Large Filing Separator Sheet

Case Number: 11-3549-EL-SSO

Date Filed: 6/20/2011

Section: 3

Number of Pages: 200

Description of Document: Application

Legacy Generating Assets such that an adequate and reliable supply of capacity may be provided. Because there is positive, economic value associated with these assets, Duke Energy Ohio believes it is appropriate that customers benefit from this economic value. Stated another way, sharing the net profits from the Legacy Generating Assets is a logical consequence of those assets being dedicated to customers via a non-bypassable capacity charge.

In arriving at the specific percentages, Duke Energy Ohio gave consideration to providing customers with the majority of the benefit, allocating a reasonable percentage to the Company, and allocating a portion of the net profits to an economic development offering. Turning first to the customers' allocation, as customers will be paying for the capacity, the Company believes that customers should receive the majority of the benefits associated with sales of energy and ancillary services derived from that capacity. I would further note that the percentage allocated to customers is consistent with Duke Energy Ohio's natural gas asset management sharing mechanism that the Commission previously approved.[11]

An allocation to the Company should function to align its interests with those of customers in respect of the profitability of the assets. The selected percentage is thus intended to represent a reasonable and meaningful portion of

[11] *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Rates*, Case No. 07-589-GA-AIR, *et al.*, Opinion and Order at page 11 (May 28, 2008). See also, *In the Matter of the Application of The Cincinnati Gas & Electric Company for Authority to Modify Current Accounting Procedures for its Cost of Implementing the Commission's Disconnection Moratorium and to Implement Cost Recovery*, Case No. 01-327-GA-UNC, Entry at page 3 (March 7, 2002).

the net profits that would provide further incentive to maximize the value of the assets.

The final allocation is intended to enable a deliberate and considerable investment in southwest Ohio. As detailed by Duke Energy Ohio witness Janson, we are proposing a program for economic development, which is to be funded by a percentage of the net profits that would otherwise be allocated to customers and the Company. The dollars intended for sustainable investment in Ohio would not be available absent the profit sharing mechanism proposed by the Company in its filing, which is another relevant fact in confirming that the ESP is, in the aggregate, better than the results that would otherwise be expected under an MRO.

Q. DOES THE PROPOSED ESP ENABLE INVESTMENT IN NEW INFRASTRUCTURE IN OHIO?

A. Yes, it does enable such investment, from the standpoint that the costs and return associated with capital investment – including environmental investment or a new generating facility – would be incorporated into the non-bypassable capacity charge, with the net profits from the output of the facility included in the profit sharing mechanism. In other words, the improved or new facility would increase the rate base on which the capacity rate (Rider RC) is calculated, with non-capital costs factored into the calculation of Commission-approved rate. I would further observe that R.C. 4928.1423(B)(2)(b) and (c) authorize the recovery, through a non-bypassable surcharge, of certain environmental expenditures and newly used and useful generation, respectively. To the extent Duke Energy Ohio would seek a

surcharge for investment in existing or newly used and useful generating assets during the term of this ESP, it would proceed consistent with the provisions of R.C. 4928.143(B)(2)(b) or (c), as applicable.

Q. ARE THERE OTHER PROVISIONS OF THE PROPOSED ESP THAT YOU WOULD LIKE TO ADDRESS?

A. As a general observation, I believe that Duke Energy Ohio's ESP is a transparent and uncomplicated plan. There are fewer riders under this ESP than in the current ESP. Moreover, given the term of the ESP, the Commission will have two opportunities during the tenure of this plan to determine whether it remains the preferred approach to providing an SSO.

With regard to distribution service, the proposed ESP makes provision for a distribution rider that ensures a timely, and thus more predictable, recovery of certain costs that are necessary to providing safe and reliable distribution service. Similarly, this rider is structured to ensure that benefits to which customers are entitled are timely credited to them. Duke Energy Ohio witnesses Wathen and Ziolkowski provide further detail on this distribution rider.

Q. IS THE PROPOSED ESP, IN THE AGGREGATE, BETTER THAN THE EXPECTED RESULTS UNDER R.C. 4928.142?

A. Yes. I summarize the basis for that opinion here but, as appropriate, defer to other witnesses who will elaborate on certain elements of the proposed ESP.

The pricing under Duke Energy Ohio's proposed ESP is more favorable than the expected results under the MRO provisions, over the term of the plan.

Indeed, as Duke Energy Ohio witness Rose confirms, the proposed ESP is lower, on average, by 8 percent than the expected results under the MRO.

Additionally, the Company's proposal provides customers with long-term price stability and certainty in respect of their generation service. Further, under the profit sharing mechanism, all customers will receive a credit, or offset, to their capacity rates.

Importantly, the proposed ESP serves to perpetuate a competitive market in Ohio and enables involvement on behalf of the Commission in the structure and conduct of the auctions that is not otherwise contemplated under the MRO provisions. Duke Energy Ohio witness James R. Northrup addresses these points in greater detail.

Significantly, the proposed ESP reflects our commitment to Ohio and our customers. Subject to the limitations that I mentioned previously, Duke Energy Ohio will not seek Commission approval to transfer its Legacy Generating Assets during the term of the proposed ESP. Consequently, this proposal enables continued investment in the state as the Legacy Generating Assets will be dedicated to our customers for a substantial period of time.

Our commitment to Ohio is further supported by the fact the proposed ESP enables an intentional focus on economic development in southwest Ohio, with the potential for significant investment to be made in our area. Duke Energy Ohio witness Janson provides testimony on this important initiative.

Furthermore, the Company is proposing new or revised riders that benefit customers. Notably, Rider UE-GEN is intended, in part, to enhance the

competitive market, as the Commission has already acknowledged. And, as discussed by Duke Energy Ohio witness Ziolkowski, the Company is proposing to revise its existing Rider LM (load management rider) to expand the scope of eligible customers. Mr. Ziolkowski also discusses how the proposed ESP allows for more customers to benefit from its various time-of-use rate schedules.

As Duke Energy Ohio witness Janson explains, the Commission has the ability, throughout the tenure of this proposed ESP, to assure our customers that the Company's ESP is the preferred SSO structure. Finally, as discussed by Duke Energy Ohio witness Wathen, the proposed ESP provides customers a net present value benefit of approximately $927 million, as compared to the expected results under the MRO.

IV. INTRODUCTION OF WITNESSES

Q. PLEASE INTRODUCE THE OTHER WITNESSES IN THIS PROCEEDING.

A. I identify below the other individuals to present testimony on behalf of Duke Energy Ohio, as well as the subject matters of their respective testimony:

- Julia S. Janson, President, Duke Energy Ohio and Duke Energy Kentucky, Inc.
    - Ms. Janson offers testimony outlining how Duke Energy Ohio's ESP advances the policies of the state. Ms. Janson also testifies as to the plan's provisions related to economic development.

- Judah L. Rose, Principal, ICF Consulting
    - Mr. Rose presents testimony on the forecast of retail market prices during the period of the Company's proposed ESP and will address the statutory comparison between the ESP and the expected results that would otherwise apply under R.C. 4928.142. Mr. Rose also discusses the administration of the significantly excessive earnings test as to Duke Energy Ohio, as relevant in the reviews to be conducted pursuant to R.C. 4928.143(E).
- Stephen G. De May, Senior Vice President, Investor Relations and Treasurer, Duke Energy Corporation
    - Mr. De May offers testimony on the Company's overall financial objectives, credit quality, and the impact that Ohio's regulatory construct could have on investors.
- James S. Northrup, Director, Project Analysis and Special Projects
    - Mr. Northrup also testifies regarding Duke Energy Ohio's energy auction, including the Master Standard Service Offer Supply Agreement.
- Robert J. Lee, Principal, CRA International, Inc., d/b/a Charles River Associates
    - Mr. Lee will present testimony on the energy auction to be administered under the ESP, including, but not limited to, the auction design, parameters, and the selection of winning bids.

- William Don Wathen Jr., General Manager and Vice President of Rates, Ohio and Kentucky
    - Mr. Wathen presents testimony on the riders proposed under Company's ESP, as well as those that will remain unchanged by this application. Mr. Wathen also discusses governmental aggregation.
- Andrew Ritch, Director, Renewable Strategy and Compliance
    - Mr. Ritch will offer testimony regarding the Company's procurement policies and procedures in respect of the state's alternative energy resource requirements.
- Roger A. Morin, Ph.D., Principal, Utility Research International
    - Dr. Morin will offer testimony on the reasonable rate of return that is incorporated in the Company's Rider RC.
- Kenneth J. Jennings, Director, Market and RTO Services
    - Mr. Jennings offers testimony describing Duke Energy Ohio's participation in PJM, and the lack of impact of the proposed ESP on the Company's operations in PJM.
- Salil Pradhan, Vice President, Portfolio Risk Management, Midwest Commercial Generation, Commercial Business
    - Mr. Pradhan offers testimony on the Company's proposal to share the net profits from energy sales and ancillary services from the Company's legacy generating assets with customers and how the energy portfolio, as well as renewable energy certificates, will be managed during the term of the ESP.

- Jeffrey R. Bailey, Director, Rate Design & Analysis, Rates & Regulatory Accounting
    - Mr. Bailey also presents testimony on rate design under the Company's proposed ESP.
- James E. Ziolkowski, Rates Manager
    - Mr. Ziolkowski offers testimony regarding rate design and, more specifically, the retail rates to be charged under the ESP. He also addresses the tariff revisions relevant to the ESP.
- Mark Wyatt, Vice President, SmartGrid & Energy Systems
    - Mr. Wyatt will offer testimony regarding Duke Energy Ohio's existing infrastructure modernization plan.
- Brian D. Savoy, Managing Director, Corporate Financial Planning and Analysis
    - Mr. Savoy, through his testimony, provides the financial projections required in connection with the ESP proposal.
- Christian E. Whicker, Regulatory Compliance Manager, Ethics & Compliance
    - Mr. Whicker offers testimony on the Company's proposal to amend its Second Amended Corporate Separation Plan.
- Daniel L. Jones, Senior Account Manager, Customer Choice
    - Mr. Jones offers testimony regarding the Company's operational support plan and the proposed revisions to its Certified Supplier Tariff.

V. CONCLUSION

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

A. Yes.

DUKE ENERGY OHIO EXHIBIT_____

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications and Tariffs for Generation Service.	)	Case No. 11-3549-EL-SSO
In the Matter of the Application of Duke Energy Ohio for Authority to Amend its Certified Supplier Tariff, P.U.C.O. No. 20.	)	Case No. 11-3550-EL-ATA
In the Matter of the Application of Duke Energy Ohio for Authority to Amend its Corporate Separation Plan.	)	Case No. 11-3551-EL-UNC

DIRECT TESTIMONY OF

JULIA S. JANSON

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 20, 2011

TABLE OF CONTENTS

PAGE

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Julia S. Janson, 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 President of Duke Energy Ohio, Inc., (Duke Energy Ohio or the Company) and its subsidiary, Duke Energy Kentucky, Inc. DEBS provides various administrative and other services to Duke Energy Ohio and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I earned a Bachelor of Arts degree in American Studies from Georgetown College in Georgetown, Kentucky. I earned my Juris Doctor degree from the University of Cincinnati, College of Law. I am a member of the Ohio Bar and the Kentucky Bar. Prior to my current position, I served as Senior Vice President of Ethics and Compliance and Corporate Secretary for Duke Energy, where I directed Duke Energy's ethics and compliance program. Prior to that, I served as Corporate Secretary and Chief Compliance Officer for Cinergy Corp. (Cinergy), where I directed Cinergy's corporate compliance program. I was appointed Chief Compliance Officer in 2004 and Corporate Secretary in 2000. From 1998 to 2004, I served as Senior Counsel, providing advice on executive compensation, benefits, transactions, corporate governance, securities, and general corporate

matters. From 1996 to 1998, I served as Counsel for Cinergy, providing research, advice, and support for divestitures, mergers and acquisitions, and to numerous internal business clients including investor relations, shareholder services, corporate communications and government and regulatory affairs. I also served as corporate counsel to the international business unit. I was Manager of Investor Relations for Cinergy from 1995 to 1996. Prior to joining Cinergy, I began my corporate career in 1987 as a law clerk with The Cincinnati Gas & Electric Company (CG&E) and began full-time employment with CG&E as Supervisor of Securities Processing and Transfer Agent for CG&E common and preferred stock, after which I was named Corporate Attorney. In addition, I was a member of the legal team responsible for completing the merger of CG&E and PSI Energy, Inc., which formed Cinergy in 1994. Before joining CG&E, I served as a law clerk with Adams, Brooking, Stepner, Wolterman & Dusing in Covington, Kentucky.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AS PRESIDENT, DUKE ENERGY OHIO.

A. As President of Duke Energy Ohio, I am responsible for ensuring that our customers continue to have access to safe, reliable, and reasonably priced natural gas and electric service and that these services are provided in accordance with applicable federal and state laws and regulations. I am also involved in external efforts relating to governmental and regulatory affairs, interacting with state and community leaders and regulators on matters relevant to Duke Energy Ohio's business and presence in Ohio. I am responsible for the Company's community

relations and economic development efforts, as well as Duke Energy's charitable contributions in the Greater Cincinnati region.

Q. ARE YOU CURRENTLY INVOLVED IN ANY PROFESSIONAL OR CHARITABLE ORGANIZATIONS?

A. Yes. I currently serve on a variety of Boards of Directors for nonprofit organizations, including United Way of Greater Cincinnati, Northern Kentucky Tri-County Economic Development Corporation, Cincinnati City Center Development Corporation, Cincinnati USA Regional Chamber, Cincinnati USA Regional Chamber Partnership, Vision 2015 Regional Stewardship Council, and Kentucky Chamber of Commerce. In addition, I served as the 2010 city-wide campaign chair for the Greater Cincinnati Fine Arts Fund, and am a 2010-2011 United Way Executive Committee member, the vice-chair (since 2009) of the United Way Regional Public Policy Council, a member (since 2008) and co-chair (since 2011) of the Cincinnati Business Committee, the co-chair (since 2008) of the Cincinnati Business Committee Economic Development Task Force, a member of the Cincinnati USA Regional Chamber Executive Committee, a member of the Kentucky Chamber of commerce Executive Committee, a member of the Climate Protection Steering Committee, and a member of the Commercial Club of Cincinnati, where I serve as Treasurer.

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

A. Yes. In January of this year, I testified before the Public Utilities Commission of Ohio (Commission) in Case No. 10-2586-EL-SSO.

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

A. My testimony provides an overview of Duke Energy Ohio's corporate and business structure. I then briefly discuss Duke Energy Ohio's current electric security plan (ESP) and the external circumstances affecting the Company's operation under that plan. I also describe the economic development offering included in the Company's proposed ESP and how the proposed ESP advances state policy as established under R.C. 4928.02.

II. OVERVIEW OF DUKE ENERGY OHIO'S CORPORATE AND BUSINESS STRUCTURE

Q. PLEASE GIVE AN OVERVIEW OF DUKE ENERGY OHIO'S UTILITY DISTRIBUTION SYSTEM AND OPERATIONS.

A. Duke Energy Ohio's headquarters are in downtown Cincinnati, as they have been for over 170 years. From these local headquarters, Duke Energy Ohio directs the planning, construction, operation, and maintenance of its electric transmission and distribution system. Duke Energy Ohio's distribution system currently provides a reliable supply of electricity to approximately 690,000 residential, commercial, industrial, and public authority customers in southwestern Ohio. Duke Energy Ohio owns approximately 1,550 circuit-miles of transmission lines and 16,743 circuit-miles of distribution lines throughout its service territory. Although an increasing percentage of Duke Energy Ohio's customers are served via underground facilities, the vast majority of Duke Energy Ohio's service territory continues to be served via overhead transmission and distribution lines. Duke

Energy Ohio also owns electric generating facilities that are functionally separated from the regulated operations of the Company.

In addition to electric utility operations, Duke Energy Ohio also provides natural gas distribution service to approximately 420,000 customers in Hamilton, Butler, Clermont, Warren, Brown, Adams, Clinton, Montgomery, and Highland counties in southwestern Ohio. Duke Energy Ohio has more than 5,700 miles of gas mains on its natural gas distribution and transmission system.

Q. PLEASE GIVE AN OVERVIEW OF DUKE ENERGY OHIO'S ELECTRIC TRANSMISSION SYSTEM AND OPERATIONS.

A. In February 2002, Duke Energy Ohio, then known as CG&E, and Public Service Company of Indiana transferred functional control of their transmission system to the Midwest Independent Transmission System Operator, Inc. (Midwest ISO), which provides for maximum reliability of the regional bulk power supply. The transmission system is operated in accordance with standards issued by the North American Electric Reliability Corporation and Reliability*First* Corporation (RFC). RFC is a Regional Reliability Organization that is the successor organization to the East Central Area Reliability Council (ECAR). Duke Energy Ohio has also been a member of PJM Interconnection, L.L.C. (PJM), as a non-transmission owner member, since October 1, 2006, having replaced its predecessor that joined on June 27, 2001.

In June 2010, Duke Energy Ohio filed an application with the Federal Energy Regulatory Commission (FERC), under FERC Docket No. ER10-1562-000, requesting approval to move its legacy generation and load into PJM. The

Company subsequently filed for approval of an Out-of-Time Fixed Resource Requirement plan (Transitional FRR plan) under FERC Docket No. ER10-2254-000. On October 21, 2010, the FERC approved, subject to minor conditions, the first steps in the Company's realignment to PJM, including its Transitional FRR plan. The Company expects this realignment to be completed by January 1, 2012.

III. DUKE ENERGY OHIO'S CURRENT STANDARD SERVICE OFFER

Q. PLEASE BRIEFLY DESCRIBE DUKE ENERGY OHIO'S CURRENT STANDARD SERVICE OFFER.

A. Duke Energy Ohio's current standard service offer (SSO) is in the form of an Electric Security Plan (ESP). The ESP was established by a Stipulation and Recommendation approved by the Commission through its Opinion and Order dated December 17, 2008, in Case No. 08-920-EL-SSO, *et al.* The ESP was approved for a three-year period, expiring December 31, 2011. There are four primary components to the current ESP: (1) a bypassable price-to-compare; (2) a non-bypassable system resource adequacy charge; (3) a bypassable transmission recovery charge; and, (4) a non-bypassable distribution charge.

Q. WHAT MAJOR AND RELEVANT DEVELOPMENTS HAVE AFFECTED DUKE ENERGY OHIO'S BUSINESS SINCE THE APPROVAL AND IMPLEMENTATION OF ITS 2008 ESP?

A. Since the implementation of Duke Energy Ohio's ESP on January 1, 2009, the market price of power has dropped significantly, resulting in aggressive customer switching among all customer classes. The number of competitive retail electric service (CRES) providers certified by the Commission to do business in Ohio has

more than doubled in the last two years. On January 1, 2009, there were seven CRES providers registered to do business in Duke Energy Ohio's service territory, with five actively serving customers. As of May 31, 2011, the number of registered CRES providers in Duke Energy Ohio's service territory has grown to 19, with 16 actively serving customers and two more in the process of registration.

Q. PLEASE DESCRIBE THE SWITCHING LEVELS AMONG THE CUSTOMER CLASSES.

A. As of March 31, 2011, Duke Energy Ohio is serving less than 34 percent of the total megawatt-hours (MWhs) of load in its own service territory. That means that more than 66 percent of the Company's total load has switched to CRES providers for retail generation service. To put this into perspective by customer class, in terms of annual MWhs of load, the Company has experienced switching by approximately 95 percent of industrial load, 76 percent of commercial load, and 32 percent of residential load. If switching is viewed based on the number of switched accounts by customer class, the impact is that approximately 58 percent of industrial accounts, 40 percent of commercial accounts, and 28 percent of residential accounts have switched to CRES providers.

Q. HAS THE AMOUNT OF CUSTOMER SWITCHING INFLUENCED THE COMPANY'S PROPOSED ESP?

A. Duke Energy Ohio would be remiss if it did not acknowledge the fact that our customers have embraced choice. Customers are aware of and have made decisions based upon the competitive market. However, as history has showed,

there is a probability for volatility in price in a competitive market. Although prices may be low today, as described in the Direct Testimony of Duke Energy Ohio witness Judah Rose, there is evidence that market prices will rise in the not-so-distant future. As such, we have structured our proposed ESP in a way that includes a market-based, or competitive, element while affording customers stable prices and a reliable supply to meet their demands, now and well into the future.

IV. ECONOMIC DEVELOPMENT AS PROVIDED FOR IN THE PROPOSED ELECTRIC SECURITIY PLAN

Q. PLEASE DESCRIBE DUKE ENERGY OHIO'S PROPOSAL IN RESPECT OF ECONOMIC DEVELOPMENT IN OHIO.

A. Duke Energy Ohio's proposed ESP contains a proposed program related to economic development: Advance Southwest Ohio. As discussed in greater detail in the Direct Testimony of William Don Wathen Jr., this program will be funded through a portion of the net margins earned from sales of energy and ancillary services from Duke Energy Ohio's coal-fired generation assets. The capacity supplied by this generation will be committed to Duke Energy Ohio's customers for the duration of the proposed ESP and, as further explained by Mr. Wathen, all customers will pay for this capacity through a non-bypassable charge. Duke Energy Ohio customers will have an opportunity to qualify for grants available under these programs as a result of paying the Company's capacity charge.

Q. WHAT IS THE PROPOSED FUNDING LEVEL FOR ADVANCE SOUTHWEST OHIO?

A. As described by Mr. Wathen, the Company is proposing that the funding for Advance Southwest Ohio be derived from a percentage of the profits from the

sale of energy and ancillary services related to the operation of the generating assets that form the basis of the Rider RC. Specifically, 5 percent of the customers' 80 percent share of such profits and 5 percent of the Company's 20 percent share of such profits will make up Advance Southwest Ohio's funding.

Q. WHAT ARE THE PURPOSES OF ADVANCE SOUTHWEST OHIO?

A. The purposes of the Advance Southwest Ohio fund are to (1) encourage economic development, retention, and expansion in targeted southwest Ohio regional clusters; including, but not limited to, advanced manufacturing, aerospace, automotive, biotechnology, brand design and creative services, chemistry, financial services, IT services and consumer goods; and, (2) strengthen the competitive position of Ohio and its existing businesses and manufacturers. The Duke Energy Ohio Advance Southwest Ohio program will award grants to help increase Ohio's competitiveness in targeted clusters by supporting three key areas: Product Development, Product Marketing, and Project Closure.

Product Development grants will be available for the redevelopment of Duke Energy Ohio-served existing buildings, public sector speculative building development, infrastructure improvements (including gas and electric), moving greenfield and brownfield sites closer to readiness for development, and business park developments. Product marketing grants will focus on prospect development; including, but not limited to, site consultant meetings, marketing to and meeting directly with prospects, relationship-building with targeted prospects in targeted regional clusters, and exposure through traditional and non-traditional advertising and public relations. Project Closure grants will be available to

achieve economic agreements for relocation, expansion, or retention of companies in southwest Ohio.

Fifty percent of the customer-provided funds will be allocated to funding product (site) development, including infrastructure and site improvements to encourage new or expanded business development within targeted cluster industries in the Company's service territory. Moving a site closer to being ready to build is paramount to attracting potential economic development projects. The remaining fifty percent of the customer-provided funds will be allocated to fund project closure for prospects in targeted regional clusters: (1) funds may be used to offset costs associated with new projects and existing company expansions; (2) energy-related applications to increase productivity, efficiency, cost-control, and reliability; (3) employment of "lean manufacturing" techniques; and, (4) reduction of environmental impacts.

Q. HOW DOES THE COMPANY PROPOSE THAT GRANTS WILL BE MADE?

A. Duke Energy Ohio will take the lead in operating Advance Southwest Ohio. The funds available under Advance Southwest Ohio will be administered through a formal grant process, with grant criteria and applications publicly available. Of the portion provided by customers, the grants will be reviewed and recommended by Duke Energy Ohio and will be submitted to Commission Staff for approval by the Chairman of the Commission within two weeks following submission. The remaining portion of the funds, which will be provided by Duke Energy shareholders, will be used at the discretion of Duke Energy Ohio using the above

criteria, but will not require approval by the Chairman of the Commission. An annual report of development activity in the areas of product development, product marketing, and project closure will be provided to the Commission.

Q. PLEASE EXPLAIN THE SPECIFIC CATEGORIES AND CRITERIA FOR THE ADVANCE SOUTHWEST OHIO GRANTS.

A. Advance Southwest Ohio grants may be awarded in one of the following categories:

- **Product Development** – Without ready sites for new development or expansion, prospective new, Ohio companies will be lost to other states that have sites further along the development continuum. Grants will therefore be available for the redevelopment of Duke Energy Ohio-served existing buildings, public sector speculative building development, infrastructure improvements (including gas and electric), moving greenfield and brownfield sites closer to readiness for development and business park developments. A site readiness program has been developed to support these efforts.
- **Product Marketing** – This category focuses on prospect development; including, but not limited to, hosting and participating in site consultant meetings, marketing to and meeting directly with prospects, building relationships with targeted prospects in targeted regional clusters, and increasing exposure through traditional and non-traditional advertising and public relations.
- **Project Closure** – Grants will be available to achieve economic

agreements for relocation, expansion, or retention of companies in southwest Ohio. Grants will be awarded to those companies that grow the base of primary jobs in Duke Energy Ohio's service territory. Specific emphasis will be placed on targeted cluster industries, as identified by the regional cluster analysis. Grants may be used to enhance the incentive packages that local communities, regional partnerships, and/or the Ohio Department of Development (ODOD) provide to prospective companies, including site and facility acquisition and off-site infrastructure improvements. Grants may not be used for intra-region relocation of facilities/jobs unless a release is obtained from the original community (including from the Duke Energy Kentucky territory to the Duke Energy Ohio territory). Applicant project criteria will be developed.

Q. PLEASE IDENTIFY THE ORGANIZATIONS THAT WILL BE ELIGIBLE TO UTILIZE AND PROMOTE ADVANCE SOUTHWEST OHIO.

A. Eligible organizations able to utilize and promote Advance Southwest Ohio in economic development efforts include the following:

- State of Ohio or its political subdivisions, ODOD, or an entity acting on behalf of the ODOD;
- State-wide economic development organizations; provided, however, that a direct benefit to the Duke Energy Ohio service territory can be demonstrated; and

- Economic development regional alliances/partnerships in Duke Energy Ohio's service area.

Q. ON WHAT CRITERIA WILL FUNDING BE BASED?

A. The determination of funding will be based upon, but not limited to, the following criteria:

- New jobs created or retained
- Wages/Payroll
- Use of Funds
- Level of competition (Ohio vs. other states' incentive packages)
- Level of new or retained customer capital investment
- Project location
- Demonstration of grant support from public agencies
- Funds leveraged from other sources
- Community impact

Q. IN 2008, THE COMMISSION APPROVED RIDER ECF – ANOTHER ECONOMIC DEVELOPMENT TOOL FOR DUKE ENERGY OHIO – IN CONNECTION WITH THE CURRENT ESP. WILL THAT RIDER EXPIRE UPON THE CREATION OF ADVANCE SOUTHWEST OHIO?

A. No. Rider ECF will continue to be available for customers interested in reasonable arrangements. The economic development program referenced above reflects a more aggressive approach to assisting our customers and the state. Funds will be made available for qualifying projects that are intended to secure southwest Ohio's economic vitality.

V. CONSISTENCY WITH STATE POLICY

Q. ARE YOU FAMILIAR WITH THE POLICIES OF THE STATE OF OHIO, AS SET FORTH IN SENATE BILL 221, WHICH WAS PASSED IN 2008?

A. I am familiar with these state policies articulated in R.C. 4928.02. The statute contains a list of policy statements relating to retail electric service in the state of Ohio and places emphasis on developing choices and protections for customers and on encouraging energy efficiency, demand side management, renewable energy, and reliable electric service. I am also aware that the Ohio Supreme Court recently described these policies as guidelines for the Commission to weigh in evaluating an electric distribution utility's SSO application.

