

FILE

16



RECEIVED DOCKETING DIV

2007 DEC -6 PM 5:11

PUCO

139 East Fourth Street, R. 25 At II
P.O. Box 960
Cincinnati, Ohio 45201-0960
Tel: 513-419-1852
Fax: 513-419-1848
Rocco.D'Ascenzo@duke-energy.com

Rocco O. D'Ascenzo
Counsel

December 6, 2007

Public Utilities Commission
Docketing Division
180 East Broad Street, 13th Floor
Columbus, Ohio 43215-3793

Re: Case No 07-723-EL-UNC

Dear Docketing:

Attached, please find an original and 10 copies of the Supplemental Testimony of Charles Whitlock and Direct Testimony of Michael L. Hofmann in the above referenced matter. Please file the same and return two time-stamped copies. Copies of the documents and attachments were served upon all Parties of record. Thank you.

Sincerely,

Rocco D'Ascenzo, Counsel
Duke Energy Ohio
2500 Atrium II, 139 East Fourth Street
P. O. Box 960
Cincinnati, Ohio 45201-0960

This is to certify that the images appearing are an accurate and complete reproduction of a case file document delivered in the regular course of business.
Technician Ann Date Processed 12/7/07

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Commission's Review)
and Adjustment of the Fuel and Purchased) Case No. 07-723-EL-UNC
Power and the System Reliability Tracker)
Components of Duke Energy Ohio, Inc.,)
and Related Matters.)

SUPPLEMENTAL DIRECT TESTIMONY OF

CHARLES R. WHITLOCK

ON BEHALF OF

DUKE ENERGY OHIO

DATE: December 6, 2007

RECEIVED-COCKETING DIV
2007 DEC -6 PM 5:18
PUCO

TABLE OF CONTENTS

<u>DESCRIPTION OF TESTIMONY</u>	<u>TESTIMONY PAGES</u>
I. INTRODUCTION	1
II. PURPOSE OF TESTIMONY.....	1
III. DISCUSSION	1
IV. CONCLUSION	13

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Charles R. Whitlock and my business address is 139 East Fourth Street,
3 Cincinnati, Ohio 45202.

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

5 A. I am employed by Duke Energy Shared Services as Senior Vice President, Commercial Asset
6 Management ("CAM").

7 **Q. ARE YOU THE SAME CHARLES R. WHITLOCK WHO PREVIOUSLY FILED**
8 **TESTIMONY IN THIS PROCEEDING?**

9 A. Yes.

II. PURPOSE OF TESTIMONY

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

11 A. The purpose of my supplemental testimony is to respond to certain Management Audit
12 Recommendations contained in the *Final Report Management/ Performance Audit and*
13 *Financial Audit Duke Energy Ohio Case No. 07-EL-UNC* ("Audit Report"). Specifically, I
14 address the Auditor's recommendations contained on pages ES-7 and ES-8 with respect to:
15 1) The evaluation of procedures and methods for forecasting coal consumption in relation to
16 actual consumption; 2) The economic effectiveness of Portfolio Optimization, sometimes
17 referred to as "Active Management"; and 3) The several recommendations contained in
18 Chapter Five relating to Plant operations.

III. DISCUSSION

19 **Q. HAVE YOU REVIEWED THE AUDIT REPORT?**

20 A. Yes.

1 **Q. DID THE AUDITOR MAKE ANY RECOMMENDATIONS?**

2 A. Yes. The Auditor made ten recommendations.

3 **Q. PLEASE BRIEFLY EXPLAIN THE AUDITOR'S FIRST RECOMMENDATION.**

4 A. The Auditor's first recommendation was that DE-Ohio develop standard procedures for the
5 procurement and management of fuel and emission allowances, including procedures,
6 guidelines and limits on Active Management.

7 **Q. DOES DE-OHIO AGREE WITH THIS RECOMMENDATION?**

8 A. Yes, in principle. As explained in the Audit Report the culture of the organization fosters
9 communication and cooperation among the various risk managers that in some instances
10 obviates the need for formal procedures. In the Audit Report, the auditor discusses the open
11 nature of our floor. Communication within our organization between various risk managers
12 occurs consistently and continuously every day. Typically, utilities have the various
13 commodity positions managed in silos. The fuel position and the energy position are
14 managed by different organizations. Often the positions are generated with different
15 assumptions. The same is true for emission allowance ("EA") risk management. In fact,
16 some organizations manage EA positions with the sole objective of compliance, not
17 economics. However, at DE-Ohio, each member of the organization, including commodity
18 position managers, works closely with coworkers and their superiors. Inherent in these
19 relationships is a check and balance of work product. All commodity positions are
20 developed with a consistent set of assumptions. The CAM organization believes the
21 procedures and guidelines recommended by the Auditor are already in place and enforced,
22 although they are not currently formalized. The Audit Report acknowledged the existence of
23 three documents that provide procedures and guidelines on Active Management, including

