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DUKE ENERGY OHIO EXHIBIT_____

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates.	)))	Case No. 12-1682-EL-AIR
In the Matter of the Application of Duke Energy Ohio, Inc., for Tariff Approval.	)))	Case No. 12-1683-EL-ATA
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Change Accounting Methods.	)))	Case No. 12-1684-EL-AAM

DIRECT TESTIMONY OF

JAMES E. ZIOLKOWSKI

ON BEHALF OF

DUKE ENERGY OHIO, INC.

_____	Management policies, practices, and organization
_____	Operating income
_____	Rate Base
_____	Allocations
_____	Rate of return
_____	Rates and tariffs
___X___	Other: Cost of Service Study

July 20, 2012

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I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is James E. Ziolkowski, and my business address is 139 East Fourth Street, Cincinnati, Ohio 45202.

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

A. I am employed by Duke Energy Business Services LLC (DEBS) as Rates Manager. DEBS provides various administrative and other services to Duke Energy Ohio, Inc., (Duke Energy Ohio) and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. PLEASE BRIEFLY SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I received a Bachelor of Science degree in Mechanical Engineering from the U.S. Naval Academy in 1979 and a Master of Business Administration degree from Miami University in 1988. I am also a licensed Professional Engineer in the state of Ohio. I received certification as a Chartered Industrial Gas Consultant in 1994 from the Institute of Gas Technology and the American Gas Association. I have attended the EUCI Cost of Service seminar.

After graduating from the Naval Academy, I attended the Naval Nuclear Power School and other follow-on schools. I served as a nuclear-trained officer on various ships in the U.S. Navy through 1986. From 1988 through 1990, I worked for Mobil Oil Corporation as a Marine Marketing Representative in the New York City area.

I joined The Cincinnati Gas & Electric Company (now Duke Energy Ohio)

in 1990 as a Product Applications Engineer, in which capacity I designed and managed some of Duke Energy Ohio's demand side management programs, including Energy Audits and Interruptible Rates. From 1996 until 1998, I was an Account Engineer and worked with large customers to resolve various service-related issues, particularly in the areas of billing, metering, and demand management. In 1998, I joined the Rate Department, where I focused on rate design and tariff administration. I was significantly involved with the unbundling and design of Duke Energy Ohio's retail electric rates. I was appointed to my current position in January 2008.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AS RATES MANAGER.

A. As Rates Manager, I am responsible for cost of service studies, tariff administration, billing, and revenue reporting issues in Ohio and Kentucky. I also prepare filings to modify charges and terms in Duke Energy Ohio's and Duke Energy Kentucky, Inc.'s, (Duke Energy Kentucky) retail tariffs and develop rates for new services. During major rate cases, I help with the design of the new base rates. Additionally, I frequently work with Duke Energy Ohio's and Duke Energy Kentucky's customer contact and billing personnel to answer rate-related questions, and to apply the retail tariffs to specific situations. Occasionally, I meet with customers and Company representatives to explain rates or provide rate training. I also prepare reports that are required by regulatory authorities.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO?

A. Yes. Most recently, I provided testimony in support of Duke Energy Ohio's electric security plan in Case No. 11-3459-EL-SSO, *et al.*, and Duke Energy Ohio's Rider DR-SAW true-up filing in Case No. 12-1857-EL-RDR.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE PROCEEDINGS?

A. I sponsor the cost-of-service study, identified as Schedules E-3.2, E-3.2a and E-3.2b. Finally, I explain Duke Energy Ohio's proposal to correct rate disparities among customer classes.

II. COST OF SERVICE STUDY

Q. WHAT IS THE PURPOSE OF A COST OF SERVICE STUDY?

A. A cost of service study is an analytical tool used in traditional utility rate design to allocate costs to different classes of customers. When the process of preparing a cost of service study is completed, the resulting class cost of service study can (1) assist in determining the revenue requirement for the services offered by a utility; (2) analyze, at a very detailed level, the costs imposed on the utility's system by different classes of customers; (3) show the total costs the company incurs in serving each retail rate class as well as the rate of return on rate base earned from each class during the test year; and (4) establish cost responsibility that makes it possible to determine just and reasonable rates based on costs.