Q. DO YOU BELIEVE THAT DUKE ENERGY OHIO'S PROPOSED ESP ADVANCES STATE POLICIES?

A. Yes.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO ENSURE THE AVAILABILITY TO CONSUMERS OF ADEQUATE, RELIABLE, SAFE, EFFICIENT, NONDISCRIMINATORY, AND REASONABLY PRICED RETAIL ELECTRIC SERVICE.

A. Duke Energy Ohio's proposed ESP will ensure that customers have a reliable and sufficient supply of capacity, with the Company serving as the reliability provider for all customers in its service territory. The capacity rate will be based upon the Company's cost of providing that capacity. Significantly, this capacity charge will not be determined solely by market forces, which are historically volatile and

unpredictable over the long term. The capacity rate proposed by Duke Energy Ohio provides long-term stability in that it is derived from objective, verifiable, and publicly filed information that will be reviewed annually by the Commission, thereby enabling a transparent determination of price that is fair and reasonable to customers and the Company.

By including an energy auction within the ESP, the Company's plan will provide competitively – and thus presumptively reasonably – priced energy. The pricing for energy will be transparent and derived from readily observable market trends through a competitive auction. The Company believes that this separation of the components of energy from capacity and the pricing of the SSO through the combination of the competitive market (energy) and a more traditional cost-of-service approach (capacity) allow Duke Energy Ohio to continue to provide adequate, reliable, safe, efficient, non-discriminatory, and reasonably priced retail electric service. It is also noteworthy that Duke Energy Ohio will remain the distribution service company for customers and thus will have the same obligations related to reliable service, safety, and nondiscrimination that it has now. For all of these reasons, the Company's proposed ESP advances state policy regarding adequacy, reliability, safety, efficiency, nondiscrimination, and reasonable pricing in the supply of electric service.

In contrast, under the MRO provisions, generation is decoupled or severed from the load upon the expiration of the required blending period and customers are entirely dependent upon the market for purchases of both energy and capacity.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO ENSURE THE AVAILABILITY OF UNBUNDLED AND COMPARABLE RETAIL ELECTRIC SERVICE THAT PROVIDES CONSUMERS WITH THE SUPPLIER, PRICE, TERMS, CONDITIONS, AND QUALITY OPTIONS THEY ELECT TO MEET THEIR RESPECTIVE NEEDS.

A. The state of Ohio has determined that competition in the supply of retail generation service is important. And as I have previously explained, Duke Energy Ohio's customers have exercised their statutory right to choose suppliers. The Company's proposed ESP serves to further unbundle electric generation service by allowing customers to wholly compete for the energy component of their bill. The Company's proposal also presents customers with some measure of long-term price stability by establishing a price for capacity that is based upon Duke Energy Ohio's cost for providing capacity to fulfill the reliability needs of the Company's footprint.

Under Duke Energy Ohio's proposed ESP, generation service from Duke Energy Ohio remains unbundled and separate from transmission and distribution service. But the Company has further unbundled generation service by separating capacity, or steel in the ground, from energy, the actual output. And, in doing so, the Company ensures a truly competitive process for pricing energy for its SSO. Customers are not dissuaded, under the proposed ESP, from engaging in choice. They will continue to be free to negotiate for their energy supply in order to find alternative suppliers, pricing terms, conditions, and quality options.

In contrast, the expected results under the MRO encourage non-market-based incentives for customers to either remain with Duke Energy Ohio as their generation provider or to switch to another supplier. This is because the resulting price under the MRO must, in the initial years, reflect a blend of market prices and the Company's legacy ESP price, as adjusted. This blended price thus would be different than the retail market price.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO ENSURE DIVERSITY OF ELECTRIC SUPPLIES AND SUPPLIERS AND BY ENCOURAGING DEVELOPMENT OF DISTRIBUTED AND SMALL GENERATION FACILITIES.

A. As I discussed above, customers will continue to have the opportunity to switch to a CRES provider for their energy needs. Duke Energy Ohio currently has many active CRES providers in its service territory – whether owners of generation assets or not – and does not anticipate a diminution in the CRES providers' ability to operate in the Duke Energy Ohio territory. Diversity in supplies and suppliers, currently present in our territory, will continue to exist.

Further, under the ESP, Duke Energy Ohio will rely upon the competitive market to obtain the resources needed to supply energy for its SSO load via an independent competitive bidding process. This provides competitive suppliers with a new opportunity to sell their output.

Duke Energy Ohio will continue to offer services to small distributed generation facilities. Duke Energy Ohio has offered customer generators a net

metering and interconnection tariff for several years, which it amended and filed subsequent to the enactment of S.B. 221, as required by the Commission. This tariff is one of the tools that the Company uses to encourage the development of distributed and small generation facilities. Likewise, Duke Energy Ohio has a tariff for residential customers who wish to sell renewable energy credits arising from the installation of solar (photovoltaic) energy facilities on residential properties. Duke Energy Ohio will continue to offer these services as it is required to do under Ohio law, although it reserves its right to propose modifications to the tariffs, subject to the Commission's approval.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO ENCOURAGE INNOVATION AND MARKET ACCESS FOR COST-EFFECTIVE SUPPLY- AND DEMAND-SIDE RETAIL ELECTRIC SERVICE, INCLUDING, BUT NOT LIMITED TO, DEMAND-SIDE MANAGEMENT, TIME-DIFFERENTIATED PRICING, AND IMPLEMENTATION OF ADVANCED METERING INFRASTRUCTURE.

A. Duke Energy Ohio's proposed ESP will not affect its obligations to meet energy efficiency and demand-side management standards required under Ohio law. Duke Energy Ohio will continue to explore all cost-effective energy efficiency offerings to meet the statutory thresholds established under Ohio law. As part of the Company's ESP approved in 2008, Duke Energy Ohio received approval to deploy its SmartGrid advanced energy infrastructure. This deployment will continue. Duke Energy Ohio's SmartGrid deployment plan provides the

necessary infrastructure, including advanced metering, to support time-differentiated pricing for customers, as well as laying the groundwork for innovative energy efficiency and demand-side management service offerings.

As part of a collaborative process, working with Commission Staff and a number of other stakeholders, Duke Energy Ohio has developed several pilot tariffs for time-differentiated pricing enabled, in part, by the SmartGrid deployment. These tariffs are available to SSO customers now and these tariffs are included in the proposed tariffs to be effective beginning January 1, 2012.

Further, as discussed in greater detail in the testimony of Duke Energy Ohio witness Wathen, the proposed ESP removes all disincentives that may be associated with market access for programs such as demand-side management or time-differentiated pricing. In contrast, during the blending period under an MRO, the SSO price will not be market price, which creates a barrier to participation in such programs.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO ENCOURAGE COST-EFFECTIVE AND EFFICIENT ACCESS TO INFORMATION REGARDING THE OPERATION OF THE TRANSMISSION AND DISTRIBUTION SYSTEMS OF ELECTRIC UTILITIES IN ORDER TO PROMOTE BOTH EFFECTIVE CUSTOMER CHOICE OF RETAIL ELECTRIC SERVICE AND THE DEVELOPMENT OF PERFORMANCE STANDARDS AND TARGETS FOR SERVICE QUALITY FOR ALL

CONSUMERS, INCLUDING ANNUAL ACHIEVEMENT REPORTS WRITTEN IN PLAIN LANGUAGE.

A. The state of Ohio has determined that cost-effective and efficient access to information regarding transmission and distribution system operation is vital to effective customer choice and the development of appropriate performance standards and targets for service quality, with annual reports to be in plain language. Duke Energy Ohio provides free information concerning its delivery services, available both on paper and electronically, thereby supplying consumers with information that they might need in order to make effective and appropriate choices. Duke Energy Ohio has also complied with all Commission requirements regarding performance standards and service quality targets and commits to preparing annual achievement reports in plain language. As confirmed by its operation under its current ESP, the Company's proposed ESP will not impact these issues. Duke Energy Ohio can only commit in this Application that it will continue to meet these state policies.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO ENSURE THAT AN ELECTRIC UTILITY'S TRANSMISSION AND DISTRIBUTION SYSTEMS ARE AVAILABLE TO A CUSTOMER-GENERATOR OR OWNER OF DISTRIBUTED GENERATION, SO THAT THE CUSTOMER-GENERATOR OR OWNER CAN MARKET AND DELIVER THE ELECTRICITY IT PRODUCES.

A. As I previously stated, Duke Energy Ohio's ESP will not cause the Company's tariffs for interconnections or net metering to be withdrawn. Customer generators will still have access to Duke Energy Ohio's system. This state policy will continue to be met under the proposed plan.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO RECOGNIZE THE CONTINUING EMERGENCE OF COMPETITIVE ELECTRICITY MARKETS THROUGH THE DEVELOPMENT AND IMPLEMENTATION OF FLEXIBLE REGULATORY TREATMENT.

A. The Company's proposed ESP undeniably recognizes – and enables – a perpetual competitive environment in Ohio under a rate structure that simultaneously affords customers stability in respect of retail pricing and assurance of a reliable supply of capacity. Further, as the proposed term of this ESP is nine years and five months, customers have regulatory certainty that they do not otherwise have under the more typical ESP terms, which have not exceeded three years. Thus, as the Commission reviews the Company's Application, guided by this state policy, it should conclude that the competitive market will exist under this plan. Duke Energy Ohio witness James S. Northrup provides additional testimony confirming that the proposed ESP benefits the competitive market.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO ENSURE EFFECTIVE COMPETITION IN THE PROVISION OF RETAIL ELECTRIC SERVICE BY AVOIDING ANTI-COMPETITIVE SUBSIDIES FLOWING FROM A

NON-COMPETITIVE RETAIL ELECTRIC SERVICE TO A COMPETITIVE RETAIL ELECTRIC SERVICE OR TO A PRODUCT OR SERVICE OTHER THAN RETAIL ELECTRIC SERVICE, AND VICE VERSA, INCLUDING BY PROHIBITING THE RECOVERY OF ANY GENERATION-RELATED COSTS THROUGH DISTRIBUTION OR TRANSMISSION RATES.

A. As the Commission's review of the proposed ESP is guided by this state policy, it is important to recognize that the Ohio legislature made express provision for – and otherwise contemplated – non-bypassable charges for generation-related services in S.B. 221. Thus, this policy cannot be read so as to exclude non-bypassable generation charges. Rather, the prohibition concerns improper cross-subsidies.

Duke Energy Ohio is not proposing to recover non-bypassable generation-related charges, under this ESP, through transmission or distribution rates. Separate riders correspond with the separate services provided by Duke Energy Ohio. Indeed, the retail service that will be competitively bid is reflected in one rider – Rider RE. There is no attempt to recover generation-related charges under this plan through distribution riders. Thus, there are no impermissible cross-subsidies under the proposed ESP.

I would also remark that Duke Energy Ohio will continue to operate under its corporate separation plan even after the ESP is approved and in effect. Under that plan and under the law, anti-competitive subsidies may not flow between Duke Energy Ohio's distribution service and any affiliate's competitive retail

electric service or product or service other than retail electric service. Not only does Duke Energy Ohio comply with its corporate separation plan in this regard, but it also ensures, in its rate structure, that no generation-related costs will be recovered through distribution or transmission rates.

Through his testimony, Duke Energy Ohio witness Christian E. Whicker also explains how the proposed ESP is consistent with this state policy.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO ENSURE RETAIL ELECTRIC SERVICE CONSUMERS PROTECTION AGAINST UNREASONABLE SALES PRACTICES, MARKET DEFICIENCIES, AND MARKET POWER.

A. The Commission already has adequate consumer protection rules that guard against unreasonable sales practices. There are specific rules that are applicable to utilities and CRES providers. Duke Energy Ohio will continue to comply with those rules that are applicable to it. Duke Energy Ohio is currently a member of the Midwest ISO and is realigning its regional transmission organization (RTO) membership with PJM, effective January 1, 2012. PJM is a FERC-approved RTO and has independent market monitors whose primary responsibility is to ensure there is no market power and to take actions to mitigate the development of any such market power. Duke Energy Ohio will continue to be subject to the Commission's jurisdiction and will continue to be a member of a FERC-approved RTO after the ESP is approved.

At the retail or state level, the Commission will have oversight of the competitive bidding process proposed by Duke Energy Ohio and thus will be positioned to detect and remedy any unreasonable sales practices that it may detect. Further, Duke Energy Ohio has secured an independent third party to serve as the auction manager, thereby creating a level playing field for all auction participants.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO PROVIDE COHERENT, TRANSPARENT MEANS OF GIVING APPROPRIATE INCENTIVES TO TECHNOLOGIES THAT CAN ADAPT SUCCESSFULLY TO POTENTIAL ENVIRONMENTAL MANDATES.

A. The Company's ESP includes a capacity charge that is predicated upon its cost of providing that service to customers. As detailed in the testimony of Duke Energy Ohio witness Wathen, the capacity charge is derived from public, or transparent, information, and will be updated annually through Commission proceedings. The Company, therefore, will have to demonstrate that the costs for which it seeks adjustment were appropriately incurred. Furthermore, the profit sharing mechanism, as structured, will function to motivate the Company to economically, efficiently, and prudently operate its generation fleet.

Duke Energy Ohio witness Andrew S. Ritch also provides testimony confirming that the proposed ESP is consistent with this state policy.

Moreover, the Company's proposed ESP enables recovery for capital investment in renewable technology. This is unlike the expected results under an

MRO, where compliance with the state's alternative energy requirements would likely be accomplished through the purchase of renewable energy certificates.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO ENCOURAGE IMPLEMENTATION OF DISTRIBUTED GENERATION ACROSS CUSTOMER CLASSES THROUGH REGULAR REVIEW AND UPDATING OF ADMINISTRATIVE RULES GOVERNING CRITICAL ISSUES SUCH AS, BUT NOT LIMITED TO, INTERCONNECTION STANDARDS, STANDBY CHARGES, AND NET METERING.

A. This policy relates to the need for review and updating of administrative rules relating to interconnection standards, standby charges, and net metering. Such an administrative process will not be impacted by ESP proposal; however, Duke Energy Ohio will continue to participate in the Commission's rule review proceedings.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO PROTECT AT-RISK POPULATIONS, INCLUDING, BUT NOT LIMITED TO, WHEN CONSIDERING THE IMPLEMENTATION OF ANY NEW ADVANCED ENERGY OR RENEWABLE ENERGY RESOURCE.

A. Duke Energy Ohio's ESP proposal undeniably protects at-risk populations. As discussed by Duke Energy Ohio witness B. Keith Trent, with the Company supplying capacity for its entire footprint, all CRES providers will be in the position of offering simply energy products, without the sometimes cumbersome

need to obtain capacity. The playing field for CRES suppliers will thereby be leveled, allowing additional competition to flourish. Such competition is what S.B. 221 sought to encourage, to the benefit of at-risk populations. Furthermore, under the proposed ESP, Duke Energy Ohio will become the reliability provider in the sense that it will provide all customers in its service territory with an adequate and reliable supply of capacity. As a result, customers will have a reasonably priced source of capacity priced based upon the Company's costs rather than solely by a volatile capacity market.

As structured, the proposed energy auction will yield the lowest competitive price for energy for Duke Energy Ohio's SSO customers, while reserving their statutory right to choose an alternative energy provider. And customers will clearly realize benefits – for almost a decade – derived from the capacity they pay for under the Company's proposed ESP because of the profit-sharing mechanism proposed by Duke Energy Ohio.

As discussed in the Direct Testimony of Mr. Wathen, the Company will be subject to two additional reviews by the Commission during the term of the ESP. In each instance, the Commission must determine whether the Company's ESP is, and will be, more favorable than the expected results under the MRO and whether the plan is substantially likely to result in significantly excessive earnings for the Company. Thus, the Commission will have the ongoing opportunity to review the ESP and its impact on all customers, including at-risk populations.

In contrast, under the MRO provisions, the Company would not be exposed to the significantly excessive earnings test after the conclusion of the

blending period. And, during the blending period, the test would be limited to whether proposed adjustments to the legacy ESP price result in significantly excessive earnings.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO ENCOURAGE THE EDUCATION OF SMALL BUSINESS OWNERS IN THIS STATE REGARDING THE USE OF, AND ENCOURAGE THE USE OF, ENERGY EFFICIENCY PROGRAMS AND ALTERNATIVE ENERGY RESOURCES IN THEIR BUSINESSES.

A. S.B. 221 included requirements for energy efficiency and alternative energy resources. To my knowledge, these requirements are independent of whether a utility operates under an MRO or an ESP. Nevertheless, Duke Energy Ohio has been, and continues to be, subject to those requirements. Under the ESP, Duke Energy Ohio will continue to work with small business owners regarding energy efficiency programs and alternative energy resources as it has in the past, unaffected by the change in how its rates are developed. Duke Energy Ohio has implemented a successful energy efficiency cost recovery model with a robust portfolio of programs available to both residential and non-residential customers. Further, Rider DR will provide a significant benefit for energy efficiency. As discussed in the testimony of Duke Energy Ohio witness Wathen, Rider DR includes a decoupling mechanism that essentially eliminates the lost distribution revenue issue in energy efficiency. A constructive recovery model and a robust

portfolio of programs are essential to allowing Duke Energy Ohio to continue to meet its energy efficiency requirements under S.B. 221.

Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP ADVANCES THE STATE POLICY TO FACILITATE THE STATE'S EFFECTIVENESS IN THE GLOBAL ECONOMY AND WITH THE REQUIREMENT THAT, IN CARRYING OUT THIS POLICY, THE COMMISSION MUST CONSIDER RULES AS THEY APPLY TO THE COSTS OF ELECTRIC DISTRIBUTION INFRASTRUCTURE, INCLUDING, BUT NOT LIMITED TO, LINE EXTENSIONS, FOR THE PURPOSE OF DEVELOPMENT IN THIS STATE.

A. This state policy requires the Commission to take certain actions with regard to administrative rules that it has promulgated. In addition, it explains that it is a state policy to facilitate its own effectiveness in the global economy. Global effectiveness is fostered by many factors, one of which is reasonable power prices. Thus, a pricing plan that will result in a reasonable, stable, and transparent price structure will result in positive changes in global effectiveness. Further, the proposed ESP will mitigate the potential for Ohio becoming an importer of energy as generating stations in the state will meet the capacity needs of southwest Ohio customers. Significantly, this result is markedly different than the expected results under an MRO, which would create a pure market environment, with residential, commercial, and industrial customer load in Ohio being dependent on generation service supplied from resources located outside of the State.

Duke Energy Ohio has implemented its SmartGrid distribution modernization program. This program was approved as part of the Company's current ESP and is subject to an annual review and true-up for costs spent to modernize the distribution delivery system in the Company's service territory. As discussed in detail in the testimony of Duke Energy Ohio witness Mark D. Wyatt, SmartGrid is a key initiative in developing the electric delivery infrastructure and providing new service and pricing opportunities for customers in southwest Ohio through advanced metering technology. Duke Energy Ohio is not seeking to amend or change its SmartGrid implementation initiative in this filing. However, as discussed in the testimony of Company witness Wathen, the proposed ESP does include a distribution reliability rider (Rider DR) which would eventually phase-out the current method of recovering costs for the SmartGrid investment.

The Commission has enacted a regulation regarding creation of uniform line extension policies among the electric distribution utilities throughout the state. Duke Energy Ohio has a line extension tariff that was approved by the Commission and is consistent with that policy. The Company is not seeking to change or amend that policy.

Finally, the objectives of Duke Energy Ohio's economic development offering – Advance Southwest Ohio – are to attract, retain, and develop operations in Ohio and promote the state's economic growth. Notably, there is no contemplation under the MRO provisions for economic development initiatives.

VI. SCHEDULES SPONSORED BY WITNESS

Q. PLEASE DESCRIBE SCHEDULE A OF THE APPLICATION.

A. Schedule A of the Application is a list of the filing requirements for the ESP as set forth in O.A.C 4901:1-35-03(C) and confirmation of how the Company has met and satisfied those requirements as part of this Application.

Q. PLEASE DESCRIBE SCHEDULE H OF THE APPLICATION.

A. Schedule H of the Application is a copy of the notice of the Application that Duke Energy Ohio has provided, concurrently with the filing of the Application, to each party in its most recent SSO proceeding. Attached to that notice is the service list, showing all parties upon whom the notice was served. There are no waiver requests. The notice states that a copy of the Application is available through the Duke Energy Ohio website and the Commission's website, at Duke Energy Ohio's main office, and at the Commission's offices.

Q. PLEASE DESCRIBE SCHEDULE I OF THE APPLICATION.

A. Schedule I of the Application is a copy of a proposed notice for newspaper publication. The proposed notice fully discloses the substance of the application, including projected rate impacts, and prominently states that any person may request to become a party to the proceeding.

VII. CONCLUSION

Q. IS THE INFORMATION YOU SPONSORED IN SCHEDULES A, H, AND I ACCURATE TO THE BEST OF YOUR KNOWLEDGE AND BELIEF?

A. Yes.

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

A. Yes.

DUKE ENERGY OHIO EXHIBIT_____

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications and Tariffs for Generation Service.	)	Case No. 11-3549-EL-SSO
In the Matter of the Application of Duke Energy Ohio for Authority to Amend its Certified Supplier Tariff, P.U.C.O. No. 20.	)	Case No. 11-3550-EL-ATA
In the Matter of the Application of Duke Energy Ohio for Authority to Amend its Corporate Separation Plan.	)	Case No. 11-3551-EL-UNC

REDACTED VERSION

DIRECT TESTIMONY OF

JUDAH L. ROSE

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 20, 2011

TABLE OF CONTENTS

Attachment:

JLR-1 RESUME

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.

A. My name is Judah L. Rose. I am a Managing Director of ICF International (ICF). My business address is 9300 Lee Highway, Fairfax, Virginia 22031.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL QUALIFICATIONS.

A. After receiving a degree in economics from the Massachusetts Institute of Technology and a Masters Degree in Public Policy from the John F. Kennedy School of Government at Harvard University, I joined ICF in 1982. I have worked at ICF for over 29 years and am Managing Director of ICF's wholesale power practice. I also have been a member of the Board of Directors of ICF International and am one of three people (in a consulting firm of more than 3,500 people) to have been given ICF's honorary title of Distinguished Consultant.

Q. DOES ICF HAVE PUBLIC SECTOR CLIENTS?

A. Yes. In the United States, ICF has been the principal power consultant to the U.S. Environmental Protection Agency (EPA) continuously for over 30 years, specializing in the analysis of the impact of air emission programs, especially cap and trade programs. We also have worked with the Federal Energy Regulatory Commission (FERC) on transmission issues and the U.S. Department of Energy (DOE). In addition, we have worked with state regulators and state energy agencies, including those in California, Connecticut, Kentucky, New Jersey, New York, Ohio, Texas, and Michigan, as well as with numerous foreign governments.

Q. DOES ICF HAVE UTILITY CLIENTS?

A. Yes. For over 35 years, ICF has provided forecasts and other consulting services to major United States and Canadian electric utilities. In the U.S., ICF has worked with utilities such as American Electric Power, Allegheny, Arizona Power Service, Dominion Power, Delmarva Power & Light, Duke Energy, FirstEnergy, Entergy, Florida Power & Light, Southern California Edison, Sempra, PacifiCorp, Public Service Electric and Gas, Public Service of New Mexico, Nevada Power and Tucson Electric. ICF also works with Regional Transmission Organizations (RTOs) and similar organizations, including the Midwest Independent Transmission System Operator (Midwest ISO), the Electric Reliability Council of Texas (ERCOT), the Western Electric Coordinating Council (WECC), and the Florida Regional Coordinating Council (FRCC).

Q. WHAT TYPE OF WORK DO YOU TYPICALLY PERFORM?

A. I have extensive experience in assessing retail and wholesale electric power issues, including regulatory developments, and forecasting wholesale and retail prices. I also have extensive experience assessing environmental regulations and their impacts on supply and demand conditions in wholesale power markets, as well as valuing power plants.

Q. WHAT SPECIFIC POWER SECTOR EXPERT TESTIMONY EXPERIENCE DO YOU HAVE?

A. I have testified before or made presentations to the FERC, an international arbitration tribunal, federal courts, arbitration panels, and before state regulators and legislators in 21 U.S. states and Canadian provinces: Arizona, Arkansas, California, Florida, Indiana, Kentucky, Louisiana, Manitoba, Massachusetts,

Minnesota, Missouri, New Jersey, Nevada, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Quebec, South Carolina, and Texas. I have testified extensively on the topics of electric power prices and markets, utility planning, and the development of new generation resources and transmission. In addition, I have authored numerous articles in industry journals and spoken at scores of industry conferences. For specific details, please see my resume, attached hereto as Attachment JLR-1.

Q. HAVE YOU TESTIFIED PREVIOUSLY IN THE STATE OF OHIO?

A. Yes. I have filed the following testimony: (1) Direct Testimony on behalf of Duke Energy Ohio, Inc. (Duke Energy Ohio or Company), before the Public Utilities Commission of Ohio (Commission), Case No. 10-2586-EL-SSO, November 15, 2010; (2) Direct Testimony on behalf of Duke Energy Ohio, before the Commission, Case No. 08-0920-EL-SSO, July 31, 2008; (3) Second Supplemental Testimony on behalf of Duke Energy Ohio, before the Commission, Case Nos. 03-93-EL-ATA, 03-2079-EL-AAM, 03-2081-EL-AAM, 03-2080-EL-ATA, February 28, 2007; (4) Supplemental Testimony on behalf of The Cincinnati Gas & Electric Company, before the Commission, Case Nos. 03-93-EL-ATA, 03-2079-EL-AAM, 03-2081-EL-AAM, 03-2080-EL-ATA, May 20, 2004; (5) Direct Testimony on behalf of The Cincinnati Gas & Electric Company, before the Commission, Case Nos. 03-93-EL-ATA, 03-2079-EL-AAM, 03-2081-EL-AAM, 03-2080-EL-ATA, April 15, 2004; and (6) Testimony on behalf of FirstEnergy Corp., before the Commission, in Case No. 99-1212-EL-ETP, October 4, 1999, and April 2000.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of Duke Energy Ohio.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony supports the Application of Duke Energy Ohio for an Electric Security Plan (ESP) with respect to retail power supply that would apply after the legacy, or current, ESP expires on December 31, 2011.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is organized into eight sections. The first section (*i.e.*, this section) introduces my testimony. The second section (*i.e.*, the next section) summarizes my testimony. The third section describes Duke Energy Ohio's legacy ESP, and presents Duke Energy Ohio's forecast of the price under an extension of the legacy ESP. This price is needed to calculate the standard service offer price expected under a Market Rate Offer (MRO). The fourth section describes Duke Energy Ohio's proposed ESP, which would start when the current one expires at the end of the year. This section also presents Duke Energy Ohio's forecast of SSO prices under the proposed ESP. The fifth section provides a projection of wholesale power prices. The sixth section presents a projection of retail market prices that is based in part on the projection of wholesale prices. The retail market price is needed to calculate the standard service offer price expected under an MRO. Also, the electrical energy component of the retail prices is used in the proposed ESP price. The seventh section presents a forecast of prices under an MRO, which is a blend of retail market prices and the SSO price under the current Duke Energy Ohio ESP with certain allowed adjustments. The eighth section

compares the SSO prices expected under an MRO and the proposed Duke Energy Ohio ESP prices. The ninth section discusses the potential for significantly excessive earnings under the proposed ESP. The tenth section presents my conclusions.