1 the CAM Risk Management Control Policy, the Delegation of Authorities Matrix and a
2 description of how DE-Ohio employs Active Management on behalf of FPP consumers.
3 However, after review of the Audit Report, DE-Ohio has decided to adopt this
4 recommendation and "formalize" these protocols as a standard set of procedures. The
5 Company has already started to create a manual.

6 **Q. PLEASE BRIEFLY EXPLAIN THE AUDITOR'S SECOND AND THIRD**
7 **RECOMMENDATIONS.**

8 **A.** The Second and Third recommendations are found in the Coal Procurement and Contracts
9 section of the Audit Report. First, the Auditor recommends that DE-Ohio evaluate
10 procedures and methods for forecasting coal consumption to bring forecasts in line with
11 actual consumption. The Auditor also recommends that DE-Ohio demonstrate the economic
12 effectiveness of Active management.

13 **Q. WHAT IS THE COMPANY'S RESPONSE TO THE RECOMMENDATION**
14 **REGARDING EVALUATING THE DISCREPANCY BETWEEN FUEL**
15 **PROJECTIONS AND ACTUAL CONSUMPTION?**

16 **A.** The Company agrees with this recommendation. In fact, the Company is constantly
17 evaluating variances between forecasted and actual consumption. We strive to make our
18 forecasts as close to the actual expenditures as possible. While the Company agrees that
19 predictability and accuracy in assessing future coal needs is important, differences will
20 always exist because of changes in weather, unit availability, commodity market prices,
21 customer switching, and other deviations in consumption. In assessing future coal needs,
22 DE-Ohio takes into consideration many factors, including but not limited to anticipated load,
23 estimated plant capacity factors and future prices for coal, EAs and purchased power.

1 Perhaps one of the most significant factors influencing the accuracy of our projections is
2 actual weather.

3 Based upon all these inputs, DE-Ohio develops an economic forecast for future
4 period coal consumption. To the extent actual weather conditions deviate significantly from
5 historical norm, so could fuel consumption and the need for economic power purchases.
6 Actively managing our portfolio allows us to take advantage of potentially lower market
7 prices while limiting the Company's and customers' risk to higher prices while ensuring that
8 all resources are available to provide safe and reliable service. Simply buying and burning
9 coal without regard to the myriad of market and operational factors involved in the
10 production of power could be a costly disservice to our customers. Similarly, simply
11 managing our compliance obligation for emission allowances could also be a costly
12 disservice.

13 With respect to the Audit Report's reference that the mismatch between forecast and
14 actual coal consumption is a result of Active Management, such a statement is not correct.
15 Actively managing the portfolio did not cause a mismatch between forecasted and actual coal
16 consumption for December 2006 and January 2007. Rather, abnormally mild weather and
17 changes in commodity prices were the primary drivers of the deviation. Heating degree-days
18 for both months were significantly below normal. "Active" Portfolio Management identified
19 a more economical solution to serving our customers' requirements by selling excess
20 forecasted coal, which otherwise would not have been burned by DE-Ohio's generating units.
21 Lower market prices for energy also allowed us to more economically meet our customers'
22 requirements by taking advantage of lower cost energy in the market (*i.e.*, "the Midwest
23 Independent System Operator, Inc." or "MISO").

1 **Q. WHAT IS THE COMPANY'S RESPONSE TO THE RECOMMENDATION**
2 **REGARDING DEMONSTRATING THE ECONOMIC EFFECTIVENESS OF**
3 **ACTIVE MANAGEMENT?**

4 A. DE-Ohio believes the merits of active management have been vetted and the Commission
5 has ruled in favor of DE-Ohio continuing its active management to respond to market
6 fluctuations. However, DE-Ohio is willing to, as mentioned earlier, develop policies and
7 procedures that make the practice and activities of Active Management clearer.
8 Demonstrating the economic effectiveness of active management requires a comparison to
9 another pre-defined and static set of facts. The parameters that need to be frozen include but
10 are not limited to, market prices, weather, unit availability and efficiency, and customer
11 switching. This makes the recommended comparison exceedingly difficult if not impossible.
12 Active management takes into consideration all market costs and operational inputs at a point
13 in time to determine the most economically efficient way to provide power. Numerous
14 variables affect the market price of power and the customers' need for power. The cost of
15 coal is just one of these inputs. The Company examines numerous variables together, to
16 determine the least cost and most reliable way to serve DE-Ohio's load. These variables
17 include weather, customer switching, plant operations, and the price of certain commodities
18 such as coal, purchased power, and EAs.