Schedule E-3.2 and the supporting E-3.2a and E-3.2b of the Company's Application provide the electric cost of service study for the test year.

Q. PLEASE DESCRIBE SCHEDULE E-3.2, INCLUDING E-3.2a AND E-3.2b, THE COST-OF-SERVICE STUDY.

A. The cost-of-service study contained in Schedule E-3.2 is an embedded, fully allocated cost-of-service study by rate class for the twelve-month test period ending December 31, 2012, as adjusted. I prepared the cost-of-service study using information provided by other Duke Energy Ohio witnesses on Schedules B-1 through B-6, C-1 through C-4, and D-1. The cost-of-service study classifies electric distribution-related cost items such as plant investment, operating expenses, and taxes as either demand or customer related and then allocates the same items to the various customer classes and calculates the revenue responsibility of each class. Finally, the cost of service study calculates the revenue responsibility of each class required to generate the recommended rate of return.

Q. PLEASE DESCRIBE HOW THE COST-OF-SERVICE STUDY IS ORGANIZED IN SCHEDULE E-3.2 THROUGH E-3.2b.

A. The schedules provided in the cost of service study are shown in the table below. The allocation factors used in each cost of service are the same; therefore Schedules 12, 12.1, and 12.2 are only provided in Schedule E-3.2. The detailed calculation and derivation of the allocation factors utilized in the cost of service study are included in the work papers filed in these proceedings.

Table 1		
Schedule	Page No.	Description
Schedule 1	1	Summary of Results
Schedule 2	2	Gross Plant in Service
Schedule 3	3	Depreciation Reserve
Schedule 4	4	Net Electric Plant in Service
Schedule 4.1	5	Net Electric Plant
Schedule 5	6	Subtractive Rate Base Adjustments
Schedule 5.1	7	Additive Rate Base Adjustments
Schedule 5.2	8	Working Capital
Schedule 6	9	O&M Expenses
Schedule 6.1	10	O&M Expenses
Schedule 6.2	11	O&M Expenses
Schedule 7	12	Depreciation Expense
Schedule 8	13	Taxes Other Than Income Taxes
Schedule 9	14	Federal Income Tax Based on Return
Schedule 9.1	15	State Income Tax Based on Return
Schedule 10	16	Cost of Service Computation
Schedule 11	17	ROR, Tax Rates & Special Factors
Schedule 12	18	Allocation Factors
Schedule 12.1	19	Allocation Factors
Schedule 12.2	20	Allocation Factors

Q. WHAT JURISDICTIONAL CUSTOMER CLASSES WERE USED IN THE CLASS COST OF SERVICE STUDY?

A. The jurisdictional classes used in the cost of service study are as follows:

Residential - Rates RS, RSLI, RS3P, ORH, TD, and TD-2012

Secondary Distribution Large - Rate DS

Secondary Distribution Large - Rate EH

Secondary Distribution Small - Rate DM

Secondary Distribution - Rates GS-FL and SFL-ADPL

Primary Distribution - Rate DP

Transmission - Rate TS

Lighting - Rates OL, UOLS, NSU, NSP, TL, SC, SE, and SL.

Q. WHAT ARE THE ELEMENTS OF A COST OF SERVICE STUDY?

A. Much like the components of the overall revenue requirement, the elements of a cost of service study consists of the following elements, which are allocated to each function, classification and rate class:

Operating and Maintenance (O&M) Expense
\+ Depreciation
\+ Other Taxes
\+ Federal and State Income Taxes
\+ Return (Rate Base x Rate of Return (ROR))
\- Revenue Credits
= Class Revenue Requirement or Cost of Service.

Q. PLEASE DESCRIBE SCHEDULE E-3.2.

A. Schedule E-3.2 is a total class cost of service study that classifies the cost items as either customer or demand related costs and then allocates the costs to the various rate groups.