II. SUMMARY

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. ICF was retained by Duke Energy Ohio to assess retail and wholesale power market prices in its region. Also, ICF was retained to forecast future SSO prices under an MRO. Initially, the price under the MRO is a blended combination of the prices under a continuation of the legacy ESP and retail market prices and, eventually, the blending ends and the MRO price equals the retail market price. ICF used the MRO price forecast to assess whether the proposed ESP is better/more favorable in terms of power pricing in the aggregate than the MRO. Lastly, ICF was also retained to assess the potential for significantly excessive earnings under the proposed ESP.

BACKGROUND

Under Duke Energy Ohio's legacy ESP, customers can purchase both capacity and energy from Duke Energy Ohio or from a certified retail electric service (CRES) provider. Portions of the legacy ESP are avoidable by all customers who switch to another provider and, for non-residential customers all components of the legacy ESP price are effectively avoidable subject to some conditions. The ESP was established in 2008 and is formula driven. The legacy ESP applies to the 2009 to 2011 period; it expires December 31, 2011.

The current Duke Energy Ohio ESP reflects the motivation for which it was designed, especially limited/short-term security against volatile power market prices in exchange for an opportunity to recover costs. Hence, the formulas that make up portions of the ESP do not track short-term perturbations in wholesale or retail market conditions. Also, Duke Energy Ohio is not permitted to adjust its ESP price in response to market conditions. For example, shortly after the establishment of the ESP, the economy entered a deep recession and wholesale and retail market prices decreased greatly. In 2008, wholesale power prices in the Duke Energy Ohio area were $51.7/MWh,[1] the third highest in real dollar terms in the history of the market (*i.e.*, the third highest in the 1997-2009 period). However, by 2009, prices were 42 percent lower, at $29.8/MWh. Prices in 2009 were the fourth lowest in the historical record.[2]

In this period, retail market prices tracked wholesale prices and, hence, have also been low since the recession became pronounced. This occurs because wholesale power is the primary input into retail service. As a result, by May 2011, approximately 67 percent[3] of Duke Energy Ohio load (on a MWh sales basis) had switched to CRES providers. One consequence of this development is that, even though Duke Energy Ohio hedges its customers against the risks of high market prices with its power plant fleet, it does not earn stable and reasonable level of revenues from the ESP arrangement due to the lost volume

[1] All-hours annual average: 2010$.
[2] Historical pricing is primarily from Platts. This is considered an independent and reliable source of electricity pricing information under Ohio Administrative Code 4901:1-35-03 (B)(1)(c). This has been supplemented by Midwest ISO LMP price data. Note, Intercontinental Exchange "ICE" data discussed later is also considered independent and reliable.
[3] Source: Public Utilities Commission of Ohio.

from switching. Put another way, when retail market prices are low, it loses volume and the revenue from the hedge is decreased. When market prices are high, it cannot raise its prices to match market conditions. Duke Energy Ohio proposes a more balanced and longer-term solution to this problem.

In light of these developments, Duke Energy Ohio is proposing a new ESP to start January 1, 2012, and ending May 31, 2021.[4] The direct testimony of Duke Energy Ohio witness William Don Wathen Jr., describes in detail the components of the proposed ESP and also the existing riders being removed under the proposed ESP.[5] The proposed ESP has two principal components. First, the energy portion of the SSO would be competitively procured via competitive auction. The price of energy is the largest component of the market price of power. Second, under the proposed ESP, Duke Energy Ohio would provide capacity to all of its customers. Customers would pay a non-bypassable charge equal to Duke Energy Ohio's capacity revenue requirements for capacity, including regulated recovery of and on capital, less a portion of the margins earned by Duke Energy Ohio's primarily coal-fired fleet from energy sales to the marketplace. Duke Energy Ohio proposes to credit most of the profits from energy sales back to its customer via a profit sharing mechanism, or Rider PSM, as discussed by witness Wathen in his testimony. Under the proposed profit sharing mechanism, 80 percent of the net profits from energy sales would be credited to customers and 20 percent to the Company. Of each of those shares,

[4] The first period would last seventeen months (January 1, 2012, to May 31, 2013) in order to align Duke Energy Ohio's proposal with the PJM RPM capacity auction period. The remaining eight periods would each be twelve months. Thus, the proposed ESP would last nine years and five months.
[5] Direct Testimony of William Don Wathen Jr., pages 2-9 and Tables 1-2.

five percent of the margins from energy sales would be devoted to economic development. Thus, customers receive a net of 76 percent, resulting in a total of 81 percent of margins being used either to decrease rates or for economic development. Duke Energy Ohio retains only 19 percent of net margins (*i.e.*, 100-76-5).

The proposed ESP meets several goals, such as providing long term protection to customers against market price volatility, providing Duke Energy Ohio stable and reasonable compensation for its hedging services, creating space for competition in the portion of power supply that is largest in terms of market cost, and, as discussed later, greatly decreasing the potential for significantly excessive earnings. Regarding customer protection, it provides protection against volatility in both electrical energy and capacity prices. For example, forward capacity prices in PJM increased 360 percent in May 2011, and my forecast shows an approximately [redacted] percent increase in PJM capacity prices between 2012 and 2021. In contrast, under the proposed ESP, capacity prices will reflect a regulatory construct of revenue requirements less margins. Also, as electrical energy market prices rise, all else being equal, the margins earned by the plants would increase and the net capacity charge would fall, and vice versa. This arrangement provides a hedge to customers based on the Duke Energy Ohio plants' energy sales performance. Regarding competition, retail suppliers would compete to supply the electrical energy requirements of SSO load. For example, my forecast shows that, between 2012 and 2021, the electrical energy price is on average approximately [redacted] percent of the total proposed ESP price.

MRO

Under R.C. 4928.143(C)(1), an assessment is required as to whether the proposed ESP, including its pricing and all other terms and conditions, is more favorable in the aggregate than the results expected under an MRO. My testimony addresses the pricing aspects of this test. In this regard, there are several considerations related to pricing that I focused on in making such an assessment. They include a comparison of expected prices under the two options and an assessment of price volatility. For the first five periods, the MRO price is calculated as a yearly blending of projected retail market prices and projected prices under an extension of the legacy ESP. Thereafter, the MRO price equals the market price as determined in an auction. In the five transition periods, the share of the system served by the auction winner at market price is assumed to be 10%, 20%, 30%, 40%, and 50%, respectively. This implies a 90%, 80%, 70%, 60%, and 50% weight for the legacy ESP price. Thus, the price under the MRO is increasingly affected by the retail market price trends; eventually, it equals the retail market price.

WHOLESALE PRICE TRENDS

Wholesale power prices are important because wholesale power is the main input to retail power supply. In addition, wholesale prices are determinants of net margins under the proposed ESP. Between 2012 and 2021, the wholesale and retail power market prices delivered to Duke Energy Ohio will increase. One basis for this conclusion is the observable forward prices for the delivery of

wholesale power to Duke Energy Ohio. Wholesale forward prices are available from the Intercontinental Exchange (ICE) through December 31, 2015, for electrical energy, and from the PJM Reliability Pricing Model (RPM) capacity market for capacity prices through May 31, 2015. A second basis is ICF computer model-based forecasts for the period beyond which ICE and PJM data are available. These projections are based on analysis of the supply and demand fundamentals.

ICE prices for forward delivery of electric energy for 2012 are higher than the prices in 2009, the recent low point in market prices. Also, 2015 all-hours electric energy prices are 27 percent higher than 2012 prices (nominal dollars). The projected electrical energy price increase between 2009 and 2015, cumulatively, on a nominal basis is 65 percent. ICF model-based forecasts show this trend extending and accelerating beyond 2015. Electrical energy prices in 2021 are forecast to be [redacted] percent above 2009 prices (nominal dollars). There are similar nominal increases in electrical energy prices in the later years of the proposed ESP: the 2009 to 2015 increase is 65 percent, while the 2015 to 2021 increase is [redacted] percent. Thus, some protection against rising prices and the associated volatility is an important consideration and a valuable benefit provided to customers. The increase in electrical energy prices occurs in large part due to: (1) the potential for tighter environmental regulations[6], some of which start in 2014, including hazardous air pollutants (HAPs); (2) electricity demand growth and increased reliance on natural gas supply as the marginal price setting source

[6] Based on ICF assumptions as of May 2011.

of supply; (3) general economy-wide inflation; (4) higher real (*i.e.*, inflation adjusted) natural gas prices; and (5) higher coal prices relative to 2009 spot coal prices.

Capacity prices are also forecast to increase significantly. Between 2012 and 2015, the capacity component of retail price increases 535 percent, albeit from a very low starting point. This increase reflects, in part, recent developments. In the 2010 PJM RPM auction, the capacity price relevant to Ohio was $10/kW-yr for forward delivery for June 1, 2013, to May 31, 2014. The most recent auction results, announced May 13, 2011, resulted in prices of $46/kW-yr, a 360 percent increase. The PJM capacity price is expected to reach [redacted]/kW-yr (nominal) by 2021. When expressed on a ¢/kWh basis, the increase between 2012 and 2021 is [redacted] percent. The increases are due to the transition from excess capacity in the PJM market to needing more capacity to keep pace with growing peak summer demand. Once this transition occurs, the price is high because of the high costs of having sufficient supply reliability in the face of increasing demand and retirement of uncontrolled coal plants. This in turn is due to the high capital investment costs for new generating units and the costs of maintaining existing units under tightened environmental regulations, including HAPs regulations.

While the forward market and ICF forecasts address expected prices, they do not address the annual volatility of price around the average. The volatility of wholesale power prices is expected to be significant, based in part on the historical record. The decrease in wholesale electrical energy prices between

2008 and 2009 was 42 percent. Between 2003 and 2005, wholesale electrical energy prices increased nearly 100 percent in total. The standard deviation of annual wholesale price changes, a measure of the extent of yearly uncertainty, is 28 percent of the average price. Thus, the volatility is likely to be the greatest in terms of annual cents per kWh changes in the long run when prices are on average expected to be the highest. The movements in capacity prices are even more volatile than electrical energy prices, as demonstrated by the price increase between the 2010 and 2011 PJM RPM auctions of 360 percent.

RETAIL MARKET PRICES

Retail power prices generally track wholesale power prices, both electrical energy and capacity. Accordingly, they are also expected to increase over time and retain significant volatility. Retail prices are not as observable on a forward basis as wholesale prices in part because they are more heterogeneous. For a number of reasons, retail prices can vary even for customers with similar load characteristics. Some customers may seek out retail prices that track the market; some may seek more certainty and sign long-term deals at fixed prices. Customers and suppliers alike have no limits on how creative the offers can be for retail service. It should be noted, as well, that offers between retail providers and shopping customers are often confidential. Furthermore, during some historical periods, retail transaction volume was low. To address this problem, I have projected retail prices on the assumption that prices will reflect the costs of service including a risk premium required by suppliers. This builds on past Ohio testimony I have provided on this subject. This is also roughly consistent with some available retail price data.

The first observation concerning my retail price projections is that retail prices are at a premium to wholesale prices on a per MWh basis, to cover the additional costs and risks of providing retail service. In 2012, the retail premiums result in an approximately 59 percent higher retail price per MWh compared to the wholesale all-hours prices for electrical energy. Specifically, in 2012, average retail market prices are 6.14 ¢/kWh versus an all-hours price of $38.5/MWh in nominal dollars.[7] This premium is a MWh weighted average of all customers;[8] the premiums vary by year, customer class, by month and by time of day. The second observation is that, by 2015, retail market power prices are expected to average 9.04 ¢/kWh for the Duke Energy Ohio territory. This is a 47 percent increase relative to 2012 prices and reflects a large increase in electrical energy prices and a very large increase in capacity prices. Post-2015 retail market prices are expected to continue to rise. The cumulative increase between 2012 and 2021 is [redacted] percent. This increase is primarily driven by the wholesale price trends. This reflects a [redacted] percent increase in energy prices, and a [redacted] percent increase in the capacity cost portion of retail (from a low level of 0.16 ¢/kWh to [redacted] ¢/kWh).

CONTINUATION OF LEGACY ESP AND PROJECTED MRO PRICES

As noted, for five transition periods ending in May 31, 2016, MRO prices are a blending of retail market prices and the prices that result from an extension of the legacy ESP. Thereafter, MRO prices are assumed to equal retail prices. The continuation of the legacy ESP results in very modestly decreasing prices over the

[7] ¢/kWh times 10 equals $/MWh. Hence, $61.4/MWh divided by $38.5/MWh is 1.59, or 59 percent higher.
[8] This assumes no switching.

2012 to 2016 period: the price under the extension of the legacy ESP cumulatively decreases four percent. However, retail market prices are increasing significantly over time. MRO prices, a combination of the legacy ESP and the market, increase over time. The MRO in 2012 is 7.74 ¢/kWh and by 2016 is [redacted] ¢/kWh, an increase of [redacted] percent. Between 2017 and 2021, when the MRO price equals the retail market price, the MRO price rises from [redacted] ¢/kWh to [redacted] ¢/kWh, or [redacted] percent. The total increase between 2012 and 2021 under the MRO is [redacted] percent in nominal dollars.[9]

PRICING ASSESSMENT OF THE PROPOSED ESP RELATIVE TO THE MRO

On average, during the 2012 – 2021 duration of the proposed ESP, the proposed ESP price[10] is 8 percent lower than the MRO price, [redacted] ¢/kWh for the proposed ESP versus [redacted] ¢/kWh for the MRO. In five of the ten years (2016 to 2021), the proposed ESP price is below the MRO price. For example, by 2021, the proposed ESP price is expected to be [redacted] ¢/kWh. In comparison, the MRO price, which equals the retail market price, is much higher at [redacted] ¢/kWh. Thus, the proposed ESP is [redacted] percent lower. Overall, in these five years (2017 to 2021), the proposed ESP price is [redacted] ¢/kWh, or [redacted] percent lower. However, in five of the ten years (2012 to 2016), the proposed ESP price is modestly higher than the MRO price: on average, it is [redacted] ¢/kWh, or [redacted] percent higher in this period. Note,

[9] Unless otherwise indicated, prices are in nominal terms – *i.e.*, incorporate the effects of general economy-wide inflation, and the actual out-of-pocket payment.
[10] Based on 76% of the energy profit from energy sales being credited back to Duke Energy Ohio customers.

the current Duke Energy Ohio ESP was approved in spite of a period when then-proposed ESP prices were slightly above the MRO price.

The proposed ESP has an additional direct economic benefit: economic development funding. Under the proposal, 5 percent of net margins are devoted to economic development. If this benefit is treated as equal to the use of 76 percent of net margins to benefit ratepayers via lower rates, the 2012 to 2021 average proposed ESP price is one percent lower, or [redacted] ¢/kWh versus [redacted] ¢/kWh. Also, the premium of the proposed ESP in the first five years decreases from 0.49 ¢/kWh to 0.40 ¢/kWh.

Significantly, the proposed ESP has the additional benefit of mitigating long term price volatility as compared to the MRO because of the hedge associated with the substantial sharing of net energy margins of the existing Duke Energy Ohio coal-fired fleet, and a cost-based capacity price.

Thus, in the aggregate over the term of the ESP, the pricing in the proposed ESP is better than in the MRO. In addition, the approach has other benefits including avoiding significantly excessive earnings and creating space for competition.

SIGNIFICANTLY EXCESSIVE EARNINGS

The proposed ESP is not expected to result in significantly excessive earnings for Duke Energy Ohio. This is because the price for capacity is the revenue requirement for Duke Energy Ohio's Legacy generation fleet less 76 percent of net margin from plant electrical energy sales. The revenue requirement portion itself is a regulatory construct with limits on earnings. Since 5 percent of the net

margins are devoted to economic development, Duke Energy Ohio retains only 19 percent of net margins. Thus, the potential for excessive earnings is necessarily limited by the balanced design of the proposed ESP.

III. DUKE ENERGY OHIO'S LEGACY ESP

Q. HOW IS THIS SECTION ORGANIZED?

A. This section is organized into three subsections. The first sub-section discusses Duke Energy Ohio's legacy ESP. The second section presents Duke Energy Ohio's forecast portion of prices under an assumed extension of the legacy ESP. This forecast is presented because prices under an assumed extension are inputs into the MRO price during the MRO transition period. The third section briefly discusses the interaction of the legacy ESP with retail and wholesale power market conditions.

III.1 LEGACY ESP

Q. WHAT IS THE CURRENT DUKE ENERGY OHIO ESP?

A. The legacy ESP started January 1, 2009, and extends for three years until December 31, 2011. Under Duke Energy Ohio's legacy ESP, Duke Energy Ohio offers customers generation service under its SSO. The price formulas that determine the ESP price were set for the 2009 to 2011 period based on forward market conditions in 2008. At the time, the prevailing forward market prices for power were above, but similar to, the projected ESP price. Thus, the legacy ESP price reflected, in part, market conditions prevailing in 2008 when the Duke Energy Ohio ESP proposal was developed and presented to the Commission.

Q. WHAT WAS THE RATIONALE FOR THE LEGACY ESP?

A. An important part of the rationale for the legacy ESP was that, in exchange for providing protection over a discreet, three-year period of time (*i.e.*, a hedge against high and volatile market prices), Duke Energy Ohio would have an opportunity to recover the costs of this arrangement. This hedge was based on Duke Energy Ohio using its legacy generation fleet. This was done in part as an alternative to proposals for Duke Energy Ohio to have a price that adjusted yearly to market conditions, the MRO.

Q. HOW IS DUKE ENERGY OHIO'S LEGACY ESP PRICE STRUCTURED?

A. Duke Energy Ohio's ESP has a generation pricing structure with two main components. The first part is occasionally still referred to as the Price to Compare (PTC), which can be avoided by switching to a CRES provider. As noted, the PTC uses a price formula set in 2008. However, the formulaic adjustment mechanism is only weakly tied to short-term fluctuations in power market prices. The second part is the unavoidable charges for system resource adequacy (SRA).

Q. WHAT IS THE PRICE OF SERVICE UNDER THE LEGACY ESP STANDARD SERVICE OFFER?

A. The price on a weighted-average basis for the twelve months of May 2010 through April 2011 is 8.90 ¢/kWh without transmission service charges and without waiving the System Reliability Tracker (SRT) charge (see Exhibit A). This price is the energy sales weighted-average of all customers choosing SSO service. Including transmission, but excluding the waived SRT charge, the charge averages 9.45 ¢/kWh.

EXHIBIT A
Legacy ESP – Last 12 Months*

Class	Volume (000 MWh)	Base Gen (000$)	FPP (000$)	TCR (000$)	AAC (000$)	SRT (000$)	CD (000$)	With Transmission Costs		Without Transmission Costs	
								PTC (Waiver) (¢/kWh)	PTC (Non-Waiver) (¢/kWh)	PTC (Waiver) (¢/kWh)	PTC (Non-Waiver) (¢/kWh)
RS	5,771,625	225,296	212,509	32,767	48,302	4,038	14,343	8.99	9.31	8.42	8.74
DM	337,631	13,603	14,513	1,732	3,101	401	922	9.76	10.15	9.25	9.64
DP	195,447	5,365	8,449	914	1,641	307	446	8.37	8.76	7.91	8.29
DS	1,706,428	65,889	73,579	8,658	15,434	2,130	4,583	9.58	9.98	9.08	9.47
TS	77,144	1,683	3,241	296	497	97	142	7.41	7.72	7.03	7.34
Total	**8,113,088**	**312,349**	**313,335**	**44,521**	**69,108**	**6,994**	**20,475**	**9.11**	**9.45**	**8.56**	**8.90**

Source: Duke Energy Ohio ESP
*Last 12 months is May 2010 to April 2011.

Q. WHAT ARE THE GENERATION COMPONENTS OF THE SSO PRICE?

A. The legacy ESP SSO has six main generation components:

- ***Fuel and Purchased Power Rider (Rider PTC-FPP)*** –Rider PTC-FPP includes charges related to fuel, purchased power, emission allowances, and alternative energy resource compliance costs used to provide electric generation service. For the twelve months reviewed, these charges were the largest item and are 40.9 percent of the total. Most of these charges are fuel related because Duke Energy Ohio uses its fleet of coal power plants as its primary source of generation. To the extent that short-term fluctuations in power market prices typically are not correlated with coal prices, this rider does not track well short-term fluctuations in power market prices.
- ***Base Generation*** – Base generation (Rider PTC-BG) is capital recovery charges associated with the production of electricity. These charges generally do not correlate closely with short-term fluctuations in power market prices. These charges are 40.7 percent of total, and are the second largest component. However, these charges are very close to PTC-FPP and could exceed the Rider PTC – FPP in some years if fuel prices are high.
- ***Annually Adjusted Component Rider (Rider PTC-AAC)*** – The Rider AAC charge is associated with environmental compliance, taxes, and homeland security. These charges are 9 percent of the current total SSO price.

- ***Transmission Cost Rider (Rider TCR)*** – Rider TCR are charges are for the operation, maintenance, and managing the flow of electricity through the transmission system. These charges are 5.8 percent of the total. It should be noted that Rider TCR has been included in the price to compare only because it is currently a bypassable charge and including this charge in the PTC gives customers an apples-to-apples comparison. Rider TCR is not a generation charge and, thus, should not be considered part of the SSO price.
- ***System Reliability Tracker (Rider SRA-SRT)*** – Rider SRT is a charge that provides dollar-for-dollar recovery of the costs incurred by Duke Energy Ohio to purchase reserve capacity for reliability requirements established by the North American Electric Reliability Corporation (NERC) and its regional transmission operator (RTO). Non-residential customers and residential customers served via governmental aggregators have the option to waive this charge, subject to certain conditions. These charges are 0.9 percent of the total.
- ***Capacity Dedication Charge (Rider SRA-CD)*** –The capacity dedication charge is for, among other items, providing customers first call on Duke Energy Ohio's capacity. This particular charge is avoidable by qualifying non-residential customers. These charges are 2.7 percent of the total.

Q. HOW HAS THE GENERATION COMPONENT OF SSO PRICE CHANGED OVER TIME?

A. The generation components of the SSO price have, in total, increased from January 2009 to April 2011 by 22%. Some of this change is seasonal, but overall the trend has been an increasing total generation SSO price (the price peaked in the September-November 2010 period before decreasing to 8.15 ¢/kWh (non-waiver) in April 2011).

Q. WHY HAS THE SSO PTC CHANGED OVER TIME?

A. The increase has, in part, occurred because of changes in coal costs. Also, as part of the stipulation in ESP case, there was a scheduled increase in the Base Generation (BG) rate. Rider AAC has also slightly increased over time, in part because total load is lower and in part because of an increase in the costs being recovered in the AAC.

III.2 PROJECTION OF CONTINUATION OF LEGACY ESP

Q. WHAT IS THE PROJECTED SSO GENERATION PORTION OF THE PRICE UNDER THE LEGACY ESP FOR THE 2012 TO MAY 31, 2016, PERIOD?

A. Duke Energy Ohio projects the legacy ESP price for the 2012 is shown at 7.92 ¢/kWh (see Exhibit B). Legacy ESP will decrease to 7.54 ¢/kWh, in 2015, and to 7.49 ¢/kWh, in 2016. On average, the price is $7.60 /kWh. The total decrease between 2012 and 2016 is approximately 5 percent.

Q. WHAT PORTIONS OF THE LEGACY ESP PRICE ARE CHANGING?

A. The projected price for Rider PTC-FPP is decreasing modestly while price for Rider PTC-AAC is increasing modestly (see Exhibit B).

EXHIBIT B

Projected SSO Price[1] 2012 – 2016 – Customer Weighted Average (¢/kWh)

Component	Rider	Projected					
		2012	2013	2014	2015	2016	Average
Base Generation	PTC-BG	3.71	3.71	3.71	3.71	3.71	3.71
CD Revenue	SRA-CD	0.23	0.23	0.23	0.23	0.23	0.23
SRT Tracker Revenue	SRA-SRT	0.06	0.04	0.18	0.16	0.00	0.09
Fuel, Purchased Power & Alternative Energy Resource Compliance	PTC-FPP	3.13	2.68	2.71	2.58	2.56	2.73
AAC – Environmental & Tax	PTC-AAC	0.79	0.78	0.79	0.86	0.98	0.84
Continuation of Legacy ESP		7.92	7.44	7.62	7.54	7.49	7.60

Source: Duke Energy Ohio

[1]Projection of legacy ESP and its components are provided by Duke Energy Ohio.

III.3 MARKET TRENDS AND THE LEGACY ESP

Q. WHAT HAS BEEN THE RECENT TREND IN CUSTOMER SWITCHING?

A. Since the beginning of 2009, the level of customer switching to CRES providers has risen significantly. This increase has coincided with lower wholesale and retail power prices brought about in part by the very deep recession. As of March 2011, about 67 percent customer load in MWh sales has chosen to obtain service from other retail service providers. The switching by rate class shows that switching is broad-based and occurs across all classes, though it occurs at higher levels in the commercial and industrial category.

Q. WHY IS THIS HAPPENING?

A. As noted, the market price of wholesale supply and retail service has fallen. For many customers, the retail market price is below the Duke Energy Ohio SSO price (generation components). Duke Energy Ohio is not allowed to respond to the lower prices by competing and lowering its SSO price. Therefore, as long as retail market prices are below the Company's inflexible SSO price, switching at these levels will persist, if not even increase.

Q. WHY IS THIS HIGH SWITCHING LEVEL SIGNIFICANT?

A. This high level of switching is significant because it highlights a problem with Duke Energy Ohio's legacy ESP structure. When market prices are temporarily low, Duke Energy Ohio cannot compete for sales volume because it cannot respond via price adjustments. Thus, there is less revenue available to justify

providing SSO service at a relatively known price. Conversely, when market prices are high compared to the ESP, Duke Energy Ohio's upside is limited by the ESP that cannot be increased in response to market conditions and is further limited by the existence of the SEET. In addition, the unexpected switching has resulted in costs due to unwinding hedges, and switching customers do not pay these costs even though they are the reason for this unexpected cost to occur.

IV. DUKE ENERGY OHIO'S PROPOSED ESP PROPOSAL

Q. HOW IS THIS SECTION ORGANIZED?

A. This section has two subsections. The first summarizes the proposed ESP. The second presents forecasts of the proposed ESP prices. These forecasted prices are based in part on ICF wholesale and retail power price forecasts.

IV.1 PROPOSED ESP

Q. WHAT IS DUKE ENERGY OHIO PROPOSING FOR THE SSO STARTING ON JANUARY 1, 2012?

A. Duke Energy Ohio is proposing a proposed ESP to replace the legacy ESP, starting January 1, 2012, and extending through May 31, 2021.

Q. WHAT IS THE PROPOSED ESP?

A. The proposed ESP has two key elements related to the generation components of SSO pricing. First, electrical energy is competitively procured via a competitive bid process as discussed by Duke Energy Ohio witness Robert J. Lee in his testimony. This also refers to the proposed Rider RE in witness Wathen's direct testimony. The generation supply for Duke Energy Ohio's SSO load will be procured through descending-price clock, full requirements auctions. The market

price for energy is to be based on annual[11] auctions of SSO load requirements for energy and, hence, has frequent updates. This would reserve significant space for competition. Electrical energy supply is the largest component of market price for generation services. As is discussed below, over the 2012 to 2021 period, the energy component is, on average, approximately 85 percent of the proposed ESP price. Second, Duke Energy Ohio will provide for the capacity requirement of all retail load, and there will be a non-bypassable charge to load for capacity or Rider RC as described in witness Wathen's direct testimony. The sales charge is the revenue requirements of the capacity, net of 76 percent of the margins these plants earn in energy sales. Through Rider PSM (Profit Sharing Mechanism), Duke Energy Ohio proposes to credit most of the net profits derived from energy sales from its Legacy Generating Assets back to its customers.[12] Of the net profits, or margins, allocated to the customers and to the Company, 5 percent would be used to support economic development. Thus, 81 percent of the margins would either decrease rates or be used for economic development. Duke Energy Ohio would retain 19 percent of net margins (*i.e.*, 100 – 76 – 5 = 19%). As is shown below, this results in a reasonable expectation of a revenue stream to Duke Energy Ohio in exchange for providing a hedge against volatile electric energy and capacity prices.

