FILE

Duke Energy Ohio
Exhibit_____

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio, Inc. to Establish its Fuel and Economy Purchased Power Component of its Market-Based Standard Service Office for 2009.	)))))	Case No. 09-974-EL-FAC
In the Matter of the Application of Duke Energy Ohio, Inc. to Establish its System Reliability Tracker of its Market-Based Standard Service Offer for 2009.	)))))	Case No. 09-975-EL-RDR

DIRECT TESTIMONY OF

JOSEPH A. MILLER JR.

ON BEHALF OF

DUKE ENERGY OHIO, INC.

August 27, 2010

Duke Energy Ohio
Exhibit_____

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JAM-1 Zimmer BB 280 LP Blading Inspection and Repair Presentation dated June 15, 2007

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JAM-4 August 27, 2008 email

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Joseph A. Miller Jr. My business address is 529 South Church Street, Charlotte North Carolina.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Business Services, LLC as General Manager in Regulated Generation.

Q. PLEASE DESCRIBE YOUR EDUCATION AND PROFESSIONAL BACKGROUND.

A. I received a Bachelors' Degree in mechanical engineering from Purdue University in 1991. I have also completed twelve post graduate level courses in Business Administration from Indiana State University. I began my career with Public Service of Indiana (PSI) in 1991 as a mechanical engineer at PSI's Cayuga Generating Station. I remained in that position following PSI's merger with the Cincinnati Gas & Electric Company and the formation of Cinergy Corp. In 1997, I was promoted to Tech Services Team Leader at the Cayuga Station and a few months later became Support Team Group Leader. I remained at the Cayuga Station, for approximately eight years. In 2000, I was promoted to Manager of Optimization and Employee Services for Cinergy Corp's power operations department. In that position, I was responsible for assessments at all of the Cinergy-owned power plants and implementing a continuous improvement program. I was also responsible for employee training and handled many labor relation issues for the department. In 2002, I took a position

as plant manager for Duke Energy Ohio's East Bend Generating Station. I held that position for approximately four years until 2006. In 2006, I became the Plant Manager for Duke Energy Ohio's Zimmer Generating Station (Zimmer). As Plant Manager for Zimmer, I was responsible for all aspects of the plant including safety, environmental compliance, operations and maintenance. I remained in the position of Plant Manager for Zimmer until spring 2010, when I transitioned to my current position of General Manager in the Regulated Generation department for Duke Energy Business Services LLC.

Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AS GENERAL MANAGER IN THE REGULATED GENERATION DEPARTMENT.

A. I serve in a staff role supporting the Senior Vice President of Regulated Generation. I am responsible for managing and tracking the performance of the regulated generation fleet for all the fossil and hydro generation assets of Duke Energy Corporation's regulated utility operations in North and South Carolina, Kentucky and Indiana.

II. PURPOSE OF TESTIMONY

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

A. The purpose of my testimony is to discuss the circumstances surrounding the Spring 2009 forced outage of the Zimmer outage and explain how Duke Energy Ohio was reasonable and prudent in managing the plant outages and that the replacement power costs were reasonably and prudently incurred.

III. DISCUSSION OF THE SPRING 2009 ZIMMER OUTAGE

Q. ARE YOU FAMILIAR WITH THE EVENTS OF THE 2007 ZIMMER OUTAGE AND THE 2009 FORCED OUTAGE?

A. Yes. I was the Station manager of Zimmer during both of those events and was directly involved with the evaluations and decisions made regarding course of repairs and timing of the repairs.

Q. PLEASE BRIEFLY SUMMARIZE THE HISTORY OF THE ZIMMER GENERATING STATION.

A. The Zimmer Generating Station was jointly constructed by CG&E (now Duke Energy Ohio), Dayton Power & Light (DP&L) and American Electric Power Corporation's (AEP) utility, Columbus Southern Power Company (CSP). Originally, Zimmer was planned as an 810 Mega-Watt (MW) nuclear generating station. However, due to numerous delays and an order from the Nuclear Regulatory Commission (NRC), construction of the Zimmer nuclear station was suspended in 1982. In August of 1984, the joint owners decided to convert the station into a 1300 MW coal-fired generating facility. American Electric Power Service Corporation (AEPSC) managed the conversion. The Zimmer Station began operation in 1991 as a base load coal-fired station serving the three utilities, Duke Energy Ohio, DP&L and AEP.