19 **Q. ARE THERE CONCEPTUAL WAYS TO DEMONSTRATE THE ECONOMIC**
20 **EFFECTIVENESS OF ACTIVE MANAGEMENT?**

21 A. Yes. At its simplest, Active Management is the "make" energy versus "buy" energy
22 decision. For example, take two identical portfolios at the same point in time, say January 1,
23 2008. Portfolio A is actively managed and Portfolio B is static. Assume these portfolios

1 have purchased the necessary fuel, EA's and purchased power to meet the projected load
2 requirements for a future month, say June 2008. If on January 2, 2008, market prices for
3 power fall to a level such that it is cheaper to buy power than to burn coal and utilize EAs by
4 generating, Portfolio A takes advantage of this situation and lowers the overall cost to serve
5 load. Assume that on January 3, 2008, the prices for these commodities go back to the level
6 on January 1, 2008. Portfolio A can now buy back the fuel and EAs and sell the power that
7 was purchased on January 2. If the commodity prices, and all other factors stay as assumed
8 through the month of June 2008, then the actively managed portfolio (A) will out perform the
9 static portfolio (B). As the commodity prices and other factors continue to change, Portfolio
10 A continuously adjusts and reacts to those market prices to take advantage of the inherent
11 value in the commodity markets, and continues to outperform Portfolio B. That is the
12 essence of "Active Management." If market opportunities to improve Portfolio A do not
13 arise, the performance of Portfolio A will, at worst, be equal to that of Portfolio B. Thus,
14 Active Management can only improve the portfolio position once it has been established.
15 However, because the input assumptions (e.g. weather, plant operations, and demand load)
16 are not static and move with great frequency, the ultimate benefit or net value of Active
17 Management is difficult to quantify. When all the variables change, the benefits of active
18 management versus some other portfolio management approach become difficult if not
19 impossible to quantify until the outcome of all variables are known. If the variables are
20 known, the comparison becomes possible.

21 While the Auditor was able to conclude that the net effect of Active Management
22 demonstrated overall savings, the conclusion was based on specific data and assumptions.

1 Q. WHAT IS THE COMPANY'S RESPONSE TO THE AUDITOR'S COMMENT
2 REGARDING THE ALLEGED NEGATIVE COAL MARGIN OF
3 APPROXIMATELY \$16.7 MILLION?

4 A. The Auditor's conclusion is incorrect regarding the amount of the coal margins and the
5 extent the margins are due to Active Management. The \$16.7 million is a single attribute that
6 is not indicative of the total net cost to FPP consumers. Furthermore, the \$16.7 million
7 represents a combination of items including accounting gains and losses, the conversion of
8 financial coal products to physical products and quality fuel swaps. To measure the net cost,
9 the entire portfolio must be reviewed, which includes the related reduction in coal, EAs and
10 purchased power costs. Some coal margin gains or losses are realized when DE-Ohio
11 improves its position for the overall economic benefit ("make" versus "buy" decision) of the
12 FPP customer. For example, as previously discussed, DE-Ohio will sell previously
13 purchased coal when it is beneficial to either purchase lower cost coal or purchase lower cost
14 energy. The sale results in either an accounting gain or loss for the coal, but always a lower
15 overall FPP cost to customers as compared to the initial position. It is important to note that
16 absent Active Management, the previously purchased coal would simply be burned at the
17 original higher cost, the cost of which would be passed through inventory, and included in
18 the final prices to consumers via Rider FPP. Again, as the Auditor concluded, the net effect
19 of Active Management resulted in an overall net savings in the months analyzed.

20 To summarize, neither the \$16.7 million accounting loss for the current audit period,
21 nor the prior period gains (\$12,415,035 gain for FPP Audit Period 2)¹ should be looked at in
22 isolation. Rather they are merely components of the overall FPP price to consumers.

¹ *In re DE-Ohio's Application to Adjust its Rider FPP and SRT*, Case No. 07-723-EL-UNC, (Final Report Management/Performance Audit, Duke Energy Ohio, Page II-13) (Filed November 1, 2007).