Q. PLEASE EXPLAIN HOW DUKE ENERGY OHIO'S ESP PROPOSAL HEDGES CAPACITY PRICES USING ILLUSTRATIVE NUMBERS?

[11] As described by Mr. Wathen in his testimony, the first period for the MRO comparison is 17 months rather than 12 months, in order to align the MRO periods with PJM's June 1 to May 31 schedule for capacity pricing. Thereafter, the periods are 12 months.

[12] *See* Direct Testimony of William Don Wathen, Jr. for discussions on Rider PSM and Direct Testimony of Salil Pradhan for a description of the Legacy Generating Assets.

A. The hedging effects are illustrated in Exhibit C, which has ***illustrative*** numbers that are not based on detailed analysis, but rather to facilitate description of the concept. The illustrative cost of providing capacity (*i.e.*, the Retail Capacity Rider or Rider RC) is assumed to be 2.5 ¢/kWh and constant regardless of PJM energy market conditions. Net margins deducted from the Rider RC in the three illustrative energy market scenarios (Low, Base, High) equal 76 percent of energy sales revenues less fuel and other non-fuel O&M costs. In these illustrative calculations, higher PJM electrical energy prices raise the net margins earned by Duke Energy Ohio's mostly coal-fueled fleet of plants and vice versa, though the relationship may not be as simple as shown in these illustrative calculations.[13] As a result, the net capacity charge ranges from 0.6 ¢/kWh to 2.1 ¢/kWh. In contrast, the retail capacity charge in my retail price forecast ranges from 0.16 ¢/kWh to [redacted] ¢/kWh (see later discussion). Note, even higher market capacity charges are possible than [redacted] ¢/kWh under the PJM RPM. The range of the net capacity charge is less than the retail market capacity charge because it is cost-based rather than market-based.

Q. PLEASE EXPLAIN HOW DUKE ENERGY OHIO'S ESP PROPOSAL HEDGES ENERGY PRICES USING ILLUSTRATIVE NUMBERS?

A. The retail electrical energy requirements price is set by an auction and, hence, changes as overall market prices change over time, albeit it with a lag as the

[13] For clarity, the net margins in the example are 8 to 31 percent of average retail electrical energy price. This does not reflect detailed calculations and are shown to conceptually illustrate the effect. The highest ratio in our detailed forecast is approximately 25 percent. However, our natural gas price forecast is low compared to historical levels. If natural gas prices were higher than forecast and costs of Duke Energy Ohio's coal plant did not materially change, net margins as a percentage of energy prices could be higher. This is because margins increase faster than prices on a percentage basis.

auctions are staggered. In spite of the variation in market electrical energy prices, the illustrative sum of the components of the proposed ESP prices have decreased variation due to the hedge of Duke Energy Ohio's mostly base load coal fleet. This is because higher retail energy market prices are partly offset by the deduction of greater energy sales margins. Instead of a $20/MWh range in retail energy prices in the market, as illustrated by the second to last row (*i.e.*, $60/MWh to $80/MWh), the resulting total SSO price range is $4.8/MWh, as illustrated with the last row (*i.e.*, $81.2/MWh to $86/MWh). Thus, in this hypothetical illustrative example, the range is 76 percent lower.

EXHIBIT C
Illustrative Overview of Proposed ESP

Item	Illustrative Scenarios Market Prices for Power ($/MWh)		
	Low	Base	High
Capacity Revenue Requirement	25.0	25.0	25.0
Net Margins from Generation Energy Sales	5.0	15.0	25.0
76 percent of Energy Sales Margins	3.8	11.4	19.0
Net Capacity Charge – Total Revenue Collected from Distribution (Revenue Requirement Less 76 percent of Sales Margin) Load	21.2	13.6	6.0
Retail Electric Energy Price From Auction – Average	60.0	70.0	80.0
Total Generation Service Charge	81.2	83.6	86.0

Note: Numbers do not reflect detailed analysis, but are shown to illustrate the concept.

Q. WHAT IS THE SCHEDULE FOR DUKE ENERGY OHIO'S PROPOSED ESP?

A. The schedule of the proposed ESP is shown in Exhibit D. The first period extends 17 months from January 1, 2012, to May 31, 2013. The added five months aligns

the succeeding periods, each of which is 12 months, with the PJM capacity year, which covers June 1 of each year to May 31 of the next year. The proposed ESP extends to May 31, 2021, and has nine periods, covering nine years and five months. However, in some cases, I report results annually.

EXHIBIT D
Schedule of Proposed ESP

Period	Definition
1	January 2012, to May 31, 2013
2	June 1, 2013, to May 31, 2014
3	June 1, 2014, to May 31, 2015
4	June 1, 2015, to May 31, 2016
5	June 1, 2016, to May 31, 2017
6	June 1, 2017, to May 31, 2018
7	June 1, 2018, to May 31, 2019
8	June 1, 2019, to May 31, 2020
9	June 1, 2020, to May 31, 2021

Q. WHAT ARE THE IMPLICATIONS OF THIS SCHEDULE, IN TERMS OF FORECASTING PRICES?

A. One implication is that the period extends beyond the period for which forward prices from ICE and PJM are available. Hence, as discussed later, I present a computer model-based forecast to supplement ICE forward prices. This projection is based on a detailed analysis of supply and demand fundamentals.

Q. HOW DOES THE AUCTION PROCESS WORK?

A. As discussed by witness Lee in his testimony, Duke Energy Ohio will conduct a series of wholesale auctions that are designed to obtain the SSO energy and ancillary service requirements. Hence, the market component of the SSO price would be the auction price.

Q. WHAT IS AUCTIONED OFF?

A. Duke Energy Ohio would auction off a "slice of system" energy and ancillary needs generally for one, two, or three years of SSO service.[14] The goal is to have competitive procurement for energy, which is the largest portion of market prices for power, and to have frequent price updating of a significant portion of the load. The auctions generally would be staggered so that, each year, a third of the load was being sourced from auction winners from 3, 2, and 1 years prior.

Q. HOW WILL THE AUCTIONS BE CONDUCTED?

A. As described in the Direct Testimony of Robert J. Lee and James S. Northrup, the auction process will involve an Auction Manager who is independent of the company.

Q. WHAT PRODUCTS AND SERVICES WILL THE AUCTION WINNER BE RESPONSIBLE FOR?

A. The auction winner will be bidding for a slice or "tranche" of the Company's total retail energy load and will be responsible for assuring that the cost of serving up to 100% of that tranche is at the winner's bid price in $/MWh of load served in a given period. The costs of serving this load include primarily energy purchases from the PJM energy market or, to the extent suppliers are relying on owned generation, the supplier's cost of serving the load will be dependent on the cost of goods sold (*e.g.*, fuel, emission allowances, etc.) for supplier's generation. The suppliers' costs of serving this load will not include capacity purchases from PJM's forward capacity market. Duke Energy Ohio is responsible for meeting the PJM capacity requirement for entire retail load. The winner must also cover 3

[14] See Attachment B to the Application for the Proposed Bid Timeline and Schedule.

smaller cost items, such as ancillary services needed to supply the load, and other items shown in Exhibit E.

EXHIBIT E
Components of the Auction Winner's Responsibility

	SSO Auction
Energy	Yes
Capacity	No
Ancillary Services	Yes
NITS, RTEP, MTEP[1]	No
PJM Market-Based Charges[2]	Yes
Losses	Yes

Note: (1) Generally,, those costs that will be recovered in the Company's approved Base Transmission Rider (Rider BTR).
(2) Generally, those costs billed from PJM not recovered in Rider BTR.

IV.2 FORECAST OF PROPOSED ESP PRICES

Q. WHAT IS THE FORECAST OF PRICES UNDER THE PROPOSED ESP?

A. Duke Energy Ohio forecasts that proposed ESP prices will start at 7.98 ¢/kWh in 2012. By 2021, prices will be [redacted] ¢/kWh. Thus, proposed ESP prices will increase [redacted] percent per year (Exhibit F-1). On average the price is [redacted] ¢/kWh.

EXHIBIT F-1
Proposed ESP Price (¢/kWh)

Year	Capacity Charge[1]	76 Percent of Energy Margin[1]	Net Capacity Charge	Retail Energy Price[2]	Proposed ESP Price
2012	2.77	0.70	2.06	5.91	7.98
2013	2.60	1.25	1.36	6.38	7.74
2014	2.92	1.47	1.46	6.94	8.40
2015	3.17	1.82	1.34	7.59	8.93
2016	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2017					
2018					
2019					
2020					
2021					
Average 2012-2016	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Average 2012-2021	**3.25**	**1.63**	**1.63**	[redacted]	[redacted]

[1] Source: Duke Energy Ohio
[2] Uses AD Hub forwards from 2012 to 2015. Post-2015 is ICF forecast. The retail electrical energy price does not include the capacity component. See later discussion. Source: ICE and ICF International

Q. WHAT ARE THE COMPONENTS OF PROPOSED ESP PRICES?

A. The components of the proposed ESP prices are: (1) the capacity charge; (2) 76 percent of net energy sales margins, which are deducted from the capacity charge to obtain the net capacity charge; (3) the net capacity charge; and (4) the auction results for retail electrical energy. On average, the 2012 – 2021 capacity charge is 30.6 percent of the total price under the proposed ESP, but the net capacity charge is 15 percent of the total proposed ESP price. During the 2012 to 2021 period, the energy price is [redacted] percent of the total price under the proposed ESP. The net

capacity charge is only 15 percent of total proposed price, *i.e.*, half the capacity charge because 76 percent of the energy margin is 15 percent of the total proposed ESP price, *i.e.*, 30-15 = 15 percent. In other words, 76 percent of the energy margin decreases the capacity charge by half.

Q. WHAT ARE THE TRENDS IN THE COMPONENTS?

A. Between 2012 and 2021, the capacity charge is growing at an average rate of 3.7 percent per year, but the net capacity charge is increasing only modestly. This is because the energy margin increases between 2012 and 2021 at an average of 13 percent per year. Even though the net capacity charge is increasing only at 1.0 percent per year, on net, the total proposed SSO price grows because the electrical energy price is larger and growing [redacted] percent per year on average. The energy margin stops growing between 2017 and 2021, in part due to an assumed federal CO_2 program. Were this program not to be implemented, electrical prices would be lower, but net margins would be higher.

Q. HOW WAS THIS FORECAST DEVELOPED?

A. The retail energy price is converted from the forward and forecast wholesale electrical energy prices based on a set of formulas. This is discussed in a later section. The margin is based on analysis by Duke Energy Ohio, using forward and forecast wholesale prices. This forecast was prepared by Duke Energy Ohio with input from ICF on market prices in the post-2015 years, *i.e.*, largely post-2015.

Q. WHAT HAPPENS IF THE 5 PERCENT OF NET MARGINS DEVOTED TO BENEFIT ECONOMIC DEVELOPMENT IS TREATED THE SAME

AS THE 76 PERCENT USED TO BENEFIT CUSTOMERS VIA LOWER RATES?

A. Exhibits F-1 and F-2 show that the proposed ESP price falls from [redacted] ¢/kWh to [redacted] ¢/kWh over the 2012 to 2021 period. In the first five years, the proposed ESP price decreases by 0.09 ¢/kWh.

EXHIBIT F-2
Proposed ESP Price (¢/kWh)

Year	Capacity Charge[1]	76 percent of Energy Margin[1]	5 Percent of Energy Margin[1,2]	Net Capacity Charge[3]	Retail Energy Price	Proposed ESP Price
2012	2.77	0.70	0.05	2.01	5.91	7.93
2013	2.60	1.25	0.08	1.27	6.38	7.66
2014	2.92	1.47	0.10	1.36	6.94	8.30
2015	3.17	1.82	0.12	1.22	7.59	8.81
2016	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2017						
2018						
2019						
2020						
2021						
Average 2012-2016	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Average 2012-2021	**3.25**	**1.63**	**0.11**	**1.52**	[redacted]	[redacted]

[1] Source: Duke Energy Ohio
[2] The additional 5 percent accounts for economic development; 4 percent for customers and 1 percent for the Company.
[3] Uses AD Hub forwards from 2012 to 2015. Post-2015 is ICF forecast. The retail electrical energy price does not include the capacity component. Source: ICE and ICF International.

V. WHOLESALE POWER PRICE PROJECTION

V.1 INTRODUCTION

Q. HOW IS THIS SECTION ORGANIZED?

A. This section has five subsections. The first describes the organization of this section. The second subsection briefly discusses recent wholesale power prices, and the history of wholesale prices in the Duke Energy Ohio marketplace. The third presents recent forward prices for wholesale delivery, covering 2012 to 2015. These prices are observable forward prices available from ICE and/or PJM. The fourth subsection presents ICF's forecast of wholesale power prices, which is based on computer modeling of the North American power grid supply and demand fundamentals. This forecast is used for the 2016-2021 period (see Exhibit G). The fifth subsection discusses the forecasting approach.

EXHIBIT G
Power Price Forecast Bases

Period	Energy	Capacity
January 1, 2012 – May 31, 2013	ICE	PJM RPM Auction[1]
June 1, 2013 – May 31, 2014	ICE	PJM RPM Auction[1]
June 1, 2014 – May 31, 2015	ICE	PJM RPM Auction[1]
June 1, 2015 – May 31, 2016	ICE, ICF Forecast	PJM RPM Auction[1], ICF Forecast
June 1, 2016 – May 31, 2017	ICF Forecast	ICF Forecast
June 1, 2017 – May 31, 2018	ICF Forecast	ICF Forecast
June 1, 2018 – May 31, 2019	ICF Forecast	ICF Forecast
June 1, 2019 – May 31, 2020	ICF Forecast	ICF Forecast
June 1, 2020 – May 31, 2021	ICF Forecast	ICF Forecast

[1] Base Residual Auction

V.2 CURRENT WHOLESALE POWER MARKET CONDITIONS

Q. WHAT ARE CURRENT WHOLESALE SPOT POWER PRICES IN THE DUKE ENERGY OHIO ZONE?

A. In 2010, wholesale spot power prices were $34.8/MWh in nominal dollars for all-hours supply. This particular measure is for all-hours Cinergy Hub spot market (day ahead Midwest ISO LMP) electrical energy purchases. Over a recent 12 month[15] period, prices were $35.3/MWh in nominal dollars. Note, Cinergy Hub prices have been very similar historically to Midwest ISO CG&E zonal prices.

Q. HOW DO THE WHOLESALE ELECTRICAL SPOT ENERGY PRICES COMPARE TO HISTORICAL NOMINAL PRICES?

A. Historical nominal all-hours prices are shown in Exhibit H (left column). Current all-hours prices of $35.7/MWh (2011 YTD through April) are approximately $15/MWh below the record of approximately $51/MWh in 2008.

Q. HOW DO THESE PRICES COMPARE TO HISTORICAL REAL (*i.e.*, INFLATION ADJUSTED) PRICES?

A. May 2010 to April 2011 average prices are below the 1997-2011 YTD average, expressed in real 2010 dollars, by 9 percent; $35.0/MWh versus the long term average of $38.6/MWh (see Exhibits H and I). In 2009, prices were $29.8/MWh in real 2010 dollars. In only two years since 1998 were prices lower than 2009 prices. The 2009 price was 46 percent lower than in 1998 when the market price was at a record level (in real dollars).

---

[15] Source: Midwest ISO. The 12 months are May 2010 to April 2011.

EXHIBIT H

Historical Wholesale Power Spot Prices – Cinergy Hub Delivery

Scenario	All-Hours Wholesale Spot Price[1]	
	Nominal $/MWh	2010 $/MWh[3]
1997	18.0	23.6
1998	42.3	54.7
1999	38.2	48.7
2000	27.0	33.7
2001	26.1	31.9
2002	20.1	24.1
2003	24.5	28.8
2004	33.1	37.9
2005	48.7	53.9
2006	40.4	43.3
2007	46.1	48.0
2008	50.7	51.7
2009	29.5	29.8
2010	34.8	34.8
2011 YTD[2]	**35.7**	**34.9**
1997-2011 YTD Average	**34.4**	**38.6**

[1] Source: Spot prices shown for 1997 – 2011 YTD.

[2] 2011 YTD is through April 2011. 1997-2003 (Power Market Week), 2004-2005 (Platts' Megawatt Daily), 2006-2011 price data are from Midwest ISO for Cinergy Hub.

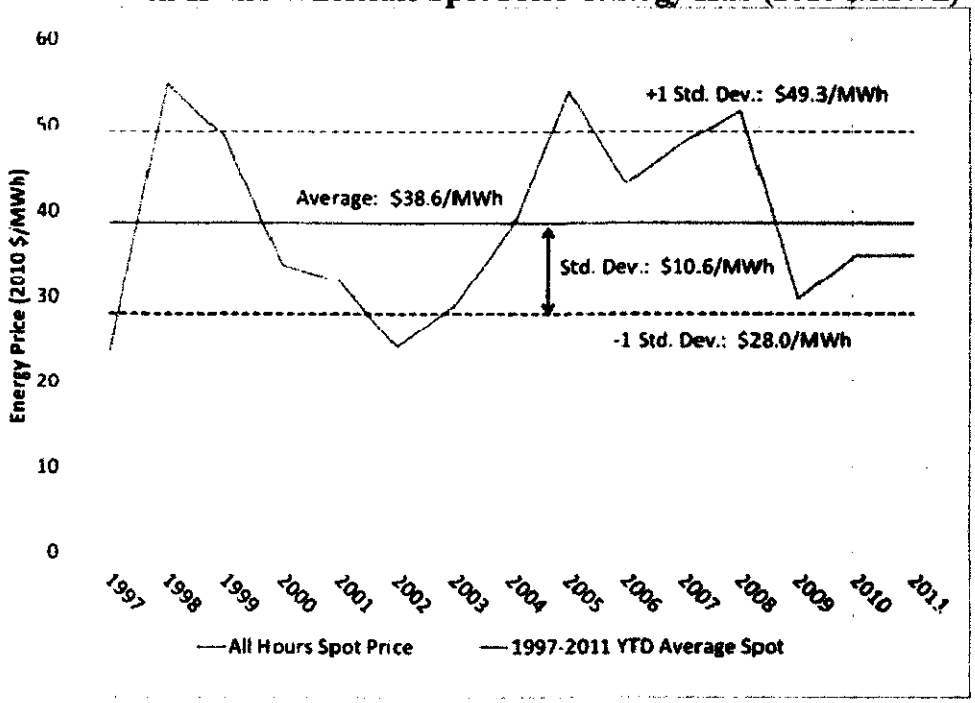
[3] Post-2010 inflation is assumed to be 2.5%.

Notes: 1997-2001, spot off-peak power prices were not available; the prices for these years were estimated based on the 2002 monthly off-peak price shape. In turn, the all-hours prices were derived based on peak- and off-peak prices.

Q. HOW WOULD YOU CHARACTERIZE THE WHOLESALE ELECTRICAL ENERGY MARKET?

A. The wholesale electrical energy market is liquid and well developed. However, prices can be extremely volatile compared to other commodity markets. Between 2008 and 2009, prices decreased 42 percent in nominal terms. Between 2003 and 2005, prices increased 99 percent in nominal terms. In real dollars, the standard deviation of annual prices is 28 percent of the average.

EXHIBIT I
Historical All-Hours Wholesale Spot Price Cinergy Hub (2010 $/MWh)



Sources: Spot prices shown for 1997-2011 YTD through April 2011. 1997-2011 spot prices are based on a 5x16 peak definition.

Q. WHY ARE CURRENT WHOLESALE ELECTRICAL ENERGY PRICES LOWER THAN THE AVERAGE IN REAL TERMS?

A. There are four very important factors.

- **Demand** – The recent recession lowered electricity demand. Electrical energy sales in 2009 in the U.S. were approximately 5 percent lower than sales in 2007. This is one of the largest decreases on record since World War II. While Midwest U.S. demand recovered in 2010 from 2009 lows, it was still below 2007 levels, and even still below the expectation for 2010 held in 2007 before the recession.
- **Natural Gas Prices** – Second, natural gas prices are low. Henry Hub natural gas prices in 2009 were $3.96/MMBtu in 2010 dollars, which was

the lowest price of any year in real dollars since 2000. In 2010, Henry Hub prices were $4.37/MMBtu and $4.08 for 2011 YTD through April. These low natural gas prices are in part due to the recession and in part reflect improved supply. Lower natural gas prices also tend to correlate with lower coal prices and vice versa.

- **Demand and Electrical Energy Prices** – Third, lower demand also lowers the price of electrical energy. Specifically, lower demand decreases the number of hours that natural gas power plants are needed to operate. This lowers the number of hours in which the marginal price setting unit is higher priced natural gas fired units rather than lower cost coal fired units.
- **Environmental Regulations** – Fourth, changes in environmental regulations have lowered the variable cost of generating electrical energy using existing coal plants, all else equal. Notably, SO_2 allowance prices are now close to zero.

Q. DO THESE PRICES INCLUDE THE PRICE OF A CAPACITY PRODUCT?

A. No.

Q. WHAT HAS BEEN THE RECENT HISTORY OF PJM CAPACITY PRICES?

A. Over the recent historical period, the PJM capacity price has been volatile. The RTO PJM capacity price for delivery in June 1, 2010, to May 31, 2011, was $63.6/kW-yr. In the May 2010 auction conducted by PJM for 2013/2014

delivery, the RTO PJM capacity price was $10/kW-yr. Duke Energy Ohio is transferring from Midwest ISO to PJM. The capacity price in Midwest ISO has also been low. However, the Midwest ISO capacity market has a monthly short-term market structure that has not involved large volumes and that is in the process of being changed.

Q. WHAT ARE THE LATEST DEVELOPMENTS IN THE PJM CAPACITY MARKET?

A. On May 13, 2011, PJM announced that the RTO capacity prices increased from $10/kW-year for June 1, 2013, to May 31, 2014, delivery to $46/kW-year for June 1, 2014, to May 31, 2015, delivery.[16] This was a 360 percent increase.

Q. WHY DID THE PJM CAPACITY PRICE INCREASE?

A. The increase in capacity prices reflects several factors. They include rising demand, which is decreasing excess capacity; the high costs of new power plants; changes in transmission; and the high costs of maintaining existing unscrubbed coal plants due to tightening environmental regulations. Note, with one exception, all Duke Energy Ohio coal capacity is already scrubbed, mitigating the cost impacts of many new environmental regulations.

V.3 2012 TO 2015 PRICE FORECAST BASED ON OBSERVABLE FORWARDS

Q. WHY ARE YOU REPORTING 2012 TO 2015 PRICES SEPARATELY?

A. This is the period for which observable forwards exist and it is useful to distinguish the two sources of my forecast: forwards and computer projections. However, both show a trend of increasing wholesale power prices.

---

[16] UCAP. The price is for UCAP or unforced capacity. In PJM, UCAP capacity is less than installed capacity on average by approximately 6.25 percent.

Q. WHAT FORWARD PRICES ARE YOU USING?

A. I am using the forward price for the PJM AD Hub. Duke Energy Ohio received approval to join PJM in May 2011. The PJM AD Hub price covers American Electric Power (AEP) and Dayton Power and Light nodes in Ohio and Michigan. Duke Energy Ohio power plants are generally co-owned with Dayton Power and Light and AEP and, therefore, are generally in the PJM AD Hub. Note, the PJM AD Hub prices are only available since October 2004. Also, Duke Energy Ohio only joins PJM starting January 1, 2012. Therefore, as shown above, I use Cinergy Hub for historical data.

Q. WHAT IS THE FORECAST FOR FUTURE WHOLESALE ELECTRICAL ENERGY PRICES FOR 2012 TO 2015?

A. The forecast for all-hours wholesale electrical energy prices is $38.5/MWh, $41.2/MWh, $44.5/MWh, and $48.8/MWh (nominal dollars) for 2012, 2013, 2014, and 2015, respectively. The forecast is shown in Exhibits J and K. The price increases 7 percent in 2013, 8 percent in 2014, and 10 percent in 2015. 2015 prices are cumulatively 27 percent above 2012 prices. Exhibit K shows the same prices by time of day. Exhibits L and M compare the forecast to historical prices.

EXHIBIT J

Wholesale Power Prices – All-Hours (Nominal$/MWh)

Wholesale Power Price	Type	Prices
2009	Historical	29.5
2010	Historical	34.8
Last 12 Months[1]	Historical	35.3
2012	Forwards	38.5
2013	Forwards	41.2
2014	Forwards	44.5
2015	Forwards	48.8
Average 2012 to 2015	N/A	43.2

Source: Midwest-ISO LMP for 2009-2010 and last 12 months. AD Hub ICE forwards for 2012-2015 traded from November 2010 to April 2011.

[1] May 2010 to April 2011 average.

EXHIBIT K

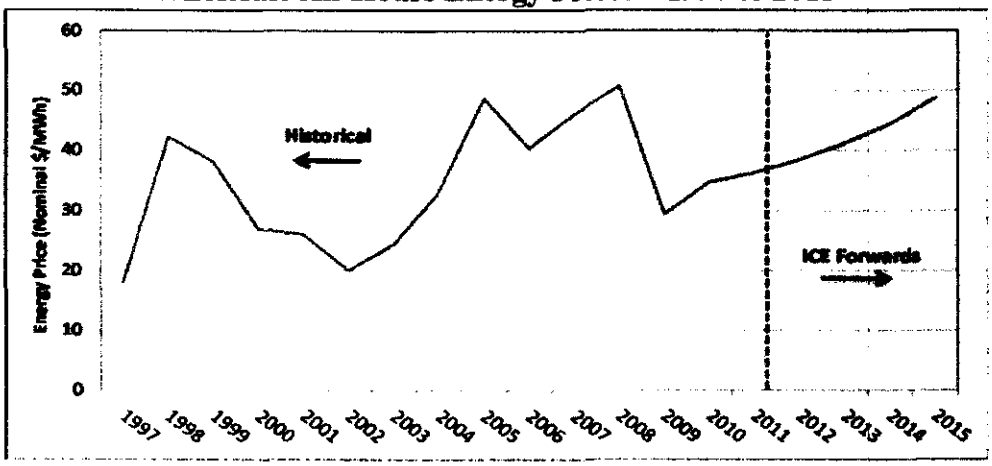
AD Hub Wholesale All-Hours Energy Prices – 2011 to 2015 (Nominal $/MWh)

Year	Source	All Hours	On-Peak[1]	Off-Peak
2011[2]	ICE Forward	36.3	42.1	31.1
2012[2]	ICE Forward	38.5	44.7	33.0
2013[2]	ICE Forward	41.2	47.4	35.6
2014[2]	ICE Forward	44.5	50.6	38.9
2015[2]	ICE Forward	48.8	53.7	44.3
2012-2015 Average	ICE Forward	43.2	49.1	37.9

[1] 5X16

[2] Forwards for 2011-2015 traded from November 2010 to April 2011.

EXHIBIT L
Wholesale All-Hours Energy Prices – 1997 to 2015



[1] Historical Cinergy Hub. Forecast AD Hub.

EXHIBIT M
Duke Energy Ohio Zonal Energy Price Historical and Projections - 2007 to 2015[1]

Source	Year	ICF Base Case		
		All-Hours Energy Price (2010$/MWh)	**On-Peak Energy Price (2010$/MWh)**	**Off-Peak Energy Price (2010$/MWh)**
Historical	2007	48.0	62.4	34.8
Historical	2008	51.7	67.0	37.7
Historical	2009	29.8	35.3	24.7
Historical	2010	34.8	41.9	28.3
Historical	**2007-2010 Average**	**41.1**	**51.7**	**31.4**
ICE Forward	2011	35.5	41.1	30.3
ICE Forward	2012	36.7	42.5	31.4
ICE Forward	2013	38.3	44.0	33.1
ICE Forward	2014	40.3	45.8	35.2
ICE Forward	2015	43.1	47.4	39.2
Average	**2012 – 2015**	**39.6**	**44.9**	**34.7**

[1] Historical Cinergy Hub. Forecast AD Hub.