Q. PLEASE DESCRIBE SCHEDULE E-3.2a.

A. Schedule E-3.2a is a classified cost of service study that shows the demand component of the classified costs allocated to the various rate groups.

Q. PLEASE DESCRIBE SCHEDULE E-3.2b.

A. Schedule E-3.2b is an allocated cost of service study that allocates shows the customer component of the classified costs allocated to the various rate groups.

Q. WHAT GENERAL METHODOLOGY DID YOU USE FOR THE COST OF SERVICE STUDY?

A. First, I used electric distribution data that had already been functionalized in the Company's revenue requirement calculation. I then classified the distribution costs as either customer- or demand-related, or a combination of each in some instances. Transformer costs, for example, as explained in more detail later in my testimony, were split into customer- and demand-components using the minimum size method. Otherwise demand costs were allocated to customer class based on the maximum non-coincident peak or average class group peak methodologies, as appropriate. Customer-related costs are allocated to rate classes based upon the appropriate customer-related allocator. Lastly, I allocated the demand and customer costs to rate classes based on the cost causation guidelines published in the NARUC "Electric Utility Cost Allocation Manual," my utility company experience, and my knowledge of cost of service studies.

Q. HOW DID YOU DERIVE THE CUSTOMER AND DEMAND ALLOCATORS?

A. The customer and demand allocators were developed by summarizing data contained in Schedule E and in work papers WPE-3.2a through WPE-3.2h. Specifically, the Company's load research data is contained in work paper WPE-3.2b.

Q. HOW WERE THE MAXIMUM NON-COINCIDENT PEAK AND AVERAGE CLASS GROUP PEAK kW DEMAND VALUES DEVELOPED FROM DUKE ENERGY OHIO'S CUSTOMER LOAD RESEARCH DATA?

A. Load research data and kWh sales levels for the twelve months ending December

31, 2011, were used to determine monthly peak day demand data. The monthly demand information is included on pages 4 through 11 of work paper WPE-3.2b. The following is an example of how the class group peak kW demand was calculated for Rate RS for the month of January.

- Step 1 – Determine average demand by dividing the total kWh by the number of hours in the month.
  - 789,081,851 kWh ÷ 744 hours = 1,060,594 kW
- Step 2 – Determine the group peak demand by dividing average demand from Step 1 by the class group peak load factor (from load research data).
  - 1,060,594 ÷ 66.080% load factor = 1,605,015 kW
- Step 3 – Add transmission and distribution line losses by multiplying by the loss factor.
  - 1,605,015 kW x 1.05639 loss factor = 1,695,522 kW including losses

This process was followed for each rate class for each month to determine each rate class' monthly group peak. The average was calculated for the year to get average class group peak by rate class. A similar procedure was used to develop each class' maximum (single) non-coincident peak.

Q. PLEASE DESCRIBE THE METHODOLOGY USED TO ALLOCATE DISTRIBUTION PLANT TO THE VARIOUS CLASSES OF CUSTOMERS.

A. Several different allocation factors were used to allocate distribution plant to the

customer classes. First, distribution plant was grouped by the type of plant such as substations, poles, conductors, etc., as shown on page 2 of Schedule E-3.2. Then it was determined whether each type is customer- or demand-related factor. Finally, each customer- or demand-related cost was allocated to rate class.

Substations are considered 100 percent demand-related and were allocated using the average class group coincident peak demand ratios for the twelve months ending December 31, 2011. This factor takes into consideration the load diversity by rate group at the distribution substation level.

Poles and conductors are also 100 percent demand. They were first split into primary and secondary voltages based on circuit-miles. The primary portion was then allocated using the class group peak demand ratios weighted by the percentage of primary line circuit miles and the secondary portion was allocated using the class group peak demand ratios weighted by the percentage of secondary line circuit miles. The development of this allocator is shown on page 3 of work paper WPE-3.2a.