Q. WAS THE SPRING OF 2009 FORCED OUTAGE RELATED TO THE REPAIRS MADE DURING THE EXTENDED PLANNED OUTAGE IN THE SPRING OF 2007?

A. Yes. The spring 2009 forced outage was related to the repairs Duke Energy Ohio made during the 2007 Zimmer outage. The 2007 outage was addressed and resolved in Case Nos. 07-723-EL-UNC and 08-974-EL-UNC *et al.* respectively.

Q. PLEASE BRIEFLY DESCRIBE THE ZIMMER OUTAGE THAT OCCURRED IN THE SPRING OF 2007.

A. In the spring of 2007, Zimmer Station had a planned six-week maintenance outage that began on April 13, 2007 and was scheduled for completion on May 27, 2007. During the inspection of the turbine, significant damage was found in the low-pressure turbines. Duke Energy Ohio conducted significant testing on the machine and corrective actions were taken at that time rather than wait until the unit's next planned outage. The planned six-week outage was extended until June 11, 2007, due in part to the time associated with acquiring and replacing two rows of turbine blades on each of the two low-pressure turbines. The failure of the turbine blades was determined to be high-cycle fatigue cracking initiated by several contributing factors, including, but not limited to pitting, Stress Corrosion Cracking (SCC) and improper welding techniques. This spring 2007 outage was first addressed and then resolved in addressed in Case Nos. 07-723-EL-UNC and 07-974-EL-UNC *et al.* respectively.

Q. HOW WAS THE PLANNED OUTAGE IN 2007 RELATED TO THE FORCED OUTAGE IN THE SPRING OF 2009?

A. In short, the repairs made in the spring of 2007, at the direction and recommendation of the Company's internal and independent experts and the equipment manufacturer were the first step in addressing the problems with the turbine discovered in 2007.

Duke Energy Ohio's goal in 2007 was to get Zimmer running safely and reliably before the summer peak season. At the time of the 2007 outage, it was not possible to perform a permanent repair to the turbine. Replacing the discs in 2007 would have resulted in a minimum down time of six months, assuming complete availability of manufacturers and no delays, while new parts were manufactured on an expedited basis. This would have exposed Duke Energy Ohio's customers to additional replacement power costs over the summer months. To assist in accomplishing the goal of getting the station running safely and reliably, Duke Energy Ohio sought input from numerous sources including its internal turbine experts as well as turbine experts from other utilities and engineering firms and even retained Siemens Power Generation Inc. (Siemens) to analyze the problem and come up with possible solutions. Siemens came up with several recommendations which Duke Energy Ohio evaluated based upon cost, feasibility and timing of repairs and total downtime of Zimmer. The recommendation ultimately selected met the goals of getting the station running in a safe and reliable fashion while minimizing the exposure to market power spot prices during peak seasons.

Q. PLEASE DESCRIBE THE REPAIR OPTION SELECTED.

A. Based upon recommendations by Siemens, Duke Energy Ohio selected a course of action that was essentially a three step process. During the first step damaged blades were replaced. Due to significant cracks in the blade attachment area on one of the discs, Siemens recommended removal of the blades in two opposing L-2 blade groups on the generator end of the LPB turbine rotor, and operate in what was described as a "snaggle-tooth" configuration for a period of time until a replacement disc could be procured, manufactured and installed. Based upon its experience, Siemens recommended the "snaggle-tooth" configuration for the disc operation for up to 2 years. ATTACHMENT JAM-1 is a true and accurate copy of Siemens' Zimmer BB 280 LP Blading Inspection and Repair Presentation dated June 15, 2007. The second repair step was to replace this disc and an additional disc. The replacement discs needed to effectuate the repairs are unique to the Zimmer station and needed to be manufactured. Siemens informed Duke Energy Ohio that in order to replace the two discs within the recommended two years, Duke Energy Ohio must place the order for the new discs as soon as possible. ATTACHMENT JAM-2 is a true and accurate copy of Siemens' Zimmer LP Turbine Rotor Long Term Reliability Options presentation dated June 15, 2007. Duke Energy Ohio evaluated the various alternatives presented by Siemens and consulted with internal and external experts. Based upon the Siemens' recommendations, and after thorough evaluation, Duke Energy Ohio selected the plan to replace the two discs and their respective blades in a planned spring 2009 outage. Duke Energy