Q. WHAT IS THE BASIS FOR THE 2012 TO 2015 PROJECTION OF WHOLESALE POWER PRICES?

A. The 2012 to 2015 prices reflect the recent prices for forward delivery to the AD Hub in this period. For example, the 2012 price is the average price of transactions over the six months of November 2010 to April 2011 from ICE, the Inter-Continental Exchange, at the AD Hub for delivery in 2012 of wholesale power. Thus, this is an observable set of prices.[17]

Q. DOES THE WHOLESALE PRICE FORECAST INCLUDE ANCILLARY SERVICES?

A. Yes. All forecasts include 2.5 percent premium on energy prices to account for PJM ancillary services.

Q. WHAT DO THE FORWARDS INDICATE?

A. The forward market signals market expectations of rising wholesale power prices starting in 2012. As noted, 2015 prices are 27 percent higher than 2012 prices in nominal terms.

Q. WERE FORWARDS AVAILABLE AFTER 2015?

A. No.

Q. WHAT IS THE BASIS FOR THE 2012 TO 2015 CAPACITY PRICE PROJECTION?

A. The January 2012 to May 31, 2015, price for capacity is based on the PJM forward capacity price. This is also an observable price. As discussed below, the capacity price forecast for 2015 is composed of observable prices for January through May 31, 2015, and ICF's forecast for this price for the last seven months of 2015. The 2015 forward price for capacity is based on ICF's forecast because

[17] These prices are available for monthly delivery, but traded daily.

the PJM forward market price for capacity is not available for the last 7 months of 2015 and will not be available until Spring 2012.

Q. WHAT ARE THE PROJECTED CAPACITY PRICES?

A. The PJM capacity market is a required forward market and is referred to as the Reliability Pricing Model (RPM) capacity market. The next RPM Auction is for summer 2015 through May 31, 2016, supply and will be held in May 2012.

Q. WHAT ARE YOUR CAPACITY PRICE PROJECTIONS?

A. As noted, PJM capacity prices for January 1, 2010, to May 31, 2015, reflect actual auction results, while 2015 reflects blending auction results and forecasts into calendar year results for the PJM RTO sub-region (see Exhibit N).

EXHIBIT N
PJM RPM RTO Capacity Prices ($/UCAP)

Delivery Period	Source	Price (Nominal $/kW-yr)
2009-2010	RPM	37.2
2010-2011	RPM	63.6
2011-2012	RPM	40.2
2012-2013	RPM	6.0
2013-2014	RPM	10.1
2014-2015[1]	RPM	46.0
Average 2009 – 2015		33.9

Source: PJM. The delivery period is from June 1 to May 31 of the following year.
[1]The next RPM auction is June 1, 2015, to May 31, 2016, and will be held in May 2012.

Q. WHY ARE WHOLESALE POWER PRICES, BOTH ENERGY AND CAPACITY INCREASING BETWEEN 2009 AND 2015?

A. The increase in wholesale power prices reflects:

- **Environmental Regulations** – New environmental regulations including HAPs, CO_2, ash disposal, cooling water, and other environmental regulations are expected to cause coal plant retirements, and to raise the

costs of existing coal power plants. This potential loss of capacity results in an increase in the value of existing capacity since buyers' next best alternative for securing capacity is new highly expensive new units. Energy prices can also rise due to added costs of operating existing coal plants.

- **Economic Recovery in the U.S. and PJM** – The economic recovery in the U.S. supports electricity demand growth and natural gas prices.
- **Rising Electricity Demand** – The growing demand for electricity contributes to the need for new capacity and hence a pronounced firming of capacity prices. In 2010, U.S. electricity sales in MWh increased 4.9 percent relative to 2009. Rising electricity demand also raises electrical energy prices by increasing reliance on higher cost coal and natural gas power plants.
- **Rising Natural Gas Prices** – Rising natural gas prices increase electric energy prices (see Exhibit O).

EXHIBIT O
Henry Hub Natural Gas Prices ($/MMBtu)

Year	Source	Real 2010$	Nominal $
2005	Historical	9.81	8.87
2006	Historical	7.20	6.72
2007	Historical	7.22	6.94
2008	Historical	9.00	8.84
2009	Historical	3.96	3.92
2010	Historical	4.37	4.37
2011 YTD[1]	Historical	4.08	4.19
2011	2011 YTD and NYMEX Futures[2]	4.28	4.38
2012	NYMEX Futures[2]	4.72	4.96
2013	NYMEX Futures[2]	4.91	5.28
2014	NYMEX Futures[2]	5.01	5.54
2015	NYMEX Futures[2]	5.11	5.78
Average 2012 – 2015		**4.94**	**5.39**

[1] 2011 YTD is through April, 2011.
[2] Traded over the period November 2010 to April 2011.
Source: Bloomberg

Q. ARE THERE OTHER STUDIES INDICATING POTENTIAL FOR PRICE INCREASES DUE TO ENVIRONMENTAL REGULATIONS?

A. Yes. A recent NERC study of environmental regulations concluded:

> Based on the assessment's assumptions, the greatest risk to Planning Reserve Margins occurs in 2015 for the Combined EPA Regulation Scenario. The overall total impact could make 46-76 GW of existing capacity "economically vulnerable" for retirement or derating by 2015. Additionally, the scenario cases assessed in this report indicate capacity reductions evident as early as 2013, resulting from the retirements of coal-fired plants and derate effects associated with plant retrofits. Impacts to Planning Reserve Margins can occur during the next four to eight years that could reduce bulk power system reliability, unless additional resources are constructed or acquired. It is essential that projected Conceptual supply resources be developed as one source of capacity replacement.
>
> The results of this assessment show a significant impact to reliability should the four potential EPA rules be implemented as assumed in this assessment. Impacts to both bulk power system planning and operations may cause serious concerns unless prompt

industry action is taken. Planning Reserve Margins appear to be significantly impacted, deteriorating resource adequacy in a majority of the NERC Regions/sub-regions. Additionally, considerable operational challenges will exist in managing, coordinating, and scheduling an industry-wide environmental control retrofit effort. [18]

V.4 POST-2015 PRICE FORECASTS

Q. WHY IS A MODELING-BASED PRICE FORECAST NEEDED?

A. A forecast is needed because ICE and PJM forwards are not available after 2015.

Q. WHAT ZONE ARE YOU MODELING?

A. I am modeling the Duke Energy Ohio hub prices in Ohio (*i.e.,* the former CG&E territory). I also provide to Duke Energy Ohio an AD hub price for use in determining energy margins for Duke Energy Ohio power plants. Unless otherwise noted, I am referring to the Duke Energy Ohio hub prices.

Q. WHAT IS YOUR FORECAST OF WHOLESALE ELECTRICAL ENERGY PRICES FOR YEARS AFTER 2015?

A. My forecast indicates that wholesale electrical energy prices will continue to rise after 2015. Between 2015 and 2021, all-hours electrical energy prices increase from $48.8/MWh to $[redacted]/MWh in nominal dollars (see Exhibits P and Q). Between 2015 and 2021, the wholesale electrical energy prices rise by an additional [redacted] percent on top of the increases to 2015 discussed earlier. The cumulative all-hours 2012 to 2021 electrical energy price increase is [redacted] percent in nominal dollars.

[18] NERC North American Electric Reliability Corporation, 2010 Special Reliability Scenario Assessment: Resource Adequacy Impacts of Potential U.S. Environmental Regulations, pages 41-42, October 2010.

EXHIBIT P
Base Case – Wholesale All-Hours Electrical Energy Prices – 2012 to 2021[3]
(Nominal $/MWh)

Year[2]	Source	All Hours	On-Peak[1]	Off-Peak
2012	ICE Forward	38.5	44.7	33.0
2013	ICE Forward	41.2	47.4	35.6
2014	ICE Forward	44.5	50.6	38.9
2015	ICE Forward	48.8	53.7	44.3
2016	ICF Forecast	[redacted]	[redacted]	[redacted]
2017	ICF Forecast	[redacted]	[redacted]	[redacted]
2018	ICF Forecast	[redacted]	[redacted]	[redacted]
2019	ICF Forecast	[redacted]	[redacted]	[redacted]
2020	ICF Forecast	[redacted]	[redacted]	[redacted]
2021	ICF Forecast	[redacted]	[redacted]	[redacted]
Average 2012 - 2015	NA	**43.2**	**49.1**	**37.9**
Average 2016 - 2021	NA	[redacted]	[redacted]	[redacted]
Average 2012 - 2021	NA	[redacted]	[redacted]	[redacted]

[1] On peak defined as 5 x 16
[2]Simple averages of all transactions from November 2010 through April 2011 for delivery in 2012 to 2015.
[3] ICE forwards for AD Hub. ICF forecast for the Duke Energy Ohio zone.

EXHIBIT Q
Wholesale All-Hours Energy Prices – 1997 to 2021[1]

CONFIDENTIAL EXHIBIT HAS BEEN REDACTED

[1] Historical Cinergy Hub. ICE forwards for AD Hub.

Q. WHAT ARE YOUR ELECTRICAL ENERGY PRICE FORECASTS IN REAL 2010$?

A. Electrical energy prices for all hours supply to Duke Energy Ohio increase from forward levels reaching $43.1/MWh in 2015 (in real 2010$), which is an increase of approximately $8/MWh over 2012. By 2021, prices are approximately $[redacted]/MWh in real 2010 dollars (see Exhibit R). Thus, the cumulative increase in real dollars from 2012 to 2021 is nearly [redacted] percent.

EXHIBIT R
Real Electrical Energy Prices – 2010$/MWh

Period	Source	Year	All-Hours Energy Price (2010$/MWh)	On-Peak Energy Price (2010$/MWh)	Off-Peak Energy Price (2010$/MWh)
Historical	Historical	2007	48.0	62.4	34.8
	Historical	2008	51.7	67.0	37.7
	Historical	2009	29.8	35.3	24.7
	Historical	2010	34.8	41.9	28.3
	Historical	**2007-2010 Average**	**41.1**	**51.7**	**31.4**
Forecast	ICE Forward	2011	35.5	41.1	30.3
	ICE Forward	2012	36.7	42.5	31.4
	ICE Forward	2013	38.3	44.0	33.1
	ICE Forward	2014	40.3	45.8	35.2
	ICF Forward	2015	43.1	47.4	39.2
	ICF Forecast	2016	[redacted]	[redacted]	[redacted]
	ICF Forecast	2017	[redacted]	[redacted]	[redacted]
	ICF Forecast	2018	[redacted]	[redacted]	[redacted]
	ICF Forecast	2019	[redacted]	[redacted]	[redacted]
	ICF Forecast	2020	[redacted]	[redacted]	[redacted]
	ICF Forecast	2021	[redacted]	[redacted]	[redacted]
	Average	**2012 – 2021**	[redacted]	[redacted]	[redacted]
	Average	**2012 – 2015**	**39.6**	**44.9**	**34.7**
	Average	**2016 – 2021**	[redacted]	[redacted]	[redacted]

Peak Definition: 5x16 Peak Hours, 5x8 + 2x24 Off-Peak Hours
Historical Power Price: Cinergy Hub. Forward AD Hub

Q. WHY ARE ELECTRICAL ENERGY PRICES RISING?

A. There are several reasons for the increase in electrical energy after 2015. First, prices continue to increase after 2015 due to HAPS and other non-CO_2 environmental regulations, which start in 2015. Environmental controls result in significant coal retirements in this period and higher operating costs for existing coal units (*e.g.*, high variable costs for using Dry Sorbent Injection). A large amount of coal capacity is projected to retire across the U.S. by 2020. The coal retirements and higher operating costs result in an increase in electrical energy

prices relative to 2010 prices. Second, the coal retirements increase the use of natural gas and natural gas power plants, raising electrical energy prices after 2015. Third, growing electricity demand increases reliance on natural gas plants as the marginal price setting units. Fourth, there is a large price increase starting in 2018 because, in 2018 and thereafter, there is a $/ton CO_2 adder that, for existing fossil power plants, further increases the costs of generating power. In the case of coal power plants, costs are increased by approximately $[redacted]/MWh in real dollars.

Q. WHAT IS THE SYSTEM IMPLIED HEAT RATE?

A. The "system implied heat rate" is the ratio of power prices to natural gas prices. It is a convenient rule of thumb for describing power prices in relation to natural gas prices, and is not used in the modeling.

Q. WHAT DO YOU PROJECT FOR THIS METRIC?

A. We project a surge in all-hours electrical energy prices separate from the impact of natural gas price increases and, hence, rising system implied heat rates (see Exhibit S). Between 2015 and 2018, prices rise due to environmental regulations, including CO_2 control and federal HAPs and their associated costs. Note, 2016 could be the first year with HAPs regulations fully in effect.[19] The assumed national CO_2 price in 2018, in real 2010 dollars, is $[redacted]/ton, which translates to roughly [redacted]/MWh and [redacted]/MWh impact on power prices when coal and natural gas combined cycle units are on the margin, respectively. This calculation

[19] HAPs regulations are expected to be finalized in November 2011. Compliance would be required by November 2014 unless a one year extension is given, which would delay the effect to November 2015. If this happens, the impact of HAPs is really only felt beginning in 2016.

assumes heat rates of 10,000 Btu/kWh and 7,000 Btu/kWh for coal and combined cycle, respectively. Equivalently, at the [redacted]/MMBtu natural gas price impact, this translates to a market implied heat rate increase of approximately [redacted] Btu/kWh and [redacted] Btu/kWh for hours in which coal and natural gas combined cycles are on the margin, respectively.

EXHIBIT S
Duke Energy Ohio Zonal Implied Heat Rate Projections

Period		Year	ICF Base Case		
			All-Hours IHR (Btu/kWh)	**On-Peak IHR (Btu/kWh)**	**Off-Peak IHR (Btu/kWh)**
Historical[1]		2007	6,498	8,446	4,713
		2008	5,609	7,271	4,090
		2009	7,096	8,428	5,879
		2010	7,504	9,035	6,111
		2007-2010 Average	**6,677**	**8,295**	**5,198**
Forecast	ICE[2]	2011	7,832	9,079	6,699
		2012	7,378	8,552	6,311
		2013	7,411	8,521	6,401
		2014	7,623	8,675	6,666
		2015	7,996	8,800	7,265
	ICF[3]	2016	[redacted]	[redacted]	[redacted]
		2017	[redacted]	[redacted]	[redacted]
		2018	[redacted]	[redacted]	[redacted]
		2019	[redacted]	[redacted]	[redacted]
		2020	[redacted]	[redacted]	[redacted]
		2021	[redacted]	[redacted]	[redacted]
		2012 – 2015 Average	**7,602**	**8,637**	**6,661**
		2016 – 2021 Average	[redacted]	[redacted]	[redacted]
		2012-2021 Average	[redacted]	[redacted]	[redacted]

[1] Historical IHRs are calculating using Cinergy Hub power prices and DEO delivered gas prices. Source: Midwest ISO and Bloomberg.
[2] ICE Forecast IHRs are calculated using ICE AD Hub forward prices for 2011-2015 traded from November 2010 to April 2011. Gas prices are DEO delivered prices. Source: ICE and Bloomberg.
[3] ICF Forecast IHRs are calculated using DEO Zonal projected power prices and DEO delivered gas prices. Source: ICF International.

Q. WHAT ARE YOUR CAPACITY PRICE FORECASTS?

A. As noted, PJM capacity prices for January 1, 2010, to May 31, 2015, reflect actual auction results (blending auction year results into calendar year results) for the

PJM RTO sub-region. The capacity price variation across PJM sub-regions reflects the auction cleared prices for their respective Local Delivery Areas (LDAs). Projected PJM capacity price for 2015 to 2021 reflect a transition from auction pricing to our fundamentals-based projection on June 1, 2015. Demand growth and significant retirements of smaller, older, coal units, resulting from environment regulations offset, increases in demand-side management and energy efficiency. Starting on June 1, 2015, prices reflect ICF's projection of equilibrium in parts of PJM and the need for new capacity. It should be noted that the 2015 annual price is similar to the level of prices in the most recent PJM auction for June 1, 2014, to May 31, 2015, PJM zones because the forecast is very similar to the auction announced May 13, 2011.

Q. WHY ARE CAPACITY PRICES INCREASING?

A. They are increasing primarily due to the need to add new capacity, combined with the high capital costs of new capacity. This is, in turn, due to growing electricity demand and retirement of coal power plants. Prices are also rising due to general inflation (see Exhibit T).

EXHIBIT T
PJM RPM RTO Capacity Prices – 2009 to 2021

Delivery Period[1]	Source	Price (Nominal $/kW-yr)
2009-2010	RPM	37.2
2010-2011	RPM	63.6
2011-2012	RPM	40.2
2012-2013	RPM	6.0
2013-2014	RPM	10.1
2014 – 2015	RPM	46.0
2015[1]	ICF Forecast	[redacted]
2016	ICF Forecast	[redacted]
2017	ICF Forecast	[redacted]
2018	ICF Forecast	[redacted]
2019	ICF Forecast	[redacted]
2020	ICF Forecast	[redacted]
2021	ICF Forecast	[redacted]
Average 2012 – 2015		**25.6**
Average 2016 – 2021		[redacted]

[1] Based on summer delivery. UCAP price based on EFORd of 6.25 percent.
Source: PJM and ICF

Q. WHAT IS YOUR FORECAST FOR AD PJM HUB PRICES?

A. In 2016 – 2021, all-hours AD PJM Hub prices are $0.2/MWh (in 2010$) above the average Duke Energy Ohio price.

V.5 FORECASTING APPROACH

Q. HOW WAS YOUR POST-2015 FORECAST DEVELOPED?

A. I used the ICF proprietary IPM® Model to develop wholesale power market prices. This model is a widely used and accepted forecasting model based on supply and demand fundamentals. The model is used by the U.S. Environmental Protection Agency and is used extensively in private sector assignments. IPM® captures a detailed representation of all electric boilers and generators in the North America power markets. The model uses a linear optimization to simultaneously solve for all years power plant dispatch and fuel use, capacity

expansion, environmental retrofitting, modernization/re-powering, inter-regional transmission, electric energy and capacity prices, fuel prices, and emissions costs. The model captures the performance characteristics and limitations of conventional and unconventional generation technologies, including gas and steam turbines, combined cycle, co-generation, nuclear, hydro, wind, solar, and other renewables. Energy efficiency and demand side management programs are evaluated in an integrated framework with other resource options. IPM® is also a dynamic model that optimizes capacity decisions over the entire planning period simultaneously.

Q. WHAT ARE THE BASIC ASSUMPTIONS UNDERLYING THE POST 2015 FORECAST OF WHOLESALE POWER PRICES?

A. The forecast reflects the following assumptions:

- The wholesale power market is competitive and efficient;
- Wholesale power prices reflect the marginal costs of supply;
- Supply decisions including entry and exit and dispatch will reflect the set of decisions that minimizes the discounted costs of meeting demand subject to need to meet demand over the 2016 to 2021 planning horizon; and
- There is no shortage of supply once excess supply is eliminated by demand growth and retirements.

Q. WHAT ARE THE KEY INPUT PARAMETERS IN YOUR MARKET PRICE FORECAST?

A. The key assumptions[20] include:

- **Natural Gas Prices** – Natural gas prices are an important determinant of on-peak wholesale power prices in the Duke Energy Ohio market and will be increasingly important over time as a large portion of new capacity is natural gas-fired. However, in other hours, coal generation sets prices, particularly off-peak in Duke Energy Ohio zone. Exhibit U presents ICF's natural gas price forecast in real and nominal dollar terms. Natural gas prices over the last 12 months were $4.1/MMBtu (May 2010 through April 2011). Natural gas prices will rise in real terms by [redacted] percent per year in the 2015 to 2021 period, as measured at Henry Hub, or from $4.1/MMBtu over the last 12 months to $[redacted]/MMBtu in the 2015 to 2021 period. Our approach to natural gas pricing reflects our view of the fundamentals of the market; specifically, natural gas prices are projected using ICF's Gas Market Model (GMM). GMM is a full supply/demand equilibrium model of the North American natural gas market. Our forecast is that the recent trend of low natural gas prices will continue. Our forecast for Henry Hub natural gas prices never exceeds [redacted]/MMBtu in 2010 dollars over the 2015 to 2021 period. In contrast, historically between 2000 and 2009 Henry Hub natural gas price had in one year exceeded $9/MMBtu in 2010 dollars (in 2005 in real 2010 dollars). Indeed, the lowest Henry Hub price in the 2005 to 2008 period in real 2010 dollars was $7.20/MMBtu. Our view is that abundant natural gas

[20] Based on ICF assumptions as of May 2011.

supplies, particularly from the development of shale gas, will continue to depress natural gas prices in the long term relative to average prices over the 2000 to 2010 period. If natural gas prices are higher than the ICF forecast, our power price forecast will be higher.

EXHIBIT U
Henry Hub Natural Gas Prices ($/MMBtu)

Year	Source	Real 2010$	Nominal $
2005	Historical	9.81	8.87
2006	Historical	7.20	6.72
2007	Historical	7.22	6.94
2008	Historical	9.00	8.84
2009	Historical	3.96	3.92
2010	Historical	4.37	4.37
2011 YTD[1]	Historical	4.08	4.19
2011	Average of Historical and NYMEX Futures[1,2]	4.28	4.38
2012	NYMEX Futures[2]	4.72	4.96
2013	NYMEX Futures[2]	4.91	5.28
2014	NYMEX Futures[2]	5.01	5.54
2015	NYMEX Futures[2]	5.11	5.78
2016	Average of NYMEX Futures[1] and ICF Forecast	[redacted]	[redacted]
2017	ICF Forecast	[redacted]	[redacted]
2018	ICF Forecast	[redacted]	[redacted]
2019	ICF Forecast	[redacted]	[redacted]
2020	ICF Forecast	[redacted]	[redacted]
2021	ICF Forecast	[redacted]	[redacted]
Average 2012 – 2021	ICF Forecast	[redacted]	[redacted]

[1] 2011 YTD is through April, 2011.
[2] Traded over the period November 2010 to April 2011.
Source: Bloomberg

- **Peak and Energy Demand** – Projected peak and energy demand for PJM and Duke Energy Ohio for the 2011 - 2021 period are based on PJM's 2011 forecast. Of the two, the PJM growth rate is more important for

determining prices. PJM peak and energy are forecasted to grow at 1.9 percent per year in the near-term from 2011-2015. Electricity demand at peak will reflect average weather conditions and, in PJM for 2012 through 2021, will grow 0.9 percent per year from 2011 levels on a weather normalized basis. This compares with the average growth rate between 2000 and 2007 (the last year before the last recession) at a 1.4 percent per year rate. Duke Energy Ohio's growth is similar to PJM in the short-term, growing at about 1.9 percent from 2011-2015. Growth rates are before accounting for DSM levels.

- **Demand Resource** – In PJM, Demand Resource is forecast to reach but not exceed 11.4 percent of the planning reserves of PJM. The PJM planning reserve margin is assumed to be 15.5 percent.
- **Environmental Regulations** – The forecast assumes that there will be federal CO_2 controls starting on January 1, 2018. The assumed program is a $/ton CO_2 program implemented via regulations or other method. No such program currently exists and, if one is not implemented, wholesale power prices will be lower than forecast. The forecast also assumes that there will be command and control HAPS regulations by 2015 such that all U.S. coal-fired power plants are required to have SO_2 scrubbers, activated carbon injection, and/or fabric filters with Dry Sorbent Injection (DSI). As will be discussed, the assumption of CO_2 and HAPS regulations has important implications for natural gas prices and for the costs of fossil-

fuel generation in general. Future regulations governing SO_2, NO_x, coal ash and water cooling also become more stringent.

- **Capital Costs for New Builds** – New combined cycle plants are assumed to be available in 2015, approximately at [redacted]/kW (2010$) in the Duke Energy Ohio region. In the forecast, the construction of new power plants does not have to be in the Duke Energy Ohio region, but in locations that allow PJM to meet its reliability targets. New simple-cycle units are assumed to have capital investment costs that are [redacted] percent lower relative to combined cycles, depending upon the region and year of build. New power plant costs vary by region as a function of variation in underlying labor and material costs, ambient conditions, local environmental regulations (to the extent applicable), etc.
- **Delivered Coal Prices** – Delivered coal prices are projected to decrease [redacted] percent per year in real terms between 2014 and 2017; this metric is measured at the Duke Energy Ohio plants.

VI. RETAIL MARKET PRICE PROJECTION

VI.1 INTRODUCTION

Q. HOW IS THIS SECTION ORGANIZED?

A. The first subsection introduces the retail pricing discussion. The second subsection summarizes the retail price forecasts. The third subsection describes the forecasts by customer class. The fourth subsection discusses the price forecasting approach. The fifth subsection discusses the components of the retail price.

Q. HOW ARE RETAIL PRICES RELEVANT TO YOUR TESTIMONY?

A. They are relevant in two respects. First, retail market prices are used in determining the SSO prices under the MRO. In the first five MRO periods, the MRO price is a blend of the retail market price and the price under a continuation of the legacy ESP. By the end of the fifth period, the prices under the MRO equal the retail market prices. Second, the retail market price for electrical energy is a component of the price under the proposed ESP. Under the proposed ESP, the retail market price for electrical energy requirements is added to the non-bypassable net capacity charge to obtain the total SSO generation service price.

VI.2 SUMMARY OF RETAIL PRICE FORECASTS

Q. ARE RETAIL PRICES READILY OBSERVABLE IN A MANNER SIMILAR TO FORWARD WHOLESALE PRICES?

A. No. ICE does not provide retail prices. There is no multi-year time series of historical retail prices that is available. Hence, I do not compare my retail price forecasts to historical retail prices.

Q. WHAT ARE THE RETAIL MARKET PRICES ESTIMATED FOR USE IN DETERMINING PRICES UNDER THE MRO?

A. The estimated nominal retail market prices are shown below for 2012 – 2021, and average [redacted] ¢/kWh (see Exhibit V). In 2012, the average retail market price is 6.14 ¢/kWh. By 2015, retail prices are 47 percent higher than 2012 at 9.04 ¢/kWh. The retail market prices increase primarily because of increasing wholesale electrical energy and capacity prices. In comparison, wholesale electrical energy and capacity prices in nominal dollars are 27 and 535 percent

higher in 2015 versus 2012, respectively. In 2021, retail prices are higher than 2015 levels by [redacted] percent because the forward wholesale electrical energy and capacity prices are again higher than the 2015 level. 2012 to 2021 retail prices increase [redacted] percent. In comparison, the 2012 to 2021 increase in wholesale all-hours nominal electrical energy and the capacity component of retail prices are [redacted] and [redacted] percent, respectively.

EXHIBIT V
Retail Market Price – Weighted Average of All Consumer Classes Based on AD Hub Price Curve (Nominal¢/kWh)[1]

Year	Price	Cumulative Change From 2012 (%)
2012	6.14	N/A
2013	6.63	8%
2014	7.87	28%
2015	9.04	47%
2016	[redacted]	[redacted]
2017	[redacted]	[redacted]
2018	[redacted]	[redacted]
2019	[redacted]	[redacted]
2020	[redacted]	[redacted]
2021	[redacted]	[redacted]
Average 2012-2016	[redacted]	N/A
Average[2] 2012-2021	[redacted]	N/A

[1] Assumes no switching.
[2] Simple average.

Q. WHAT ARE THE RETAIL ELECTRIC ENERGY PRICES USED TO ESTIMATE PRICES UNDER THE PROPOSED ESP?

A. The prices for retail electric requirements service are shown in Exhibit V-1. On average, these prices are [redacted] percent lower than retail market prices. This is because the product is energy only; capacity is not required to be offered at this price. Rather, capacity is the responsibility of Duke Energy Ohio. Note, unless

otherwise noted, retail prices shown in the rest of this section are for both energy and capacity, and are referred to as retail market prices.

