
2018	12.50%
2019 (thru	15.36%



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: 7/2/2019

Cecil T. Gurganus