Ohio then contracted with Siemens to manufacture the discs. Attachment JAM-3 is a true and accurate copy of the final signed contract with Siemens. The contract provided a delivery date of March 15, 2009, which Siemens indicated was achievable. The third step in the process is a complete replacement of the turbine which is scheduled to occur in a future outage.

Q. DID DUKE ENERGY OHIO SCHEDULE AN OUTAGE FOR THE ZIMMER STATION FOR THE SPRING OF 2009 TO REPLACE THE DISCS?

A. Yes. Duke Energy Ohio did schedule a spring outage for the Zimmer station to make the disc replacement repair as well as other repairs to the boiler. The scheduled outage was planned to begin on March 20, 2009 and last through May 3, 2009.

Q. DID DUKE ENERGY OHIO CANCEL ITS SPRING 2009 PLANNED OUTAGE?

A. Not exactly. In the fall of 2008, Duke Energy Ohio made the decision to reschedule the longer planned maintenance outage to October 2, 2009 through November 15, 2009. The decision to reschedule the Zimmer outage was due to several contributing factors. The most significant factor was a concern with the lack of availability of qualified personnel due to contract negotiations with the local Duke employee unions and availability of non-Duke craft labor from non-employee unions in the spring. Other contributing factors included a lack of certainty regarding the timely receipt of the replacement discs from Siemens and the ability to make the other planned repairs during the outage. Duke Energy

Ohio did, however schedule a shorter spring outage for smaller repairs beginning May 1, 2009 through May 17th, 2009.

Q. PLEASE EXPLAIN THE UNION CONCERNS DUKE ENERGY OHIO HAD IN THE FALL OF 2008.

A. Duke Energy Ohio's contract with its union employees, including plant operations and maintenance was set to expire on March 31, 2009, during the planned Zimmer outage. Due to the nature of the issues that were going to be the subject of the negotiations, namely healthcare increases and pension changes, in the fall of 2008, it became apparent that the negotiations were going to be very difficult and the risk of a work stoppage was greater than in the past. Throughout mid to late 2008 Duke Energy Ohio examined the availability of craft labor to supplement employee labor and determined there was a scarcity during the time that was scheduled for the Zimmer outage. The risks and impacts of a work stoppage during an outage are far greater than when a unit is operational. Non-union management personnel can keep a unit running during a union work stoppage, but may not be able to make repairs and start up a unit once the unit is taken down for maintenance.

Q. PLEASE EXPLAIN THE LACK OF CERTAINTY REGARDING SIEMENS ABILITY TO DELIVER THE DISCS AS CONTRACTED.

A. In August of 2008, via email, Siemens first notified Duke Energy Ohio of possible delays in turbine discs and machining and installation of blading. Attachment JAM-4 is a true an accurate copy of the August 27, 2008 email. As a result and due to the significant concern with the union contract negotiations

and potential for work stoppages during an outage, as well as discussions with other suppliers regarding labor availability for the boiler at Zimmer, in October 2008, the Company determined it was prudent to reschedule its Planned Spring Outage to a long outage in the Fall of 2009, when there was more certainty that labor issues would be resolved and all replacement parts would be available. Duke Energy Ohio then scheduled a shorter maintenance outage for the spring of 2009 to last May 1, through May 17th for boiler inspections for reliability through the summer and repairs.

Q. DID DUKE ENERGY OHIO EXTEND THE CONTRACT DELIVERY DATE FOR SIEMENS AS A RESULT OF THE CHANGE IN THE TIMING OF THE LONG MAINTENANCE OUTAGE?