EXHIBIT V-1
Retail Electric Prices to Estimate SSO Prices Under Proposed ESP (nominal ¢/kWh)

Year	Retail Electric Energy Service
2012	5.91
2013	6.38
2014	6.94
2015	7.59
2016	[redacted]
2017	[redacted]
2018	[redacted]
2019	[redacted]
2020	[redacted]
2021	[redacted]
Average 2012 – 2016	[redacted]
Average 2012 – 2021	[redacted]

VI.3 RETAIL MARKET PRICES BY CLASS

Q. DOES THE FORECAST OF RETAIL PRICES VARY BY CUSTOMER CLASS?

A. Yes. Prices shown above were kWh weighted averages of the various customer classes. Exhibit W shows retail prices for the following customer classes: RS, which is residential, TS, which is industrial load at high voltage, and DM, DP, and DS, which are various commercial and larger customer rate classes (see Exhibit W).

EXHIBIT W

Retail Market Prices by Customer Class – 2012 – 2021 (Nominal ¢/kWh)

Customer Class	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average 2012 - 2016	Average 2012 - 2021
RS	6.35	6.87	8.30	9.64	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DM	6.36	6.87	8.21	9.46	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DP	5.83	6.29	7.35	8.38	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DS	6.25	6.75	7.96	9.10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
TS	5.63	6.09	7.05	8.02	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
kWh Weighted Average	**6.14**	**6.63**	**7.87**	**9.04**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Q. WHAT IS THE FORECAST FOR RESIDENTIAL CUSTOMERS?

A. The forecast for residential customers of retail prices for generation service is approximately 6.35 ¢/kWh or $63.5/MWh in 2012. The residential price is modestly (+3%) above the weighted average and close to all the other classes except TS customers, which are 8 percent lower than the average; RS is 13 percent above TS.

Q. WHAT ARE THE IMPLICATIONS OF THE DIFFERENCES BETWEEN CLASSES?

A. There is some potential for auction prices for non-switching SSO load to be closer to the RS level than the average. While the difference is small, classes with a significantly below average cost might be more likely to switch.

Q. ARE THERE PUBLIC RETAIL PRICES IN THE DUKE ENERGY OHIO SERVICE TERRITORY THAT ARE AVAILABLE TO COMPARE?

A. Currently, both Dominion Energy and FirstEnergy Solutions offer Duke Energy residential customers a fixed retail price of 5.99 ¢/kWh through December 2011 and December 2012, respectively. But the Dominion offer is only available to the first 15,000 residential customers who enroll. AEP Retail Energy offers Duke Energy customers a retail price of 5.89¢/kWh through the December 2011 billing cycle. In addition, Direct Energy also offers Duke Energy residential customers a fixed price of 7.8¢/kWh for 12 billing cycles from enrollment. This information is available from the Commission's website. The average of these three offers is 6.6¢/kWh. In comparison, the 2012 forecast for Duke Energy Ohio residential

customers is 6.35¢/kWh. I conclude that the forecast prices contained herein appear roughly comparable.

VI.4 RETAIL PRICE FORECASTING APPROACH

Q. HOW IS THE RETAIL PRICE FORECAST DEVELOPED?

A. Generally, the retail price forecast reflects costs of retail service; most notably the costs of wholesale power purchases. Thus, the retail forecast assumes that the primary driver of retail prices is the cost of that service.

Q. MORE SPECIFICALLY, HOW IS THE RETAIL FORECAST DEVELOPED?

A. As noted, the forecast of retail market prices is based on assessing the costs of retail service for each consumer. Specifically, this cost-based assessment is based principally on three inputs:

- **Wholesale Prices** – The starting point is forward or forecast wholesale power prices for the wholesale products that would need to be purchased in the marketplace at the time the service provider is arranging for a service offering. The most important product that would be purchased is on-peak and off-peak power supply by month, which can be thought of as resulting in the need for 24 wholesale product prices per year (12x2). For example, 50 MW or 100 MW blocks for January 2009 on-peak would be expected to be purchased. This is because these products are the most observable and liquidly traded forward products in the wholesale power markets. Also, capacity will need to be procured in the PJM RPM market. The forward power purchases allow providers to manage the risks of

meeting the requirements of customers. At the time of contracting to supply power, retail CRES providers offset the forward power sale to customers (the short) with a forward power purchase (the long), and hence, limit the risks of providing retail service to a manageable level.

- **Consumer Load Shapes** – The second key input is the consumer's load shape, which is an estimate of the expected consumer demands in kWh or MWh over time. The "flatter" the load shape, the lower the average cost and vice versa. This is because the share of lower priced off-peak power is higher. This explains in large part why industrial customers have lower costs of supply: their load shapes are the flattest. While this is a critical parameter, the retail provider is also responsible for unexpected variances in load, *i.e.,* the provider is providing full firm requirements service. Thus, other customer data is also used as discussed below.
- **Formulas/Model for Tailoring Price to Consumer** – A third set of inputs are formulas/models used to create a retail price based on wholesale market prices and customer load shapes. These formulas account for load uncertainty, including the potential for unexpected customer demand to occur when wholesale prices are high, and the other costs of serving retail load.

Q. HAS A SIMILAR RETAIL PRICE FORECASTING APPROACH BEEN PREVIOUSLY PRESENTED TO THE COMMISSION?

A. Yes, the approach has been presented to the Commission several times. It has been used to forecast retail prices based on wholesale forward prices and as an alternative to Duke Energy Ohio's Rate Stabilization Plan (RSP).

Q. PLEASE PROVIDE ADDITIONAL DETAIL ON THE COMPONENTS OF THE RETAIL PRICE PROJECTION.

A. The components of the retail price projection include:

- **Market Index of Energy Prices** – The first and largest component of the retail price is the Energy Price also referred to as the Market Index. This is the weighted average purchase price of wholesale electrical energy for monthly on-peak and off-peak expected MWh sales volumes.
- **Covariance Adjustment** – This factor accounts for the covariance between customer load variation and electric energy price variation. Loads that move with the electric energy price – *i.e.,* are correlated with the price – have high covariances and vice versa. For example, a load that increases during summer peaks when prices are the highest has a high covariance and vice versa. This covariance increases costs of service above what would be indicated by expected average prices and demands. Put another way, covariance creates risks of costs exceeding revenues for a period, in spite of hedging. For example, if, during periods in which customer demand is higher than expected (*e.g.,* extreme weather), electric energy prices are also higher, there are additional costs for the supply that must be procured. Therefore, procurement needs to be designed to reliably provide sufficient coverage for the potential of unexpectedly high

prices during the summer peak coinciding with unexpectedly high customer demand. In the highly simplified example shown in Exhibit X, the retail supplier purchases power in advance of the summer, based on an assumption of a normal summer, at costs equal to $100. During the half the summers when it is hotter than average, the retail suppliers incur an extra $20 in cost as demand is 2 MWh higher and prices have doubled. In the other half of the summers, when it is cooler than average, they earn $10 from sales of extra supply; they sell 2 MWh less at depressed prices. On average, costs are $15/MWh above the level based on expected sales and prices.

EXHIBIT X
Simplified Example of How Covariance Affects the Costs of Managing Load Variation

Procurement Situation	Quantity (MWh)	Electric Energy Price ($/MWh)	Net Cost of Purchases ($)
Hot Summer Supplemental Purchases	+2	20	140 (+40)
Expected Summer – Forward Purchase in Advance Based on Expected Conditions	10	10	100
Cool Summer – Sale of Excess Supply	-2	5	90 (-10)

- **Capacity Price** – The supplier must obtain capacity equal to the load's expected peak times one plus the reserve margin.
- **Ask-Adder** – The ask-adder can be thought of as a broker's fee. This is based on Duke Energy Ohio's experience that it pays more than the index

price of electric energy when it is a purchaser, and receives less when it is a seller. This factor increases electric energy costs.

- **Energy Losses and Adjustments** – This factor captures energy and demand losses in the transmission and distribution system. This is similar to traditional existing tariffs.
- **Supply Management Fee** – This fee includes the cost of scheduling, balancing, procurement and risk management, hourly adjustment, load following, natural consumer migration (in and out), managing odd lots and floats between billing cycles, and is initially proposed at 6 percent of electric energy cost.
- **Operating Risk Adjustment** – This adjustment creates margin to, in part, cover potential commodity-related risks, including: (1) booking and settlement; (2) modeling/forecasting methods; (3) contracts and delivery; (4) security and personnel; (5) programming, faulty data, meter reading; (6) information systems and telecommunications; (7) legal, regulatory and political issues; (8) economic downturns; and (9) natural disasters. This does not include sales or general and administrative costs. This estimate was based on Value Line estimates of operating margin for 2002-2009 for all industries, which equaled 18.6%.

Q. WHAT ARE THE PARAMETERS FOR THESE COMPONENTS?

A. The parameters for estimating these components are summarized in Exhibit Y. The largest cost factor, as noted, is the energy price index. The second largest is

for operating risks. The third largest adjustment for most customers is the covariance adjustment, although, for some customers, this is small.

EXHIBIT Y
Selected Auction ESP Retail Rate Components

Components	Current
Market Index of Electricity Prices Energy Cost Adjustments – Ask Adder	2011 – 1% 2012 – 2% 2013 – 3% 2014 and Thereafter – 4%
Energy Cost Adjustments – Covariance Adjustment	Varies[1]
Supply Management Fee	6%
Margin/Operating Risk Adjustment[2]	18.6%
Energy Losses	6.8%

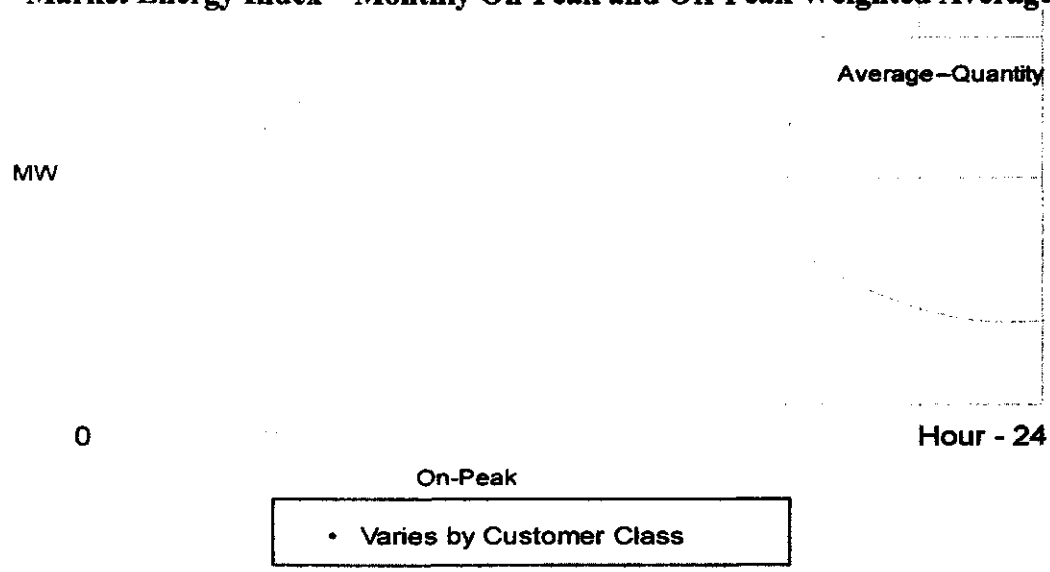
[1] Covariance adjustments are 9.8 percent for RS, 9.1 percent for DM, 8 percent to DS, 3.2 percent for DP, and 1.2 percent for TS based on the 50 percentile rate
[2] Operating Risk Adjustment is the 2002-2009 average of annual Average Operating Income over Sales/Revenue for all industries.
Source: Value Line Datafile

VI.5 RETAIL PRICE COMPONENTS

Q. WHAT IS THE ENERGY MARKET INDEX?

A. The energy market index is the customer electric energy price, weighted by its monthly usage of MWh of on-peak and off-peak power (see Exhibit Z). As noted, this is used to calculate the first cost component of retail market price. Because the load shape varies by customer, the relative quantities of monthly off- and on-peak varies. Thus, the energy market index varies across customers, even if all prices are the same.

EXHIBIT Z
Market Energy Index – Monthly On-Peak and Off-Peak Weighted Average



Q. HOW DO ENERGY INDEX AND RETAIL MARKET PRICE COMPARE TO THE ALL-HOURS WHOLESALE MARKET PRICE?

A. The index price is about 5 percent higher than the all-hours energy price for different classes and rises on average from approximately 4.04 ¢/kWh to [redacted] ¢/kWh between 2012 and 2021 (see Exhibit AA).

EXHIBIT AA
Index Price (¢/kWh)

Customer Class	2012		2013		2014		2015		2016		2017		2018		2019		2020		2021	
	Ratio of Index to The All-Hours Wholesale Price	Energy Index	Ratio of Index to The All-Hours Wholesale Price	Energy Index	Ratio of Index to The All-Hours Wholesale Price	Energy Index	Ratio of Index to The All-Hours Wholesale Price	Energy Index	Ratio of Index to The All-Hours Wholesale Price	Energy Index	Ratio of Index to The All-Hours Wholesale Price	Energy Index	Ratio of Index to The All-Hours Wholesale Price	Energy Index	Ratio of Index to The All-Hours Wholesale Price	Energy Index	Ratio of Index to The All-Hours Wholesale Price	Energy Index	Ratio of Index to The All-Hours Wholesale Price	Energy Index
RS	1.05	4.04	1.05	4.32	1.05	4.65	1.04	5.09	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DM	1.06	4.09	1.06	4.37	1.06	4.70	1.05	5.13	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DP	1.04	4.00	1.04	4.28	1.04	4.61	1.03	5.05	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DS	1.06	4.08	1.06	4.36	1.06	4.69	1.05	5.12	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
TS	1.03	3.96	1.03	4.24	1.03	4.57	1.03	5.01	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Simple Average	1.05	4.03	1.05	4.31	1.04	4.64	1.04	5.08	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Weighted Average	1.05	4.04	1.05	4.31	1.05	4.65	1.04	5.08	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Q. WHAT ARE THE LARGEST COMPONENTS OF THE RETAIL MARKET PRICE?

A. In 2012, in all cases, the largest component of the retail market price is by far the market index of electric energy prices. The second largest is the operating risk adjustment, which is still much smaller than the electric energy index. The third and the fourth largest are the energy loss and covariance adjustments (Exhibit BB). Over time, the capacity charge component grows from 0.16 ¢/kWh in 2012 to 1.04 ¢/kWh in 2015. By 2021, the capacity component is even higher at [redacted] ¢/kWh. This is a [redacted] percent increase.

EXHIBIT BB

Summary of Retail Price by Component Before Retail Capacity Rider – Weighted Average of all Consumer Classes – 2012-2021 (¢/kWh)

Component	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average 2012 - 2021
Market Index of Electrical Energy Prices[1]	4.04	4.31	4.65	5.08	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Covariance Adjustment	0.28	0.30	0.33	0.36	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Capacity	0.16	0.18	0.66	1.04	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ask Adder (2 to 4%)	0.09	0.14	0.23	0.26	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Energy Losses and Adjustments (6.8%)	0.31	0.34	0.40	0.46	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Supply Management Fee (6%)	0.29	0.32	0.38	0.43	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Operating Risk Adjustment (18.6%)	0.96	1.04	1.23	1.42	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Average Energy Charge, excluding Retail Capacity Rider	**6.14**	**6.63**	**7.87**	**9.04**	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[1] Includes 2.5 percent for ancillary services.

Q. WHAT IS THE PREMIUM BETWEEN THE RETAIL MARKET PRICE AND THE ELECTRIC ENERGY PRICE INDEX?

A. In the above example where prices are weighted by the volume of sales to five rate classes examined before switching, the retail price has, on average, a [redacted] percent premium above the electric energy price (see Exhibit CC). The premium increases over time primarily due to the increase in capacity prices.

EXHIBIT CC
Ratio of Retail Market Price to Wholesale Price Index

Customer Class	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average 2012-2021
RS	1.65	1.67	1.87	1.98	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DM	1.65	1.67	1.85	1.94	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DP	1.51	1.53	1.65	1.72	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DS	1.62	1.64	1.79	1.87	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
TS	1.46	1.48	1.59	1.64	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Simple Average	1.58	1.60	1.75	1.83	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Weighted Average	1.59	1.61	1.77	1.85	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Q. WHAT WAS THE RANGE OF THE COMPONENTS OF THE RETAIL PRICES ACROSS RATE CLASSES?

A. The components and the total retail prices can vary significantly across rate classes, reflecting different costs of service. The 2012 retail average price is 6.14 ¢/kWh. However, the price for TS customers, which take power at high voltages and have a relatively flat load profile, is 5.63 ¢/kWh in 2012, while a residential customer has a price of 6.35 ¢/kWh. This is because of the large variation among the customers with respect to demand characteristics such as load shape,

especially the ratio of peak in MW to sales in MWh, and covariance (see Exhibit DD).

EXHIBIT DD
Structure of the Retail Market Across Customer Classes Price – 2012

Component	RS	DM	DP	DS	TS	Weighted Average
Market Index of Electrical Energy Prices[1]	4.04	4.09	4.00	4.08	3.96	4.04
Covariance Adjustment	0.40	0.37	0.13	0.33	0.05	0.28
Capacity	0.21	0.19	0.12	0.16	0.11	0.16
Ask Adder – (2%)	0.09	0.09	0.09	0.09	0.08	0.09
Energy Losses and Adjustments (6.8%)	0.32	0.32	0.30	0.32	0.29	0.31
Supply Management Fee (6%)	0.30	0.30	0.28	0.30	0.27	0.29
Margin/Operating Risk Adjustment (18.6%)	0.99	1.00	0.91	0.98	0.88	0.96
Average Energy Charge – Weighted Average of all Consumer Classes	6.35	6.36	5.83	6.25	5.63	6.14

[1] Energy price is calculated based on average price of forwards for AD Hub between 11/2010 and 4/2011 for delivery in 2012.
Source: Forward wholesale power prices are from ICE.

Q. WHAT HAPPENS TO THE RETAIL MARKET PRICE WHEN THE WHOLESALE ELECTRIC ENERGY PRICE INDEX CHANGES?

A. The retail market price moves approximately proportionally to the wholesale price index. Thus, a ten percent increase in weighted average wholesale power prices increases the retail market price by approximately ten percent. This is important because wholesale power prices are volatile and, hence, the costs of CRES providers and, ultimately, of consumers will also be volatile.

VII. MRO PRICE PROJECTION

Q. HOW DO YOU CALCULATE MRO PRICES?

A. The first step in calculating prices under an MRO is to establish the transition period blending mechanism. The assumed blending percentages are shown in Exhibit EE.

EXHIBIT EE
MRO Blending Mechanism

Period	Market Share (%)	Legacy ESP Share (%)	Total (%)
2012	10	90	100
2013	20	80	100
2014	30	70	100
2015	40	60	100
2016	50	50	100
2017	100	0	100
2018	100	0	100
2019	100	0	100
2020	100	0	100
2021	100	0	100

The second step is to calculate the blended MRO price, which equals a weighted average of the prices under an extension of the legacy ESP and the retail market price.

Q. WHAT IS YOUR MRO PRICE PROJECTION FOR 2012 TO 2015?

A. In 2012, the MRO price is projected to be 7.74 ¢/kWh (see Exhibit FF). Thus, it is 2 percent lower than the legacy ESP price because the market price is low at 6.14 ¢/kWh, lowering the weighted average price. The effect is muted because the retail market price only has a ten percent weight in 2012. By 2015, the MRO price increases to 8.14 ¢/kWh, which is five percent above the 2012 MRO price. This increase is modest because the legacy ESP price is projected to decrease 5 percent from 2012 to 2015, and the legacy ESP price determines 60 percent of the

MRO price. Without the effect of the blending of the legacy ESP, the MRO increase would be much larger. This is because the retail market price is forecast to increase 47 percent from 2012 to 2015.

Q. WHAT IS YOUR MRO PRICE PROJECTION PAST 2015?

A. In 2016, the MRO price increases [redacted] percent versus 2015. This occurs because the legacy ESP price share continues to drop and retail prices continue to rise. After 2016, the MRO price equals the market price, and the market price increases without the moderating effect of the legacy or proposed ESP's capacity price treatment (see Exhibit FF). By 2021, the MRO price is [redacted] ¢/kWh or [redacted] percent higher than in 2015 and [redacted] percent higher than the 2012 MRO price.

EXHIBIT FF
MRO Option Pricing

Period	Legacy ESP PTC[1] (¢/kWh)	ESP Weight (%)	Retail Market Price[2] (¢/kWh)	Retail Market Price Weight (%)	MRO[3] (¢/kWh)
2012	7.92	90	6.14	10	7.74
2013	7.44	80	6.63	20	7.28
2014	7.62	70	7.87	30	7.70
2015	7.54	60	9.04	40	8.14
2016	7.49	50	[redacted]	50	[redacted]
2017	N/A	0	[redacted]	100	[redacted]
2018	N/A	0	[redacted]	100	[redacted]
2019	N/A	0	[redacted]	100	[redacted]
2010	N/A	0	[redacted]	100	[redacted]
2021	N/A	0	[redacted]	100	[redacted]
Average 2012-2016	**7.60**	N/A	[redacted]	N/A	[redacted]
Average 2012-2021	N/A	N/A	[redacted]	N/A	[redacted]

[1] Source: Duke Energy Ohio.
[2]Based on current forwards. ICE forwards transaction date from November 2010 through April 2011 for delivery in 2012, 2013, 2014 and 2015. AD PJM Hub price.
[3]MRO is the weighted average of legacy ESP and retail market price based on ESP and retail market weights shown in the table.
N/A = Not Applicable

VIII. COMPARISON OF MRO AND PROPOSED ESP

Q. WHAT DOES THE COMPARISON OF THE PROPOSED ESP AND THE MRO SHOW ON AVERAGE?

A. As shown in Exhibit GG-1, the price under the proposed ESP is lower on average by 8 percent than the price under the MRO over the 2012 to 2021 period or by 0.92 ¢/kWh.

EXHIBIT GG-1
Proposed ESP vs. MRO – Based on AD Hub Price Curve

Year	MRO (¢/kWh)	Proposed ESP[1] (¢/kWh)	Difference (¢/kWh) Proposed ESP – MRO
2012	7.74	7.98	+0.23
2013	7.28	7.74	+0.46
2014	7.70	8.40	+0.70
2015	8.14	8.93	+0.79
2016	[redacted]	[redacted]	[redacted]
2017			
2018			
2019			
2020			
2021			
Average 2012 – 2016	[redacted]	[redacted]	[redacted]
Average 2012 – 2021	[redacted]	[redacted]	**-0.92**

[1]Based on 76% of energy profit from energy sales being credited back to Duke Energy Ohio customers.

Q. IS THE PROPOSED ESP ALWAYS LOWER THAN THE MRO?

A. No, the proposed ESP is lower in 5 of the ten years than the MRO. However, in the other five years the proposed ESP is slightly higher – *i.e.*, the ESP price in 2012 to 2016 is slightly higher. For example, the proposed ESP is 3 percent or 0.23 ¢/kWh higher than the MRO in 2012. In these five years, on average, the

proposed ESP is [redacted] ¢/kWh or [redacted] percent higher than the MRO. In the 2017 to 2021 period, the proposed ESP is [redacted] percent or [redacted] ¢/kWh lower than the MRO, more than offsetting the effects of the earlier years on the overall average.

Q. WHAT HAPPENS IF THE 5 PERCENT OF NET MARGINS DEVOTED TO ECONOMIC DEVELOPMENT WERE TREATED THE SAME AS THE 76 PERCENT USED TO BENEFIT CUSTOMERS?

A. The proposed ESP price is lower by 1 percent on average for the 2012 to 2021 period. On average, the 2012 to 2021 proposed ESP price is [redacted] ¢/kWh, or 8.9 percent lower than the MRO. Also, the difference between the proposed ESP and the MRO in the first five years decreases on average from [redacted] ¢/kWh to [redacted] ¢/kWh (see Exhibit GG-2), and the difference is [redacted] percent, not [redacted] percent.

EXHIBIT GG-2
Proposed ESP vs. MRO – Based on AD Hub Price Curve

Year	MRO (¢/kWh)	Proposed ESP[1] (¢/kWh)	Difference (¢/kWh) Proposed ESP – MRO
2012	7.74	7.93	+0.19
2013	7.28	7.66	+0.38
2014	7.70	8.30	+0.61
2015	8.14	8.81	+0.67
2016	[redacted]	[redacted]	[redacted]
2017			
2018			
2019			
2020			
2021			
Average 2012 – 2016	[redacted]	[redacted]	[redacted]
Average 2012 – 2021	[redacted]	[redacted]	**-1.03**

[1] The additional 5 percent accounts for economic development; 4 percent for customers and 1 percent from the Company.

IX. SIGNIFICANTLY EXCESSIVE EARNINGS TEST (SEET)

Q. WHY IS THERE A SIGNIFICANTLY EXCESSIVE EARNINGS TEST (SEET)?

A. Per R.C. 4928.143(E), a prospective SEET is required because the proposed ESP extends beyond three years.

Q. HOW WILL IT BE CONDUCTED?

A. It is proposed to be conducted with the following provisions: Duke Energy Ohio's return on common equity will be computed using its prior-year publicly reported FERC Form 1 financial statements, including off-system sales, subject only to the specific adjustments described by Duke Energy Ohio witness Wathen.

Q. IS THERE A SUBSTANTIAL LIKELIHOOD THAT DUKE ENERGY OHIO'S EARNINGS WOULD BE SIGNIFICANTLY EXCESSIVE UNDER THE PROPOSED ESP?

A. No.

Q. WHY DO YOU HAVE THIS OPINION?

A. The Company's proposed ESP is based on revenue requirements for the Company's power plants, less 76 percent of the margins derived from those plants. Thus, the rate will be limited to the net revenue requirements plus 19 percent of margins.[21] The revenue requirements are a regulated construct with limited returns on invested capital. Therefore, the earnings from these do not create a substantial likelihood that Duke Energy Ohio will have significantly excessive earnings.

---

[21] The remaining 5 percent is being devoted to economic development.

X. CONCLUSIONS

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

A. The Duke Energy Ohio's proposed ESP would replace the current Duke Energy Ohio ESP starting in January 1, 2012. Under the proposal, the electrical energy portion of SSO service would be auctioned off. The price for electrical energy will account for the large majority of the total SSO power price and the proposed ESP will ensure a long-term and vibrant competitive market for this commodity. The capacity responsibility would be undertaken for all customers by Duke Energy Ohio. Duke Energy Ohio will charge customers for this capacity less 76 percent of margins earned by the plants. This proposed ESP will have the benefit of increasing the stability of SSO rates but will do so in a balanced manner that provides Duke Energy Ohio a reasonable expectation of revenues in exchange for the hedge being provided against volatile electrical energy and capacity prices.

The price under the proposed ESP is expected to be below the price under an MRO on average between 2012 and 2021. This conclusion is based on observable forwards and model forecasts. Over this period, the proposed ESP will be eight percent below the MRO price: [redacted] ¢/kWh for the proposed ESP price versus [redacted] ¢/kWh for the MRO price. In half the years, the MRO is above the proposed ESP; in the five years where the proposed ESP is higher, it is only modestly higher at [redacted] ¢/kWh or [redacted] percent higher than the MRO price. In comparison, in the second five years, the proposed ESP price is [redacted] ¢/kWh or [redacted] percent lower than the MRO price.