Transformers were allocated between customer and demand using the minimum size method. Transformers, as well as other distribution plant facilities, are considered to have a customer component because the number of facilities needed on the system, are dependent on the number of customers. The remaining costs are considered to be demand-related. I allocated the demand portion of transformers among the customer classes using the maximum non-coincident peak load ratios. The maximum non-coincident peak demand allocator is appropriate because transformers are sized to meet the maximum demand and are close to the

customer so there is little or no load diversity. I then allocated the customer portion of transformers among the customer classes based on the total number of customers.

Services are considered 100 percent customer-related and were allocated based on a weighted-average number of customers. The weighting is based on an engineering analysis that prices various service drop costs based on demands. For example, it is twice as costly for a service drop at 100 kVA versus a service drop at 25 kVA. Customers with an average demand of 100 kVA are weighted at twice the cost of customers with an average demand of 25 kVA.

Meters, also 100 percent customer-related, were allocated based on a weighting similar to services.

Street lights were directly assigned to the street lighting rate class.

Q. PLEASE DESCRIBE THE MINIMUM SIZE METHOD USED TO ALLOCATE TRANSFORMER COSTS BETWEEN CUSTOMER- AND DEMAND-RELATED COSTS.

A. The minimum size study is shown on work paper WPE-3.2d, pages 6 and 7. The minimum size method assumes that a minimum size distribution system can be built to serve the minimum load requirements of the customer. For transformers, the study involved determining the minimum size transformer currently installed by Duke Energy Ohio. In this case, it is a 15 kVa transformer. Duke Energy Ohio's 2011 average cost of a 15 kVa transformer was $1,113.

I used asset accounting records to determine the number of overhead and pad-mounted transformers installed each year from 1910 to 2011. I then used the

Handy-Whitman Index for Utility Plant Materials (specifically line transformers) to calculate the cost per transformer for each of the years 1910 to 2011, beginning with a 2011 Handy-Whitman index of 640 and 2011 cost of $1,113. For each year, I multiplied the number of transformers by the cost per transformer to get the minimum size cost per year. I summarized each of the years 1910 to 2011 to arrive at the minimum size transformer cost of approximately $78 million. This was classified as customer-related costs. The difference between this customer-related cost and the balance in FERC Line Transformer account 368 is the demand component, resulting in allocation factors of 21.045 percent to customer and 78.955 percent to demand. I allocated all transformer-related cost (plant, accumulated depreciation, Operating and Maintenance (O&M), and depreciation expense) to customer and demand using these factors.

Q. PLEASE DESCRIBE THE METHODOLOGY USED TO ALLOCATE COMMON AND GENERAL PLANT.

A. I functionalized common and general plant based on functional salaries and wages as presented on pages 354-355 of Duke Energy Ohio's 2011 FERC Form 1 annual report. I then used distribution KW and various weighted O&M expense ratios to allocate each function to customer classes. Duke Energy Ohio used this method in Case Nos. 05-059-EL-AIR, *et al.*, and 08-709-EL-AIR, *et al.*

Q. PLEASE EXPLAIN HOW YOU ALLOCATED ADMINISTRATIVE AND GENERAL EXPENSES USING THIS METHODOLOGY.

A. I functionalized Administrative and General (A&G) expenses based on the same functional salaries and wages used for general and common plant. After I

functionalized the expenses, I allocated the expenses to rate classes based on the allocation of direct O&M for that function. For example, A&G expenses functionalized as distribution were allocated to rate classes based on each rate class' allocation of direct distribution O&M.

Q. DID YOU USE ANY OTHER ALLOCATION FACTORS IN THE COST OF SERVICE STUDY?

A. Yes, there are many plant and expense ratios that were developed internally in the cost of service study. The cost of service study lists each item's allocation factor under the column identified as "ALLO."