A. No. Duke Energy Ohio insisted that Siemens deliver under the terms of the contract. In November 2008, Duke Energy Ohio was informed via email by Siemens that the contract for the Zimmer LP B discs would be impacted by the delays Siemens was experiencing from its suppliers. Siemens informed Duke Energy Ohio at that time that they were working with their sub-suppliers and their shop in Charlotte to do everything they could to mitigate delays to the delivery schedule. Attachment JAM-5 is a true and accurate copy of the November 24, 2008 email I received from Siemens discussing the delay. Siemens also made a verbal request for an extension of time to deliver the discs. Duke Energy Ohio refused to grant Siemens an extension to the March 15th 2009 the delivery date.

Q. DID DUKE ENERGY OHIO HAVE ANY FURTHER CONVERSATIONS WITH SIEMENS REGARDING THE PROGRESS OF THE DISCS?

A. Yes. In part to make certain Siemens was making progress on its disc manufacturing, in December 2008, the Company offered to accelerate payment upon adequate showing of progress made under the contract. Duke Energy Ohio was verbally informed that Siemens was unable to provide documentation to support the acceleration of payments, but did indicate that the disc forgings were melted, poured and cooled. Attachment JAM-6 is a true and accurate copy of the emails documenting the conversations with Siemens.

Q. DID DUKE ENERGY OHIO TAKE THE FALL 2009 PLANNED OUTAGE?

A. No. There was a forced outage event on March 1, 2009 that lasted through May 17, 2009 when the stationary L-1 blade failed.

Q. WHAT CAUSED THE FAILURE OF THE STATIONARY L-1 BLADE?

A. It is believed that the windows left in the L-2 blade row contributed to a failure of the stationary blading immediately downstream. Siemens had evaluated the operation of the discs in the non-standard "snaggle-tooth" configuration and determined that configuration was acceptable for up to two years. The stationary blading is not connected to the disc evaluated by Siemens. It is believed that a combination of poor stationary blade attachment welds along with the pulsation to the downstream steam path cause by the "snaggle-tooth", configuration contributed to the stationary blade failure. Upon the failure, Duke Energy Ohio immediately contacted Siemens to find out about the progress of

the discs. It was then that Siemens informed Duke Energy Ohio officially that they could not make the March 15th delivery date. Duke Energy Ohio informed Siemens that this was not acceptable. Duke Energy Ohio was able to convince Siemens to divert its other work and procure additional shop space that allowed final machining of the two discs concurrently. Siemens continued to expedite the discs and finally delivered them to Duke Energy Ohio on April 20th, 2009. Duke Energy Ohio completed the work for the disc replacement and Zimmer was fully operational on May 17th, 2009.

Q. WAS DUKE ENERGY OHIO ABLE TO PERFORM ANY ADDITIONAL WORK DURING THE SPRING 2009 OUTAGE?

A. Yes. During this outage, Duke Energy Ohio was able to perform nearly all the work that was planned for the shorter spring 2009 and the longer fall 2009 outage so that it could be avoided.

Q. IN YOUR OPINION DID DUKE ENERGY OHIO ACT PRUDENTLY AND REASONABLY IN SCHEDULING ITS OUTAGES?

A. Yes. Duke Energy Ohio followed the recommendation made by Siemens in 2007 to operate in the "snaggle tooth" configuration until the new discs could be manufactured and replaced. Duke Energy Ohio conducted a thorough evaluation of the repair alternatives even speaking with multiple vendors. Duke Energy Ohio ultimately contracted Siemens within their quoted lead time to manufacture the discs. Duke Energy Ohio planned to replace the discs within the two year period and scheduled an outage for the spring of 2009. It was later in 2008 that Duke Energy Ohio learned that Siemens may not make the