There is an added benefit to the proposed ESP: economic development funding equal to five percent of the net margins. Thus, for example, if natural gas prices increase raising power prices, there will be more economic development funding. If this benefit is treated the same as the 76 percent of net margins used to decrease rates, the price advantage of the proposed ESP over the MRO price between 2012 and 2021 increases by 1 percent. Also, the difference between the proposed ESP and MRO prices in the first five years is lower at [redacted] ¢/kWh, or [redacted] percent versus [redacted] ¢/kWh or [redacted] percent without addressing economic development. The legacy ESP was approved under similar circumstances; namely, the proposed ESP price was, on average, below the MRO price, but not in all years. In addition, the proposed ESP will have less volatility than the MRO. Therefore, I conclude that the proposed ESP pricing is superior in the aggregate to the MRO pricing.

I do not expect there to be significantly excessive earnings under the proposed ESP. Nevertheless, there is provision for applying such a test that is outlined in the testimony of Duke Energy Ohio witness Wathen. The expectation that earnings will not be significantly in excess is because the only significant factor that can add earnings to the return underlying the Company's Retail Capacity Rider is limited by the fact that the Company is proposing to retain only 19 percent of the net margins on sales from its Legacy Generation assets. Also, the revenue requirements charge for generation is a regulated concept, albeit with some built in lag, which necessarily limits earnings. Thus, the structure also greatly decreases the potential for significantly excessive earnings.

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

A. Yes.

JUDAH L. ROSE

EDUCATION

1982 M.P.P., John F. Kennedy School of Government, **Harvard University**

1979 S.B., Economics, **Massachusetts Institute of Technology**

EXPERIENCE

Judah L. Rose joined ICF in 1982 and currently serves as a Managing Director of ICF International. Mr. Rose has 30 years of experience in the energy industry. Mr. Rose's clients include electric utilities, financial institutions, law firms, government agencies, fuel companies, and IPPs. Mr. Rose is one of ICF's Distinguished Consultants, an honorary title given to three of ICF's 3,500 employees, and has served on the Board of Directors of ICF International as the Management Shareholder Representative.

Mr. Rose has supported the financing of tens of billion dollars of new and existing power plants and is a frequent counselor to the financial community.

Mr. Rose frequently provides expert testimony and litigation support. Mr. Rose has provided testimony in over 100 instances in scores of state, federal, international, and other legal proceedings.

Mr. Rose has also addressed approximately 100 major energy conferences, authored numerous articles published in Public Utilities Fortnightly, the Electricity Journal, Project Finance International, and written numerous company studies. Mr. Rose has also appeared in TV interviews.

Mr. Rose received a M.P.P. from the John F. Kennedy School of Government, Harvard University, and an S.B. in Economics from the Massachusetts Institute of Technology.

PRESS INTERVIEWS

TV: "The Most With Allison Stewart," MSNBC, "Blackouts in NY and St. Louis & ongoing
Energy Challenges in the Nation," July 25, 2006
CNBC Wake-Up Call, August 15, 2003

Wall Street Journal Report, July 25, 1999
Back to Business, CNBC, September 7, 1999

Journals: Electricity Journal
Energy Buyer Magazine
Public Utilities Fortnightly
Power Markets Week

Magazine: Business Week
Power Economics
Costco Connection

Newspapers: Denver Post
Rocky Mountain News
Financial Times Energy
LA Times
Arkansas Democratic Gazette
Galveston Daily News
The Times-Picayune
Pittsburgh Post-Gazette
Power Markets Week

Wires: Bridge News
Associated Press
Dow Jones Newswires

TESTIMONY

109. Direct Testimony, Manitoba Hydro Power Sales Contracting Strategy, U.S. Power Markets, Manitoba Hydro Drought Risks, Modeling, Forecasting and Planning, Selected Risk and Financial Issues, Governance, Trading and Risk Related Comments Before the Public Utilities Board of Manitoba, February 22, 2011.

108. Surrebuttal Testimony – Revenue Requirement of Judah Rose on Behalf of Dogwood Energy, LLC, In the Matter of the Application of KCP&L Greater Missouri Operations Company for Approval to Make Certain Changes to its Charges for Electric Service, Case No. ER-2010-0356, January 12, 2011.

107. Rebuttal Report Concerning Coal Price Forecast for the Harrison Generation Facility, Meyer, Unkovic and Scott, LLP, filed December 6, 2010.

106. Direct Testimony of Judah Rose on behalf of Duke Energy Ohio In the Matter of the Application of Duke Energy Ohio for Approval of a Market Rate Offer to Conduct a Competitive Bidding Process for Standard Service Offer Electric Generation Supply, Accounting Modifications, and Tariffs for Generation Service, Case No. 10-2586-EL-SSO, filed November 15, 2010.

105. Updated Forecast, Coal Price Report for the Harrison Generation Facility, Meyer, Unkovic and Scott, LLP, filed October 18, 2010.

104. Declaration of Judah Rose in re: Boston Generating LLC, et al., Chapter 11, Case No. 10-14419 (SCC) Jointly Administered, September 29, 2010.

103. Declaration of Judah Rose in re: Boston Generating LLC, et al., Chapter 11, Case No. 10-14419 (SCC) Jointly Administered, September 16, 2010.

102. Direct Testimony of Judah Rose on behalf of Plains and Eastern Clean Line LLC, in the Matter of the Application of Plains and Eastern Clean Line Oklahoma LLC to conduct Business as an Electric Utility in the State of Oklahoma, Cause No.PUD 201000075, July 16, 2010.

101. Direct Testimony of Judah Rose on behalf of Plains and Eastern Clean Line LLC, in the Matter of the Application of Plains and Eastern Clean Line LLC for a Certificate of Public Convenience and Necessity to Operate as an Electric Transmission Public Utility in the State of Arkansas, Docket No. 10-041-U, June 4, 2010.

100. Supplemental Testimony on Behalf of Entergy Arkansas, Inc., In the Matter of Entergy Arkansas, Inc., Request for a Declaratory Order Approving the Addition of the Environmental Controls Project at the White Bluff Steam Electric Station Near Redfield, Arkansas, Docket No. 09-024-U, July 6, 2009.

99. Rebuttal Testimony on Behalf of TransEnergie, Canada, Province of Quebec, District of Montreal, No.: R-3669-2008-Phase 2, FERC Order 890 and Transmission Planning, July 3, 2009.

98. Surrebuttal Testimony – Revenue Requirement of Judah Rose on Behalf of Dogwood Energy, LLC, before the Missouri Public Service Commission, In the Matter of the Application of KCP&L GMO, Inc. d/b/a KCP&L Greater Missouri Operations Company for Approval to Make Certain Changes to its Charges for Electric Service, Case No. ER-2009-0090, April 9, 2009.

97. Hawaii Structural Ironworkers Pension Trust Fund v. Calpine Corporation, Case No. 1-04-CV-021465, Assessment of Calpine's April 2002 Earnings Projections, March 25, 2009.

96. Coal Price Report for Harrison Coal Plant, Allegheny Energy Supply Company, LLS and Monongahela Power Company versus Wolf Run Mining Company, Anker Coal Group, etc., Civil Action. No. GD-06-30514, In the Court of Common Pleas, Allegheny County, Pennsylvania, February 6, 2009.

95. Supplemental Direct Testimony of Judah Rose, on behalf of Southwestern Electric Power Company, In the Matter of the Application of Southwestern Electric Power Company for Authority to Construct a Natural-Gas Fired Combined Cycle Intermediate Generating Facility in the State of Louisiana, Docket No. 06-120-U, December 9, 2008.

94. Rebuttal Testimony of Judah Rose on behalf of Kelson Transmission Company, LLC re: Application of Kelson Transmission Company, LLC For A Certificate of Convenience and Necessity For the Amended Proposed Canal To Deweyville 345 kV Transmission Line Within Chambers, Hardin, Jasper, Jefferson, Liberty, Newton, And Orange Counties, SOAH Docket No. 473-08-3341, PUCT Docket No. 34611, October 27, 2008.

93. Testimony of Judah Rose, on behalf of Redbud Energy, LP, in Support of Joint Stipulation and Settlement Agreement, In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Granting Pre-Approval of the Purchase of the Redbud Generating Facility and Authorizing a Recovery Rider, Cause No. PUD 200800086, September 3, 2008.

92. Direct Testimony of Judah L. Rose on behalf of Duke Energy Carolinas, In the Matter of Advance Notice by Duke Energy Carolinas, LLC, of its Intent to Grant Native Load Priority to the City of Orangeburg, South Carolina, and Petition of Duke Energy Carolinas, LLC and City of Orangeburg, South Carolina for Declaratory Ruling With Respect to Rate Treatment of Wholesale Sales of Electric Power at Native Load Priority, Docket No. E-7, SUB 858, August 15, 2008.

91. Affidavit filed on behalf of Public Service of New Mexico pertaining to the Fuel Costs of Southwest Public Service for Cost-of-Service and Market-Based Customers, August 11, 2008.

90. Direct Testimony of Judah L. Rose on behalf of Duke Energy Ohio, Inc., Before the Public Utilities Commission of Ohio, In the Matter of the Application of Duke Energy Ohio, Inc. for Approval of an Electric Security Plan, July 31, 2008.

89. Rebuttal Testimony, Judah L. Rose on Behalf of Duke Energy Carolinas, in re: Application of Duke Energy Carolinas, LLC for Approval of Save-A-Watt Approach, Energy Efficiency Rider and Portfolio of Energy Efficiency Programs, Docket No. E-7, Sub 831, July 21, 2008.

88. Updated Analysis of SWEPCO Capacity Expansion Options as Requested by Public Utility Commission of Texas, on behalf of SWEPCO, June 27, 2008.

87. Direct Testimony of Judah L. Rose on Behalf of Nevada Power/Sierra Pacific Electric Power Company, Docket No. 1, Public Utilities Commission of Nevada, Application of Nevada Power/Sierra Pacific for Certificate of Convenience and Necessity Authorization for a Gas-Fired Power Plant in Nevada, May 16, 2008.

86. Rebuttal Testimony of Judah L. Rose on Behalf of the Advanced Power, Commonwealth of Massachusetts, Before the Energy Facilities Siting Board,

Petition of Brockton Power Company, LLC, EFSB 07-7, D.P.U. 07-58 & 07-59, May 16, 2008.

85. Supplemental Rebuttal Testimony on Commissioner's Issues of Judah L. Rose for Southwestern Electric Power Company, on behalf of Southwestern Electric Power Company, PUC Docket No. 33891, Public Utilities Commission of Texas, May 2008.

84. Supplemental Direct Testimony on Commissioners' Issues of Judah Rose for Southwestern Electric Power Company, for the Application of Southwestern Electric Power Company for Certificate of Convenience and Necessity Authorization for a Coal-Fired Power Plant in Arkansas, SOAH Docket No. 473-07-1929, PUC Docket No. 33891, Public Utility Commission of Texas, April 22, 2008.

83. Rebuttal Testimony of Judah Rose, In the Matter of the Application of Tucson Electric Power Company for the Establishment of Just and Reasonable Rates and Charges Designed to Realize A Reasonable Rate of Return on the Fair Value of Its Operations Throughout the State of Arizona, Estimation of Market Value of Fleet of Utility Coal Plants, April 1, 2008.

82. Rebuttal Report of Judah Rose, Ohio Power Company and AEP Power Marketing Inc. vs. Tractebel Energy Marketing, Inc. and Tractebel S.A. Case No. 03 CIV 6770, 03 CIV 6731 (S.D.N.Y.), January 28, 2008

81. Proposed New Gas-Fired Plant, on behalf of AEP SWEPCO, 2007

80. Rebuttal Report, Calpine Cash Flows, on behalf of Unsecured Creditor's Committee, November 21, 2007.

79. Expert Report. Calpine Cash Flows, on behalf of Unsecured Creditor's Committee, November 19, 2007.

78. Application of Duke Energy Carolina, LLC for Approval of Energy Efficiency Plan Including an Energy Efficiency Rider and Portfolio of Energy, Docket No. 2007-358-E, Public Service Commission of South Carolina, December 10, 2007.

77. Independent Transmission Cause No. PUD200700298, Application of ITC, Public Service of Oklahoma, December 7, 2007.

76. Verified Petition of Duke Energy Indiana, Inc. Requesting the Indiana Utility Regulatory Commission to Approve an Alternative Regulatory Plan Pursuant to Ind. Code §8-1-2.5-1, et. Seq. for the Offering of Energy Efficiency Conservation, Demand Response, and Demand-Side Management Programs and Associated Rate Treatment Including Incentives Pursuant to a Revised Standard Contract Rider No. 66 in Accordance With Ind. Code §§8-1-2.5-1 et seq. and 8-1-2-42(a);

Authority to Defer Program Costs Associated with its Energy Efficiency Portfolio of Programs; Authority to Implement New and Enhanced Energy Efficiency Programs, Including the PowerShare® Program in its Energy Efficiency Portfolio of Programs; and Approval of a Modification of the Fuel Adjustment Cause Earnings and Expense Tests, Indiana Utility Regulatory Commission, Cause No. 43374, October 19, 2007.

75. Rebuttal Testimony, Docket No. U-30192, Application of Entergy Louisiana, LLC For Approval to Repower the Little Gypsy Unit 3 Electric Generating Facility and for Authority to Commence Construction and for Certain Cost Protection and Cost Recovery, October 4, 2007

74. Direct Testimony of Judah Rose on Behalf of Tucson Electric Power Company, In the matter of the Application of Tucson Electric Power Company for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of Its Operations Throughout the State of Arizona, Estimation of Market Value of Fleet of Utility Coal Plants, July 2, 2007.

73. Portfolio of New Plants, Testimony on behalf of AEP: SWEPCo, before the Arkansas Public Service Commission, In the Matter of Application of SWEPCO for a Certificate of Environmental Compatibility and Public Need for the Construction, Ownership, Operation, and Maintenance of a Coal-Fired Base Load Generating Facility in the Hempstead County, Arkansas, dated June 2007.

72. Rebuttal Testimony, Causes No. PUD 200500516, 200600030, and 20070001 Consolidated, on behalf of Redbud Energy, before the Corporation Commission of the State of Oklahoma, June 2007.

71. IGCC Coal Plant, CPCN Rebuttal Testimony on behalf of Duke Energy Indiana, Cause No. 43114 before the Indiana Utility Regulatory Commission, May 2007.

70. Responsive Testimony, Causes No. PUD 200500516, 200600030, and 200700012 Consolidated, on behalf of Redbud Energy, before the Corporation Commission of the State of Oklahoma, May 2007.

69. Rebuttal Testimony, FPL – CO_2 Emissions and the Everglades Coal-Fired Power Plant, Docket No. 070098-EL, March 2007

68. Rebuttal Testimony, Electric Utility Power Hedging, on behalf of Duke Energy Indiana, Cause No. 38707-FAC6851, May 2007.

67. Direct Testimony for Southwestern Electric Power Company, Before the Louisiana Public Service Commission, Docket No. U-29702, in re: Application of Southwestern Electric Power Company for the Certification of Contracts for the Purchase of Capacity for 2007, 2008, and 2009 and to Purchase, Operate, Own,

and Install Peaking, Intermediate and Base Load Coal-Fired Generating Facilities in Accordance with the Commission's General Order Dated September 20, 1983. Consolidated with Docket No. U-28766 Sub Docket B in re: Application of Southwestern Electric Power Company for Certification of Contracts for the Purchase of Capacity in Accordance with the Commission's 'General Order of September 20, 1983, February 2007.

66. Second Supplemental Testimony on Behalf of Duke Energy Ohio Before the Public Utility Commission of Ohio, Case No. 03-93-EL-ATA, 03-2079, EL-AAM, 03-2081, EL-AAM, 03-2080, EL-ATA, February 28, 2007.

65. Electric Utility Power Hedging, on behalf of Duke Energy Indiana, Cause No. 38707-FAC6851, February 2007.

64. CPCN for Cliffside Coal-Fired Plant, on behalf of Duke Carolinas, Docket No. E7, SUB790, December 2006.

63. Expert Report, Chapter 11, Case No. 01-16034 (AJG) and Adv. Proc. No. 04-2933 (AJG), November 6, 2006.

62. IGCC Coal Plant, Testimony on behalf of Duke Energy Indiana, Cause No. 43114, October 2006.

61. Market Power and the PSEG Exelon Merger on Behalf of the NJBPU Staff, NJBPU, BPU Docket No. EM05020106, OAL Docket No. PUC-1874-05, Supplemental Testimony March 20, 2006.

60. Market Power and the PSEG Exelon Merger on Behalf of the NJBPU Staff, NJBPU, BPU Docket No. EM05020106, OAL Docket No. PUC-1874-05, Surrebuttal Testimony December 27, 2005.

59. Market Power and the PSEG Exelon Merger on Behalf of the NJBPU Staff, NJBPU, BPU Docket No. EM05020106, OAL Docket No. PUC-1874-05, November 14, 2005.

58. Brazilian Power Purchase Agreement, confidential international arbitration, October 2005.

57. Cost of Service and Fuel Clause Issues, Rebuttal Testimony on behalf of Public Service of New Mexico, Docket No. EL05-151, November 2005.

56. Cost of Service and Peak Demand, FERC, Testimony on behalf of Public Service of New Mexico, September 19, 2005, Docket No. EL05-19.

55. Cost of Service and Fuel Clause Issues, Testimony on behalf of Public Service of New Mexico, FERC Docket No. EL05-151-000, September 15, 2005.

54. Cost of Service and Peak Demand, FERC, Responsive Testimony on behalf of Public Service of New Mexico, August 23, 2005, Docket No. EL05-19.

53. Prudence of Acquisition of Power Plant, Testimony on behalf of Redbud, September 12, 2005, No. PUD 200500151.

52. Proposed Fuel Cost Adjustment Clause, FERC, Docket Nos. EL05-19-002 and ER05-168-001 (Consolidated), August 22, 2005.

51. Market Power and the PSEG Exelon Merger on Behalf of the NJBPU, FERC, Docket EC05-43-000, May 27, 2005.

50. New Air Emission Regulations and Investment in Coal Power Plants, rebuttal testimony on behalf of PSI, April 18, 2005, Causes 42622 and 42718.

49. Rebuttal Report: Damages due to Rejection of Tolling Agreement Including Discounting, February 9, 2005, CONFIDENTIAL.

48. New Air Emission Regulations and Investment in Coal Power Plants, supplemental testimony on behalf of PSI, January 21, 2005, Causes 42622 and 42718.

47. Damages Due to Rejection of Tolling Agreement Including Discounting, January 10, 2005, CONFIDENTIAL.

46. Discount rates that should be used in estimating the damages to GTN of Mirant's bankruptcy and subsequent abrogation of the gas transportation agreements Mirant had entered into with GTN, December 15, 2004. CONFIDENTIAL

45. New Air Emission Regulations and Investment in Coal Power Plants, testimony on behalf of PSI, November 2004, Causes 42622 and 42718.

44. Rebuttal Testimony of Judah Rose on behalf of PSI, "Certificate of Purchase as of yet Undetermined Generation Facility" Cause No. 42469, August 23, 2004.

43. Rebuttal Testimony of Judah Rose on behalf of the Hopi Tribe, Case No. A.02-05-046, Mohave Coal Plant Economics, June 4, 2004.

42. Supplemental Testimony "Retail Generation Rates, Cost Recovery Associated with the Midwest Independent Transmission System Operator, Accounting Procedures for Transmission and Distribution System, Case No. 03-93-EL-ATA, 03-2079, EL-AAM, 03-2081, EL-AAM, 03-2080, EL-ATA for Cincinnati Gas & Electric, May 20, 2004.

41. "Application of Southern California Edison Company (U338-E) Regarding the Future Disposition of the Mohave Coal-Fired Generating Station," May 14, 2004.

40. "Appropriate Rate of Return on Equity (ROE) TransAlta Should be Authorized For its Capital Investment Related to VAR Support From the Centralia Coal-Fired Power Plant", for TransAlta, April 30, 2004, FERC Docket No. ER04-810-000.

39. "Retail Generation Rates, Cost Recovery Associated with the Midwest Independent Transmission System Operator, Accounting Procedures for Transmission and Distribution System, Case No. 03-93-EL-ATA, 03-2079, EL-AAM, 03-2081, EL-AAM, 03-2080, EL-ATA for Cincinnati Gas & Electric, April 15, 2004.

38. "Valuation of Selected MIRMA Coal Plants, Acceptance and Rejection of Leases and Potential Prejudice to Leasors" Federal Bankruptcy Court, Dallas, TX, March 24, 2004 CONFIDENTIAL.

37. "Certificate of Purchase as of yet Undetermined Generation Facility", Cause No. 42469 for PSI, March 23, 2004.

36. "Ohio Edison's Sammis Power Plant BACT Remedy Case", In the United States District Court of Ohio, Southern Division, March 8, 2004.

35. "Valuation of Power Contract," January 2004, confidential arbitration.

34. "In the matter of the Application of the Union Light Heat & Power Company for a Certificate of Public Convenience and Necessity to Acquire Certain Generation Resources, etc.", before the Kentucky Public Service Commission, Coal-Fired and Gas-Fired Market Values, July 21, 2003.

33. "In the Supreme Court of British Columbia", July 8, 2003. CONFIDENTIAL

32. "The Future of the Mohave Coal-Fired Power Plant – Rebuttal Testimony", California P.U.C., May 20, 2003.

31. "Affidavit in Support of the Debtors' Motion", NRG Bankruptcy, Revenues of a Fleet of Plants, May 14, 2003. CONFIDENTIAL

30. "IPP Power Purchase Agreement," confidential arbitration, April 2003.

29. "The Future of the Mohave Coal-Fired Power Plant", California P.U.C., March 2003.

28. "Power Supply in the Pacific Northwest," contract arbitration, December 5, 2002. CONFIDENTIAL

27. "Power Purchase Agreement Valuation", Confidential Arbitration, October 2002.

26. "Cause No. 42145 - In support of PSI's petition for authority to acquire the Madison and Henry County plants, rebuttal testimony on behalf of PSI. Filed on 8/23/02."

25. "Cause No. 42200 - in support of PSI's petition for authority to recover through retail rates on a timely basis. Filed on 7/30/02."

24. "Cause No. 42196 - in support of PSI's petition for interim purchased power contract. Filed on 4/26/02."

23. "Cause No. 42145 - In support of PSI's petition for authority to acquire the Madison and Henry County plants. Filed on 3/1/2002."

22. "Analysis of an IGCC Coal Power Plant", Minnesota state senate committees, January 22, 2002

21. "Analysis of an IGCC Coal Power Plant", Minnesota state house of representative committees, January 15, 2002

20. "Interim Pricing Report on New York State's Independent System Operator", New York State Public Service Commission (NYSPSC), January 5, 2001

19. "The need for new capacity in Indiana and the IRP process", Indiana Utility Regulatory Commission, October 26, 2000

18. "Damage estimates for power curtailment for a Cogen power plant in Nevada", August 2000. CONFIDENTIAL

17. "Valuation of a power plant in Arizona", arbitration, July 2000. CONFIDENTIAL

16. Application of FirstEnergy Corporation for approval of an electric Transition Plan and for authorization to recover transition revenues, Stranded Cost and Market Value of a Fleet of Coal, Nuclear, and Other Plants, Before PUCO, Case No. 99-1212-EL-ETP, October 4, 1999 and April 2000.

15. "Issues Related to Acquisition of an Oil/Gas Steam Power plant in New York", September 1999 Affidavit to Hennepin County District Court, Minnesota

14. "Wholesale Power Prices, A Cost Plus All Requirements Contract and Damages", Cajun Bankruptcy, July 1999. Testimony to U.S. Bankruptcy Court.

13. "Power Prices." Testimony in confidential contract arbitration, July 1998.

12. "Horizontal Market Power in Generation." Testimony to New Jersey Board of Public Utilities, May 22, 1998.

11. "Basic Generation Services and Determining Market Prices." Testimony to the New Jersey Board of Public Utilities, May 12, 1998.

10. "Generation Reliability." Testimony to New Jersey Board of Public Utilities, May 4, 1998.

9. "Future Rate Paths and Financial Feasibility of Project Financing." Cajun Bankruptcy, Testimony to U.S. Bankruptcy Court, April 1998.

8. "Stranded Costs of PSE&G." Market Valuation of a Fleet of Coal, Nuclear, Gas, and Oil-Fired Power Plants, Testimony to New Jersey Board of Public Utilities, February 1998.

7. "Application of PECO Energy Company for Approval of its Restructuring Plan Under Section 2806 of the Public Utility Code." Market Value of Fleet of Nuclear, Coal, Gas, and Oil Power Plants, Rebuttal Testimony filed July 1997.

6. "Future Wholesale Electricity Prices, Fuel Markets, Coal Transportation and the Cajun Bankruptcy." Testimony to Louisiana Public Service Commission, December 1996.

5. "Curtailment of the Saguaro QF, Power Contracting and Southwest Power Markets." Testimony on a contract arbitration, Las Vegas, Nevada, June 1996.

4. "Future Rate Paths and the Cajun Bankruptcy." Testimony to the U.S. Bankruptcy Court, June 1997.

3. "Fuel Prices and Coal Transportation." Testimony to the U.S. Bankruptcy Court, June 1997.

2. "Demand for Gas Pipeline Capacity in Florida from Electric Utilities." Testimony to Florida Public Service Commission, May 1993.

1. "The Case for Fuel Flexibility in the Florida Electric Generation Industry." Testimony to the Florida Department of Environmental Regulation (DER), Hearings on Fuel Diversity and Environmental Protection, December 1992.

SELECTED SPEAKING ENGAGEMENTS

99. Rose, J.L., Vinson & Elkins Conference, Houston, TX, November 11, 2010.

98. Rose, J.L., Fundamentals of Electricity Transmission, EUCI, Crystal City, Arlington, VA, June 29-30, 2010.

97. Rose, J.L., Economics of PC Refurbishment, Improving the Efficiency of Coal-Fired Power Generation in the U.S., DOE-NETL, February 24, 2010.

96. Rose, J.L., Fundamentals of Electricity Transmission, EUCI, Orlando, FL, January 25-26, 2010.

95. Rose, J.L., CO_2 Control, "Cap & Trade", & Selected Energy Issues, Multi-Housing Laundry Association, October 26, 2009.

94. Rose, J.L., Financing for the Future – Can We Afford It?, 2009 Bonbright Conference, October 9, 2009.

93. Rose, J.L., EEI's Transmission and Market Design School, Washington, D.C., June 2009.

92. Rose, J.L., ICF's New York City Energy Forum - Market Recovery in Merchant Generation Assets, June 10, 2008.

91. Rose, J.L., Southeastern Electric Exchange – Integrated Resource Planning Task Force Meeting, Carbon Tax Outlook Discussion, February 21-22, 2008.

90. Rose, J.L., AESP, NEEC Conference, Rising Prices and Failing Infrastructure: A Bleak or Optimistic Future, Marlborough, MA, October 23, 2006.

89. Rose, J.L., Infocast Gas Storage Conference, "Estimating the Growth Potential for Gas-Fired Electric Generation," Houston, TX, March 22, 2006.

88. Rose, J.L., "Power Market Trends Impacting the Value of Power Assets," Infocast Conference, Powering Up for a New Era of Power Generation M&A, February 23, 2006.

87. Rose, J.L., "The Challenge Posed by Rising Fuel and Power Costs", Lehman Brothers, November 2, 2005.

86. Rose, J.L., "Modeling the Vulnerability of the Power Sector", EUCI – Securing the Nation's Energy Infrastructure, September 19, 2005

85. Rose, J.L., "Fuel Diversity in the Northeast, Energy Bar Association, Northeast Chapter Meeting, New York, NY, June 9, 2005.

84. Rose, J.L., "2005 Macquarie Utility Sector Conference", Macquarie Utility Sector Conference, Vail, CO, February 28, 2005.