1 **Q. WHAT IS THE AUDITOR'S FOURTH RECOMMENDATION?**

2 A. The Auditor recommends that DE-Ohio institute a security program to protect what it
3 perceives as potential risks for inaccuracies in coal samples examined by the laboratory.

4 **Q. WHAT IS THE COMPANY'S RESPONSE TO THIS RECOMMENDATION?**

5 A. As stated in the direct testimony of DE-Ohio Witness Mike Hofmann, DE-Ohio is willing to
6 investigate the need for additional security protocols for the transport and delivery of coal
7 samples.

8 **Q. WHAT ARE THE AUDITOR'S RECOMMENDATIONS REGARDING PLANT
9 OPERATIONS?**

10 A. The Auditor makes five recommendations regarding Plant Operations. Specifically, the
11 Auditor recommends: 1) that replacement power costs associated with the extended Zimmer
12 outage in the spring of 2007 be excluded from Rider FPP recovery; 2) that the Company
13 address what the Auditor perceives as safety, cleanliness and employee morale issues at the
14 Company's Beckjord Station; 3) that the Company's capital and O&M budgets for Beckjord
15 Station are not reduced; 4) that the Company conduct a staffing review at its coal plants and;
16 5) that an economic analysis be performed to determine the level of spare parts and the
17 ability to share parts among generating stations.

18 **Q. WHAT IS THE COMPANY'S RESPONSE TO THESE RECOMMENDATIONS?**

19 A. Although these recommendations are more fully addressed in the direct testimony of DE-
20 Ohio witness Michael Hofmann, I would like to address the Company's opposition to the
21 exclusion of the replacement power costs associated with the Zimmer Station outage.

22 **Q. IS THERE AN IMPORTANT HISTORICAL BACKDROP TO ZIMMER STATION?**

1 Yes, Zimmer Station was converted from a nuclear fuel source to coal station in the mid to
2 late 1980's and was completed in 1990. The American Electric Power Service Corporation
3 designed the facility and managed the conversion construction. The decision to go through
4 with the conversion was based upon the satisfaction of three criteria; (1) maximize the
5 utilization of existing Zimmer facilities; (2) use of a proven engineering design; and (3)
6 achieving an acceptable heat rate. The design ultimately chosen and constructed best
7 satisfied those criteria.

8 Upon completion of the conversion, and prior to inclusion in any of the joint owner's
9 respective rate base, the Staff of the Commission thoroughly reviewed the decision process
10 surrounding the conversion of the Zimmer plant from nuclear to coal and performed a full
11 and comprehensive analysis of the conversion, including the various designs considered by
12 the companies, as well as the prudence of those decisions. The Staff reported the details of
13 its analysis in a document entitled "Zimmer Conversion Project Staff Reconnaissance
14 Report," and concluded that the design ultimately chosen, and the management of the
15 conversion itself were reasonable and prudent. The Commission addressed the issue of
16 including Zimmer in DE-Ohio's rate base in the Company's 1991 rate case. For over sixteen
17 years, the Zimmer turbine has been used and useful, and the customers of DE-Ohio, the
18 Dayton Power & Light Company ("DP&L") and the American Electric Power Company
19 ("AEP") have benefited from the plant's low cost and efficiency.

20 **Q. WHAT ARE THE DETAILS OF THE ZIMMER OUTAGE?**

21 A. The Zimmer station was scheduled for an outage to occur from April 13, 2007 to May 27,
22 2007. The scheduled outage was necessary and prudent and DE-Ohio was able to properly
23 plan for this event. Planning for major outages takes into account, among other things, the

1 forward energy markets, material and labor availability, and system reliability. These outage
2 plans seek to minimize the economic and reliability impacts to customers. Disallowing the
3 recovery of replacement power costs when a unit is down for a planned outage is bad policy
4 and would send the message to utilities that they must run their generation stations at all
5 times at all costs or else risk not being compensated. This creates additional and
6 unreasonable risks for consumers. The Commission should absolutely allow the recovery of
7 costs associated with the planned outage.

8 As more fully explained in the Direct Testimony of Mr. Hofmann, in the spring of
9 2007, while Zimmer was down for the planned outage, the Company discovered that the low-
10 pressure turbine blades had been damaged due to fatigue cracking caused by several
11 contributing factors, including pitting, stress corrosion cracking, and welds and metallurgy
12 used in the low- pressure (LP) turbine. As a result, the outage was extended two weeks, until
13 June 11, 2007, to account for the replacement of two rows of turbine blades on each of the
14 two LP turbines. During the extension, the Company was able to perform other work
15 designed to enhance the reliability and performance of the Zimmer station. Specifically, this
16 work was done in the horizontal reheat section of the boiler during the outage extension.