scheduled delivery date, and given the scope of other repairs, and issues involving labor availability and work stoppages, the Company determined the reasonable thing was to reschedule the Planned Spring Outage, and schedule a later spring outage and a longer fall 2009 outage. Duke Energy Ohio did not foresee that the "snaggle tooth" configuration would have the impact on the downstream blades and could not predict a forced outage due to the downstream blade failure. Nor was such a risk ever communicated by Siemens. Despite the likelihood of delays and the request for extensions of the delivery date from Siemens, Duke Energy Ohio never backed off from the March 15 contracted delivery date for the replacement discs. Duke Energy Ohio even offered to accelerate payment to Siemens in December 2008 if it could show progress. Nonetheless, knowing the likelihood that Siemens may not deliver on time despite Duke Energy Ohio's insistence that Siemens abide by the contract, and knowing that there were significant risks involving work force availability Duke Energy Ohio did the prudent thing. Duke Energy Ohio made arrangements to make the necessary repairs as soon as possible when labor issues would be resolved and all parts were in hand. And when it was in the customers' best interest, a shoulder month in the fall of 2009. Even though the Company adjusted its maintenance schedules, the Company continued to attempt to get the parts within the original due dates.

Q. WOULD IT HAVE MADE ANY DIFFERENCE IF DUKE ENERGY OHIO HAD NOT RESCHEDULED ITS PLANNED SPRING P OUTAGE TO THE FALL?

A. No. Duke Energy Ohio had scheduled its Planned Spring Outage to occur March 20, 2009 through May 3, 2009. The blade failure that caused the forced outage occurred on March 1, 2009.

Q. DID DUKE ENERGY OHIO OPERATE UNDER A HIGH RISK WITH RESPECT TO THE TURBINE REPAIRS MADE IN 2007?

A. No. First, it is important to distinguish the medium risk operation. I am not aware of Siemens ever qualifying the risk as medium or high during the Spring 2007 outage or prior to the Spring 2009 Outage. That distinction was first mentioned in an April 20, 2009 letter from Siemens after the stationary blades failed more than a month earlier. A true and accurate copy of the April 20, 2009 letter is attached to my testimony as JAM-7. Second, even if Siemens had qualified the risks in 2007, the 24 month window of operation in the "snaggle tooth" configuration referred to the disc operation, not the stationary blading downstream. Siemens' analysis never opined on the impact of the "snaggle tooth" operation on the downstream stationary blades, nor do I recall Siemens ever mentioning such a risk. Nonetheless, the downstream blade failure occurred within the two year window that was recommended by Siemens. The 2007 repairs were completed in June 2007, so the window did not expire until June of 2009. Based upon Siemens' recommendation and experience, the Company could operate the discs in the "snaggle tooth" configuration for up to two years. Even though Duke Energy Ohio had decided that it was necessary to reschedule the Planned Spring Outage to the fall (and schedule a shorter spring 2009 outage), due to concerns with labor availability, potential union work

stoppages, and uncertainty with delivery of the replacement parts, Duke Energy Ohio never operated under the "high risk" scenario described in Siemens' after-the-fact letter, because of the premature failure of the downstream stationary L-1 blade on March 1, 2009.

Q. WERE CONSUMERS HARMED IN ANY WAY DUE TO THE CANCELING OF THE PLANNED SPRING OUTAGE AND THE RESULTING FORCED OUTAGE IN THE SPRING?

A. No. The end result would have been the same. Even if Duke Energy Ohio had kept its Planned Spring Outage and risked the potential for work stoppage and availability of personnel to perform necessary repairs, there still would have been a forced outage beginning on March 1, 2009. Duke Energy Ohio would have had to accelerate the Planned Spring Outage anyway. Siemens still would not have provided the replacement discs on time under the contract. Duke Energy Ohio had never granted Siemens an extension of the delivery date and at all times indicated that delivery was expected on March 15th as agreed in the contract. Siemens delivered the discs on April 20th, after expediting at their expense.

IV. CONCLUSION

Q. WERE ATTACHMENTS JAM- 1- THROUGH JAM-6 PREPARED BY YOU OR UNDER YOUR DIRECTION SUPERVISION AND CONTROL?

A. Yes.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing was served via regular U.S. Mail, postage paid upon the following parties this 27th day of August, 2010.