Q. WHAT DOES THE RESULTS OF THE COST OF SERVICE STUDY SHOW?

A. Based on the allocation assumptions made and the rate of return of 8.13 percent requested in these proceedings, the cost of service justifies a distribution revenue increase of approximately $86.6 million for the test period ending December 31, 2012, as adjusted for known and measurable charges. Schedule E-3.2, page 1 of 20, is a summary of the cost of service study, which supports the proposed deficiency.

Q. HOW WERE THE RESULTS OF YOUR COST OF SERVICE STUDY USED IN THESE PROCEEDINGS?

A. The results of the fully allocated cost of service study by rate class were supplied to Duke Energy Ohio witness James A. Riddle, who used this data to develop the proposed revenue distribution and rate design for these proceedings.

III. DISTRIBUTION OF PROPOSED REVENUE INCREASE

Q. DID THE COST OF SERVICE STUDY SHOW THAT THE INCREASE REQUIRED FOR EACH CUSTOMER CLASS WAS PROPORTIONAL?

A. No. The cost of service study revealed that there are significant differences among the rate classes when comparing the actual return earned by each rate class to the 8.13 percent return on rate base being requested in this case. Put another way, developing rates that generate the amount of revenue that equals the allocated revenue requirement for each rate class will mean much greater increases for some rate classes, in terms of percentage increases, than other classes.

In order to mitigate the rate shock that may come from eliminating the subsidy/excess (or rate disparities) among the rate classes, the Company is proposing to use a two-step process to distribute the proposed revenue increase. The first step eliminated 15 percent of the subsidy/excess revenues between customer classes based on present revenues. The second step allocated the rate increase to customer classes based on electric distribution original cost depreciated (OCD) rate base.

Q. PLEASE EXPLAIN IN GREATER DETAIL THE FIRST STEP THAT ELIMINATES 15 PERCENT OF THE SUBSIDY/EXCESS REVENUES.

A. Again, it is a general tenet of ratemaking that each class should, to the extent practicable, pay the costs of providing service to that class. The elimination of a portion of the subsidy/excess takes into consideration that the Company is not earning the same rate of return on all customer classes. It is unlikely that equal rates of return across all rate classes are achievable; nonetheless, to the extent possible,

large variances among the customer classes should be eliminated. A comparison of revenues under present rates and at the retail average rate of return is made and then 15 percent of that amount is added to, or subtracted from, the rate increase to determine the proposed revenues in this proceeding.

Admittedly, this proposal lets a subsidy/excess persist but it will close the gap so that each class is paying rates that more closely reflect their costs of service.

Q. HOW DID THIS RATE DISPARITY ARISE?

A. Rate disparities exist mostly due to the fact that over the years rates have not been set based on the cost to serve customers as determined by a cost of service study. Additionally, Duke Energy Ohio's last general electric distribution rate case was filed in 2008. This case resulted in a settlement in which the approved rates did not correspond with the demonstrated cost of serving each rate class.

Q. WHY DID YOU PROPOSE A FIFTEEN PERCENT REDUCTION OF THE SUBSIDY/EXCESS REVENUES IN THESE PROCEEDINGS?

A. The present rate of returns by class shown on work paper WPE-3.2g, indicate that there is a significant difference in those returns. In order to ensure that each customer class pays the actual cost to serve that class, and move each class to the average rate of return, 100 percent of the subsidy/excess would need to be eliminated. However, given the wide disparity among rate classes, complete elimination of the subsidy excess would cause a dramatic swing in rate impacts between and among various rate classes. By proposing to eliminate only 15 percent of the subsidy/excess, the Company is choosing to invoke the rate making principle of gradualism so to mitigate the volatility of 100 percent subsidy/excess elimination.

IV. CONCLUSION

Q. WERE SCHEDULES E-3.2 THROUGH E-3.2b PREPARED BY YOU OR UNDER YOUR DIRECTION AND SUPERVISION?

A. Yes.

Q. IS THE INFORMATION CONTAINED IN THOSE SCHEDULES ACCURATE TO THE BEST OF YOUR KNOWLEDGE AND BELIEF?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.