17 **Q. WHAT COSTS WERE INCURRED AS A RESULT OF THE OUTAGE**
18 **EXTENSION?**

19 A. Primarily two costs were incurred, the cost of the outage, including the costs to replace the
20 blades and purchased power costs. New turbine blades were purchased and installed at no
21 cost to customers. There is no provision in the current competitive marketplace for
22 generation services in Ohio for DE-Ohio to recover incremental costs of generator plant
23 repairs. Consequently, the rather substantial cost of replacing the turbine blades will be borne

1 by DE-Ohio's shareholders. The new blades will allow for the safe, reliable, and economic
2 generation of the Zimmer power station to provide substantial benefit for DE-Ohio customers
3 now and in the future. During this time, purchase power expenses were also incurred. These
4 costs were passed through DE-Ohio's Rider FPP.

5 **Q. IS THE AUDITOR'S RECOMMENDATION TO DISALLOW RECOVERY OF THE**
6 **INCREMENTAL PURCHASE POWER COSTS RELATED TO THE EXTENDED**
7 **ZIMMER OUTAGE REASONABLE?**

8 No. Denying recovery of the cost of replacement power incurred during the extended outage
9 is unreasonable. There is adequate precedent for the recovery of replacement power costs for
10 unplanned outages including planned outages that are extended. Disallowing the recovery of
11 the extended outage will create a perverse incentive to second-guess what would otherwise
12 be prudent decisions. For example, a utility works diligently to schedule planned outages to
13 minimize reliability and economic impacts to customers. That work includes setting up
14 significant labor and material resources, scheduling the outage based on market prices, and
15 coordination with other unit outages and system operations. It is unavoidable, that during
16 planned outages personnel are often exposed to 'issues' that were not part of the original
17 planned work scope. Fixing those issues may be done within the critical path of the planned
18 outage, but they may also require adding to the outage duration. The simple fact is that when
19 DE-Ohio began its scheduled Zimmer maintenance, the Company found an issue that
20 required immediate attention and acted as expeditiously as possible to fix it. That was the
21 prudent thing to do and the Company should not be penalized for doing the right thing.

22 If, however, the replacement power costs for an extended outage are disallowed, it
23 sends a mixed signal by providing an incentive for an operator to ignore the 'issue' and stay

1 on the original outage plan and schedule a new planned outage. In the best of circumstances,
2 a new planned outage will occur at a less opportune time for the customers. At worst, plant
3 safety and reliability may be compromised. While DE-Ohio is not suggesting that such a
4 behavior is appropriate, as it is contrary to fundamental safety principles and our desire to
5 minimize customer costs, I want to highlight the misalignment the Auditor's
6 recommendation creates. Conversely, DE-Ohio is not rewarded for completing routine
7 maintenance in a more efficient time than what is otherwise planned. If DE-Ohio schedules a
8 thirty-day outage, but is able to get a plant online days or weeks sooner than anticipated,
9 customers receive the economic and reliability benefits associated with the unit's early
10 return. Costs and benefits should be symmetrical for planned outages that are either shorter
11 or longer in duration.

12 Therefore, DE-Ohio should be permitted to recover all replacement power costs
13 directly attributable to the extended Zimmer outage. The problem encountered with the
14 turbine blades was not preventable and DE-Ohio prudently and expeditiously responded to
15 resolve the issue. Furthermore, the outage time that would have been required to fix the LP
16 turbine, had we known it needed repairs, would have been an eight week planned outage, not
17 six weeks. Finally, as noted earlier, the incremental costs to repair the blades were not
18 charged to customers, nor will they be. Rather, customers will receive the ongoing benefit of
19 having increased reliability through the repairs to the LP turbine blade, and the additional
20 work that was accomplished during the outage extension.

21 **Q. WHAT IS THE AUDITOR'S FINAL RECOMMENDATION?**

1 A. The Auditor's final recommendation is that it examine forecasting results in the next Audit
2 Period, the under-collection of Fuel Costs and assess the reasons for any persistent over- or
3 under-collections.

4 **Q. WHAT IS THE COMPANY'S RESPONSE TO THIS RECOMMENDATION?**

5 A. The Company accepts this recommendation. DE-Ohio will endeavor to assist the Auditor in
6 its evaluation of the forecasting results in next year's audit.

7 **IV. CONCLUSION**

8 **Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL TESTIMONY?**

9 A. Yes.