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Assistant General Counsel

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Watts, Elizabeth H

From: Andersen, Steve
Sent: Monday, August 16, 2010 10:37 AM
To: Delis, Brandon; Schadler, Jim; Andersen, Steve
Subject: FW: Zimmer Discs

I think this was the first email we received from Siemens raising the flag on the disc delay.

Steve

From: Studer, Jim A (E AS21) [mailto:jim.studer@siemens.com]
Sent: Monday, November 24, 2008 10:45 AM
To: Andersen, Steve
Cc: Delis, Brandon; Miller Jr, Joseph A; Keyes, Michael C
Subject: Zimmer Discs

Steve,

As noted below, the supply chain for turbine disc forgings continues to be challenged for both new and existing orders. Siemens has been informed that the two discs for Zimmer LP 'B' (contract 354938), will be late arriving into Charlotte. Siemens is working with the disc supplier and reviewing the Charlotte shop schedule to mitigate the impact that this delay will have on the completion date for the Zimmer discs. As soon as we have a revised schedule, we will communicate it to you.

Jim Studer
Account Manager
Siemens
513-792-2904 - Office
513-703-2361 - Cell

From: Studer, Jim A (E AS21)
Sent: Wednesday, August 27, 2008 4:47 PM
To: Ben Ruggiero (Ben.ruggiero@duke-energy.com)
Cc: Brandon.delis@duke-energy.com; Joe Miller (Joseph.Millerjr@duke-energy.com); Steve Andersen (Steve.Andersen@duke-energy.com)
Subject: Zimmer Discs

Ben,

I have been advised to inform all customers that are planning to purchase turbine discs that the current lead-time, for the disc only, is being quoted as 24 months or more. Time for machining of the discs and installation of the blading is additional. Our Supply Management group is searching for additional reliable suppliers in an effort to improve this lead-time. However, we do not expect to see any improvement of this situation in the near term.

This information is being provided to you to help you with your outage planning.

Jim Studer
Account Manager
Siemens
513-792-2904 - Office
513-703-2361 - Cell

SIEMENS

April 20, 2009

Mr. Jim Schadler
Duke Energy Zimmer Station
1781 US Rt. 52
Moscow, OH 45153

RE: Duke Energy Zimmer 1 LPB Forced Outage Analysis
Siemens Letter Log # 09-046

Dear Mr. Delis,

Siemens Engineering did not perform a root cause analysis of the blade failure that occurred on the Duke Energy Zimmer 1 LPB on March 2, 2009. Based on the information provided, Siemens Engineering deduced that the generator end L-1C vanes failed in service and the remaining damage observed was consequential. Since the spring 2007 outage, the customer has been operating this unit under assumed risk with the LPB generator end L-2R row in a snaggle-toothed condition. The L-2R row operating in the snaggle-toothed condition was immediately up stream of the L-1C vanes that failed. A snaggle-toothed condition is a non-standard configuration that results in stage loading that is non-standard and not accounted for by current calculation methods. For this reason, Siemens has never recommended operation beyond two years in this condition. Due to the snaggle-toothed row and the age and condition of this machine, the risk was considered medium for operation up to 2 years and high for operation beyond 2 years.

Siemens has not seen an evidence to recommend an inspection of LP A during this outage. In June 2007, Siemens Engineering recommended that the inspection intervals for the Zimmer LPA be 5 years. Previous analysis of the disc # 3 (L-2R) SCC cracking seen on LP B shows that if a crack started up immediately after the 2007 outage on LP A we would still make the 5 years before corrective action was necessary. So risk level for a forced outage due to SCC for LP A is assumed to be low over the 5 years. The recently discovered L-1R disc serration crack in LP B (assumed to be SCC) is very shallow (0.125 inches deep). It is also assumed to be low risk to follow a five year inspection interval for LP B (next 2014).

Regards,

Carol Andrews
District Service Manager

cc.Joe Miller,
Brandon Delis

Siemens Energy, Inc.

841 Old Frankstown Road
Pittsburgh, PA 15239