83. Rose, J.L., "The Outlook for North American Natural Gas and Power Markets", The Institute for Energy Law, Program on Oil and Gas Law, Houston, TX, February 18, 2005.

82. Rose, J.L. "Assessing the Salability of Merchant Assets – What's on the Horizon?" Infocast – The Market for Power Assets, Phoenix, AZ, February 10, 2005.

81. Rose, J.L. "Market Based Approaches to Transmission – Longer-Term Role", National Group of Municipal Bond Investors, New York, NY, December 10, 2004.

80. Rose, J.L. "Supply & Demand Fundamentals – What is Short-Term Outlook and the Long-Term Demand? Platt's Power Marketing Conference, Houston, TX, October 11, 2004.

79. Rose, J.L. "Assessing the Salability of Merchant Assets – When Will We Hit Bottom?, Infocast's Buying, Selling, and Investing in Energy Assets Conference, Houston, TX, June 24, 2004.

78. Rose, J. L. "After the Blackout – Questions That Every Regulator Should be Asking," NARUC Webinar Conference, Fairfax, VA, November 6, 2003.

77. Rose, J. L., "Supply and Demand in U.S. Wholesale Power Markets," Lehman Brothers Global Credit Conference, New York, NY, November 5, 2003.

76. Rose, J.L., "Assessing the Salability of Merchant Assets – When Will We Hit Bottom?", Infocast's Opportunities in Energy Asset Acquisition, San Francisco, CA, October 9, 2003.

75. Rose, J.L., "Asset Valuation in Today's Market", Infocast's Project Finance Tutorial, New York, NY, October 8, 2003.

74. Rose, J.L., "Forensic Evaluation of Problem Projects", Infocast's Project Finance Workouts: Dealing With Distressed Energy Projects, September 17, 2003.

73. Rose, J.L., National Management Emergency Association, Seattle, WA, September 8, 2003.

72. Rose, J.L., "Assessing the Salability of Merchant Assets – When Will We Hit Bottom?", Infocast's Buying, Selling & Investing in Energy Assets, Chicago, IL, July 24, 2003.

71. Rose, J.L., CSFB Leveraged Finance Independent Power Producers and Utilities Conference, New York, NY, "Spark Spread Outlook", July 17, 2003.

70. Rose, J.L., Multi-Housing Laundry Association, Washington, D. C., "Trends in U.S. Energy and Economy", June 24, 2003.

69. Rose, J.L., "Power Markets: Prices, SMD, Transmission Access, and Trading", Bechtel Management Seminar, Frederick, MD, June 10, 2003.

68. Rose, J.L., Platt's Global Power Market Conference, New Orleans, LA, "The Outlook for Recovery," March 31, 2003.

67. Rose, J.L., "Electricity Transmission and Grid Security", Energy Security Conference, Crystal City, VA, March 25, 2003.

66. Rose, J.L., "Assessing the Salability of Merchant Assets – When Will We Hit Bottom?, Infocast's Buying, Selling & Investing in Energy Assets, New York City, February 27, 2003.

65. Rose, J.L., Panel Discussion, "Forensic Evaluation of Problem Projects", Infocast Conference, NY, February 24, 2003.

64. Rose, J.L., PSEG Off-Site Meeting Panel Discussion, February 6, 2003 (April 13, 2003).

63. Rose, J.L., "The Merchant Power Market—Where Do We Go From Here?" Center for Business Intelligence's Financing U.S. Power Projects, November 18-19, 2002.

62. Rose, J.L., "Assessing U.S. Regional And The Potential for Additional Coal-Fired Generation in Each Region," Infocast's Building New Coal-Fired Generation Conference, October 8, 2002.

61. Rose, J.L., "Predicting the Price of Power for Asset Valuation in the Merchant Power Financings, "Infocast's Product Structuring in the Real World Conference, September 25, 2002.

60. Rose, J.L., "PJM Price Outlook," Platt's Annual PJM Regional Conference, September 24, 2002.

59. Rose, J.L., "Why Investors Are Zeroing in on Upgrading Our Antiquated Power Grid Rather Than Exotic & Complicated Technologies," New York Venture

Group's Investing in the Power Industry—Targeting The Newest Trends Conference, July 31, 2002.

58. Rose, J.L., Panel Participant in the Salomon Smith Barney Power and Energy Merchant Conference 2002, May 15, 2002.

57. Rose, J.L., "Locational Market Price (LMP) Forecasting in Plant Financing Decisions," Structured Finance Institute, April 8-9, 2002.

56. Rose, J.L., "PJM Transmission and Generation Forecast", Financial Times Energy Conference, November 6, 2001.

55. Rose, J.L., "U.S. Power Sector Trends", Credit Suisse First Boston's Power Generation Supply Chain Conference, Web Presented Conference, September 12, 2002.

54. Rose, J.L., "Dealing with Inter-Regional Power Transmission Issues", Infocast's Ohio Power Game Conference, September 6, 2001

53. Rose, J.L., "Where's the Next California", Credit Suisse First Boston's Global Project Finance Capital Markets Conference, New York NY, June 27 2001

52. Rose, J.L, "U.S. Energy Issues: What MLA Members Need to Know," Multi-housing Laundry Association, Boca Raton Florida, June 25, 2001

51. Rose, J.L., "How the California Meltdown Affects Power Development", Infocast's Power Development and Finance Conference 2001, Washington D.C., June 12, 2001

50. Rose, J.L., "Forecasting 2001 Electricity Prices" presentation and workshop, What to Expect in western Power Markets this Summer 2001 Conference, Denver, Colorado, May 2, 2001

49. Rose, J.L., "Power Crisis in the West" Generation Panel Presentation, San Diego, California, February 12, 2001

48. Rose, J.L., "An Analysis of the Causes leading to the Summer Price Spikes of 1999 & 2000" Conference Chair, Infocast Managing Summer Price Volatility, Houston, Texas, January 30, 2001.

47. Rose, J. L., "An Analysis of the Power Markets, summer 2000" Generation Panel Presentation, Financial Times Power Mart 2000 conference, Houston, Texas, October 18, 2000

46. Rose, J.L., "An Analysis of the Merchant Power Market, Summer 2000" presentation, Conference Chair, Merchant Power Finance Conference, Atlanta, Georgia, September 11 to 15, 2000

45. Rose, J.L., "Understanding Capacity Value and Pricing Firmness" presentation, Conference Chair, Merchant Plant Development and Finance Conference, Houston, Texas, March 30, 2000.

44. Rose, J.L., "Implementing NYPP's Congestion Pricing and Transmission Congestion Contract (TCC)", Infocast Congestion Pricing and Forecasting Conference, Washington D.C., November 19, 1999.

43. Rose, J.L., "Understanding Generation" Pre-Conference Workshop, Powermart, Houston, Texas, October 26-28, 1999.

42. Rose, J.L., "Understanding Capacity Value and Pricing Firmness" presentation, Conference Chair Merchant Plant Development and Finance Conference, Houston, Texas, September 29, 1999.

41. Rose, J.L., "Comparative Market Outlook for Merchant Assets" presentation, Merchant Power Conference, New York, New York, September 24, 1999.

40. Rose, J.L., "Transmission, Congestion, and Capacity Pricing" presentation, Transmission The Future of Electric Transmission Conference, Washington, DC, September 13, 1999.

39. Rose, J.L., "Effects of Market Power on Power Prices in Competitive Energy Markets" Keynote Address, The Impact of Market Power in Competitive Energy Markets Conference, Washington, DC, July 14, 1999.

38. Rose, J.L., "Peak Price Volatility in ECAR and the Midwest, Futures Contracts: Liquidity, Arbitrage Opportunity" presentation at ECAR Power Markets Conference, Columbus, Ohio, June 9, 1999.

37. Rose, J.L., "Transmission Solutions to Market Power" presentation, Do Companies in the Energy Industry Have Too Much Market Power? Conference, Washington, DC, May 24, 1999.

36. Rose, J.L., "Repowering Existing Power Plants and Its Impact on Market Prices" presentation, Exploiting the Full Energy Value-Chain Conference, Chicago, Illinois, May 17, 1999.

35. Rose, J.L., "Transmission and Retail Issues in the Electric Industry" Session Speaker, Gas Mart/Power 99 Conference, Dallas, Texas, May 10, 1999.

34. Rose, J.L., "Peak Price Volatility in the Rockies and Southwest" presentation at Repowering the Rockies and the Southwest Conference, Denver, Colorado, May 5, 1999.

33. Rose, J.L., "Understanding Generation" presentation and Program Chairman at Buying & Selling Power Assets: The Great Generation Sell-Off Conference, Houston, Texas, April 20, 1999.

32. Rose, J.L., "Buying Generation Assets in PJM" presentation at Mid-Atlantic Power Summit, Philadelphia, Pennsylvania, April 12, 1999.

31. Rose, J.L., "Evaluating Your Generation Options in Situations With Insufficient Transmission," presentation at Congestion Management conference, Washington, D.C., March 25, 1999.

30. Rose, J.L., "Will Capacity Prices Drive Future Power Prices?" presentation at Merchant Plant Development conference, Chicago, Illinois, March 23, 1999.

29. Rose, J.L., "Capacity Value – Pricing Firmness," presentation at Market Price Forecasting conference, Atlanta, Georgia, February 25, 1999

28. Rose, J.L., "Developing Reasonable Expectations About Financing New Merchant Plants That Have Less Competitive Advantage Than Current Projects," presentation at Project Finance International's Financing Power Projects in the USA conference, New York, New York, February 11, 1999.

27. Rose, J.L., "Transmission and Capacity Pricing and Constraints," presentation at Power Fair 99, Houston, Texas, February 4, 1999.

26. Rose, J.L., "Peak Price Volatility: Comparing ERCOT With Other Regions," presentation at Megawatt Daily's Trading Power in ERCOT conference, Houston, Texas, January 13, 1999.

25. Rose, J.L., "The Outlook for Midwest Power Markets," presentation to The Institute for Regulatory Policy Studies at Illinois State University, Springfield, Illinois, November 19, 1998.

24. Rose, J.L., "Developing Pricing Strategies for Generation Assets," presentation at Wholesale Power in the West conference, Las Vegas, Nevada, November 12, 1998.

23. Rose, J.L., "Understanding Electricity Generation and Deregulated Wholesale Power Prices," a full-day pre-conference workshop at Power Mart 98, Houston, Texas, October 26, 1998.

22. Rose, J.L., "The Impact of Power Generation Upgrades, Merchant Plant Developments, New Transmission Projects and Upgrades on Power Prices," presentation at Profiting in the New York Power Market conference, New York, NY, October 22, 1998.

21. Rose, J.L., "Capacity Value – Pricing Firmness," presentation to Edison Electric Institute Economics Committee, Charlotte, NC, October 8, 1998.

20. Rose, J.L., "Locational Marginal Pricing and Futures Trading," presentation at Megawatt Daily's Electricity Regulation conference, Washington, D.C., October 7, 1998.

19. Rose, J.L., Chairman's opening speech and "The Move Toward a Decentralized Approach: How Will Nodal Pricing Impact Power Markets?" at Congestion Pricing and Tariffs conference, Washington, D.C., September 25, 1998.

18. Rose, J.L., "The Generation Market in MAPP/MAIN: An Overview," presentation at Megawatt Daily's MAIN/MAPP – The New Dynamics conference, Minneapolis, Minnesota, September 16, 1998.

17. Rose, J.L., "Capacity Value – Pricing Firmness," presentation at Market Price Forecasting conference, Baltimore, Maryland, August 24, 1998.

16. Rose, J.L., "ICF Kaiser's Wholesale Power Market Model," presentation at Market Price Forecasting conference, New York, New York, August 6, 1998.

15. Rose, J.L., Campbell, R., Kathan, David, "Valuing Assets and Companies in M&A Transactions," full-day workshop at Utility Mergers & Acquisitions conference, Washington, D.C., July 15, 1998.

14. Rose, J.L., "Must-Run Nuclear Generation's Impact on Price Forecasting and Operations," presentation at The Energy Institute's conference entitled "Buying and Selling Electricity in the Wholesale Power Market," Las Vegas, Nevada, June 25, 1998.

13. Rose, J.L., "The Generation Market in PJM," presentation at Megawatt Daily's PJM Power Markets conference, Philadelphia, Pennsylvania, June 17, 1998.

12. Rose, J.L., "Market Evaluation of Electric Generating Assets in the Northeast," presentation at McGraw-Hill's conference: Electric Asset Sales in the Northeast, Boston, Massachusetts, June 15, 1998.

11. Rose, J.L., "Overview of SERC Power," opening speech presented at Megawatt Daily's SERC Power Markets conference, Atlanta, Georgia, May 20, 1998.

10. Rose, J.L., "Future Price Forecasting," presentation at The Southeast Energy Buyers Summit, Atlanta, Georgia, May 7, 1998.

9. Rose, J.L., "Practical Risk Management in the Power Industry," presentation at Power Fair, Toronto, Canada, April 16, 1998.

8. Rose, J.L., "The Wholesale Power Market in ERCOT: Transmission Issues," presentation at Megawatt Daily's ERCOT Power Markets conference, Houston, Texas, April 1, 1998.

7. Rose, J.L., "New Generation Projects and Merchant Capacity Coming On-Line," presentation at Northeast Wholesale Power Market conference, New York, New York, March 18, 1998.

6. Rose, J.L., "Projecting Market Prices in a Deregulated Electricity Market," presentation at conference: Market Price Forecasting, San Francisco, California, March 9, 1998.

5. Rose, J.L., "Handling of Transmission Rights," presentation at conference: Congestion Pricing & Tariffs, Washington, D.C., January 23, 1998.

4. Rose, J.L., "Understanding Wholesale Markets and Power Marketing," presentation at The Power Marketing Association Annual Meeting, Washington, D.C., November 11, 1997.

2. Rose, J.L., "Determining the Electricity Forward Curve," presentation at seminar: Pricing, Hedging, Trading, and Risk Management of Electricity Derivatives, New York, New York, October 23, 1997.

3. Rose, J.L., "Market Price Forecasting In A Deregulated Market," presentation at conference: Market Price Forecasting, Washington, D.C., October 23, 1997,

1. Rose, J.L., "Credit Risk Versus Commodity Risk," presentation at conference: Developing & Financing Merchant Power Plants in the New U.S. Market, New York, New York, September 16, 1997.

SELECTED PUBLICATIONS

Rose, J.L. and Surana, S. "Oil Price Increases, Yield Curve Inversion may be Indicators of Economic Recession." Oil and Gas Financial Journal, Volume 7, Issue 6, June 2010

Rose, J.L. and Surana, S. "Forecasting Recessions and Investment Strategies." World-Generation, June/July 2010, V.22, #3.

Rose, J.L., "Should Environmental Restrictions be Eased to Allow for the Construction of More Power Plants? The Costco Connection, April 2001.

Rose, J.L., "Deregulation in the US Generation Sector: A Mid-Course Appraisal", Power Economics, October 2000.

Rose, J. L., "Price Spike Reality: Debunking the Myth of Failed Markets", *Public Utilities Fortnightly,* November 1, 2000.

Rose, J.L., "Missed Opportunity: What's Right and Wrong in the FERC Staff Report on the Midwest Price Spikes," *Public Utilities Fortnightly,* November 15, 1998.

Rose, J.L., "Why the June Price Spike Was Not a Fluke," *The Electricity Journal*, November 1998.

Rose, J.L., S. Muthiah, and J. Spencer, "Will Wall Street Rescue the Competitive Wholesale Power Market?" *Project Finance International*, May 1998.

Rose, J.L., "Last Summer's "Pure" Capacity Prices – A Harbinger of Things to Come," *Public Utilities Fortnightly,* December 1, 1997.

Rose, J.L., D. Kathan, and J. Spencer "Electricity Deregulation in the New England States," *Energy Buyer*, Volume 1, Issue 10, June-July 1997.

Rose, J.L., S. Muthiah, and M. Fusco, "Financial Engineering in the Power Sector," *The Electricity Journal,* Jan/Feb 1997.

Rose, J.L, S. Muthiah, and M. Fusco, "Is Competition Lacking in Generation? (And Why it Should Not Matter)," *Public Utilities Fortnightly,* January 1, 1997.

Mann, C. and J.L. Rose, "Price Risk Management: Electric Power vs. Natural Gas," *Public Utilities Fortnightly,* February 1996.

Rose, J.L. and C. Mann, "Unbundling the Electric Capacity Price in a Deregulated Commodity Market," *Public Utilities Fortnightly,* December 1995.

Booth, William and J.L. Rose, "FERC's Hourly System Lambda Data as Interim Bulk Power Price Information," *Public Utilities Fortnightly,* May 1, 1995.

Rose, J.L. and M. Frevert, "Natural Gas: The Power Generation Fuel for the 1990s." Published by Enron.

EMPLOYMENT HISTORY

ICF Resources Incorporated	Managing Director	1999-Present
	Vice President	1996-1999
	Project Manager	1993-1996
	Senior Associate	1986-1993
	Associate	1982-1986

TABLE OF CONTENTS

PAGE

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION WITH DUKE ENERGY CORPORATION.

A. My name is Stephen G. De May. My business address is 550 South Tryon Street, Charlotte, North Carolina 28202. I am Senior Vice President of Investor Relations and Treasurer of Duke Energy Corporation (Duke Energy), the parent of Duke Energy Ohio, Inc., (Duke Energy Ohio or the Company). I am also an officer of Duke Energy Ohio.

Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL QUALIFICATIONS.

A. I have a Bachelor of Arts degree in Political Science from the University of North Carolina at Chapel Hill and a Master of Business Administration degree from the McColl School of Business at Queens University in Charlotte, North Carolina. In 2010, I completed the Advanced Management Program at the Wharton School of the University of Pennsylvania. I am a Certified Public Accountant (CPA) in the state of North Carolina and I am a member of the American Institute of Certified Public Accountants and the North Carolina Association of Certified Public Accountants.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE.

A. My professional work experience began in 1986 with the public accounting firm of Price Waterhouse (now PricewaterhouseCoopers) and, subsequently, Deloitte, Haskins and Sells (now Deloitte & Touche), where my work focused on tax

accounting and consulting for a variety of clients. In 1990, I joined Crescent Resources Inc., which was then a wholly owned real estate development subsidiary of Duke Power Company (a predecessor company to today's Duke Energy), where I was responsible for real estate accounting and finance. In 1994, I moved to the Treasury and Corporate Finance Department where I have held, except for a two-year period of time, various positions of increasing responsibility. The two-year exception was for the majority of 2004 and 2005, during which time I had the lead responsibility for developing and managing Duke Energy's energy and regulatory policies. I was named Treasurer in November 2007.

Q. PLEASE DESCRIBE YOUR DUTIES AS SENIOR VICE PRESIDENT OF INVESTOR RELATIONS AND TREASURER.

A. As Senior Vice President of Investor Relations and Treasurer, I am responsible for investor relations and treasury-related services to Duke Energy and its subsidiaries, including Duke Energy Ohio. As head of investor relations, I monitor trends in the investment markets and maintain key relationships with debt and equity investors, analysts, and financial institutions. Under my supervision, the Treasury Department arranges and executes all capital raising and liquidity transactions, including credit facilities and commercial paper, debt securities, preferred and hybrid securities, and common stock, as well as daily cash management for Duke Energy and its subsidiaries. My responsibilities include managing Duke Energy's and its subsidiaries' credit ratings and relationships with the major credit rating agencies, commercial banks, and the capital markets.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION OR OTHER STATE PUBLIC UTILITY COMMISSIONS?

A. Yes. In 2008, I filed testimony on behalf of Duke Energy Ohio in support of an electric distribution rate case[1] and, in 2007, in support of a gas rate case.[2]

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

A. I will begin my testimony by briefly explaining Duke Energy Ohio's financial objectives. I will then discuss the role that the company's credit quality plays in meeting these financial objectives and the expectations of debt investors. I will discuss the importance of the Company's equity investors and how the regulatory construct in Ohio could impact the Company's ability to access this form of capital. Throughout my testimony, I will highlight the importance of a constructive outcome in this proceeding for the Company's ability to meet its financial objectives.

II. DUKE ENERGY OHIO'S FINANCIAL OBJECTIVES

Q. WHAT ARE DUKE ENERGY OHIO'S FINANCIAL OBJECTIVES?

A. Duke Energy Ohio at all times seeks to maintain its financial strength and flexibility, including strong investment-grade credit ratings, ensuring reliable access to capital on reasonable terms. Financial strength and access to capital are necessary for the Company to provide cost-effective, safe, environmentally compliant, and reliable service to its customers. Specific objectives that support

---

[1] *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates*, Case No. 08-709-EL-AIR, *et seq.*

[2] *In the Matter of the Application of Duke Energy Ohio, Inc. for an Increase in Rates*, Case No. 07-589-GA-AIR, *et seq.*

financial strength and flexibility include: a) maintaining at least 52 percent common equity for Duke Energy Ohio on a regulatory capitalization basis; b) maintaining current credit ratings; c) ensuring timely recovery of prudently incurred costs; d) maintaining sufficient cash flows to meet obligations; and e) maintaining a sufficient return on equity to fairly compensate shareholders for their invested capital. The ability to attract capital (both debt and equity) on reasonable terms is vitally important to the Company and its customers, and each of these help the Company meet its overall financial objectives.

Q. WHAT REGULATORY FRAMEWORK IS BEING REQUESTED IN THIS PROCEEDING AND HOW WILL THE COMPANY'S FINANCIAL OBJECTIVES BE IMPACTED?

A. The Company is requesting approval of a new standard service offer in the form of an electric security plan (ESP). The specific details of the ESP proposal are explained in the Direct Testimony of Duke Energy Ohio witness William Don Wathen Jr. The proposed ESP will provide greater certainty of cost recovery and more stability in earnings and cash flow to the Company. This stability will greatly improve Duke Energy Ohio's ability to meet its financial objectives, will lower risk to investors, and will provide a construct for the Company to make new investments in Ohio that will ensure future safe, reliable, and environmentally compliant service for our customers.

Q. HOW WILL DUKE ENERGY OHIO'S CUSTOMERS BENEFIT FROM THE COMPANY ACHIEVING ITS FINANCIAL OBJECTIVES?

A. In order to continue to provide safe, reliable, low-cost, and environmentally compliant service for our customers, the Company must plan and initiate projects years before they are required to be operational. When a project is undertaken, it is vitally important to be able to obtain financing throughout the design and construction period, regardless of market conditions, while still providing capital for O&M, other capital projects, and debt service. In order for Duke Energy Ohio to make future investments in generation infrastructure and environmental compliance, there must be some reasonable assurance of cost recovery. The current regulatory framework in Ohio provides little assurance that prudently incurred costs will be recovered, therefore encouraging no investment in the Company's generation assets, to the long-term detriment of customers. The ESP proposed in this case will provide the Company with greater certainty of cost recovery, thereby allowing future investment in generation and environmental compliance, when there is a clear benefit to customers.

III. CREDIT QUALITY AND CREDIT RATINGS

Q. PLEASE EXPLAIN CREDIT QUALITY AND CREDIT RATINGS, AND HOW THEY ARE DETERMINED.

A. Credit quality (or creditworthiness) is a term used to describe a company's overall financial health and its willingness and ability to repay all financial obligations in full and on time. An assessment of Duke Energy Ohio's creditworthiness is performed by two of the three major credit rating agencies, Standard & Poor's (S&P) and Moody's Investors Service (Moody's), and results in the Company's credit rating and outlook.

Many qualitative and quantitative factors go into this assessment. Qualitative aspects may include Duke Energy Ohio's regulatory framework and climate, its track record for delivering on its commitments, the strength of its management team, its operating performance, and the strength of its service area. Quantitative measures are primarily based on operating cash flow and focus on Duke Energy Ohio's ability to meet its fixed obligations (interest expense in particular) on the basis of internally generated cash, and the level at which Duke Energy Ohio maintains debt leverage in relation to its generation of cash. The percentage of debt to total capital is another example of a quantitative measure. Creditors and credit rating agencies view both qualitative and quantitative factors in the aggregate when assessing the credit quality of a company.

Q. WHAT IS THE ROLE OF REGULATION IN THE DETERMINATION OF THE FINANCIAL STRENGTH OF A UTILITY COMPANY?

A. Investors, investment analysts, and credit rating agencies regard regulation as one of the most important factors in assessing a utility's financial strength. These stakeholders want to be confident that the utility operates in a stable regulatory environment that will allow the company to recover prudently incurred costs and earn a reasonable return on investments necessary to meet the demand, reliability, service, and environmental requirements of its customers and service area. Important considerations include the allowed rate of return, the cash quality of earnings, the timely recovery of capital investments, the stability of earnings, and the strength of its capital structure. Positive consideration is also given for

utilities operating in states where the regulatory process is streamlined and outcomes are equitably balanced between customers and investors.

Q. HOW ARE DUKE ENERGY OHIO'S OUTSTANDING SECURITIES CURRENTLY RATED BY THE CREDIT RATING AGENCIES?

A. As of the date of this testimony, Duke Energy Ohio has a "Stable" outlook by both S&P and Moody's and its outstanding debt is rated as follows:

Rating Agency	S&P	Moody's
Senior Unsecured Rating	A-	Baa1
Senior Secured	A	A2

The ratings outlook assesses the potential direction of a long-term credit rating over an intermediate term (typically six months to two years). Duke Energy Ohio's "Stable" outlook means that the credit ratings are not likely to change at this time, however a change in outlook or rating could occur if the Company experiences a change in its business or financial risk. Duke Energy Ohio's next SSO is critical to the future credit quality of the Company. Its importance cannot be overstated.

Q. PLEASE EXPLAIN WHAT IS MEANT BY THESE CREDIT RATINGS FOR DUKE ENERGY OHIO'S DEBT INVESTORS.

A. Obligations carrying a credit rating in the "A" category are considered strong, investment-grade securities, subject to low credit risk for the investor. "A" rated debt is presumed to be somewhat susceptible to changes in circumstances and economic conditions; however, the debt issuer's capacity to meet its financial commitments is considered strong. By contrast, ratings in the "BBB" category

are considered adequate and have less assurance of access to the capital markets in challenging market conditions.

S&P may also modify its ratings with the use of a plus or minus sign to further indicate the relative standing within a major rating category. An "A+" credit rating is at the higher end of the "A" credit rating category and an "A-" is at the lower end of the category. Moody's credit rating assignments use the numbers "1", "2", and "3", with the numbers "1" and "3" analogous to a "+" and "-", respectively. For example, Moody's credit ratings of "A2" and "A3" would be analogous to "A" and "A-" credit ratings at S&P, respectively.

Q. ARE THE UNSECURED CREDIT RATINGS OF DUKE ENERGY OHIO AT THE SAME LEVEL AT MOODY'S AND S&P?

A. No, they are not. Moody's has assigned a rating to Duke Energy Ohio that is one notch lower than that assigned by S&P. The rating agencies differ in methodology; Moody's rates each entity as though it is a separate, stand-alone entity, while S&P evaluates the credit risk of the consolidated corporation. Under the S&P methodology, Duke Energy Ohio's credit rating benefits from the regulatory stability in Duke Energy's other jurisdictions. The one-notch difference in rating between S&P and Moody's is an important consideration.

Q. WHY IS IT IMPORTANT FOR DUKE ENERGY OHIO TO HAVE STRONG, INVESTMENT-GRADE CREDIT RATINGS?

A. High investment-grade credit ratings provide Duke Energy Ohio with greater assurance of continued access to the capital markets on reasonable terms, even during periods of volatility. Although recent market conditions have improved,

the financial crisis of 2008-2009 illustrates the importance of maintaining the financial strength, flexibility, and strong credit ratings that Duke Energy Ohio currently enjoys. Duke Energy Ohio was able to issue $450 million of ten-year first mortgage bonds in March of 2009, during the height of the financial crisis, at a rate of 5.45 percent. Strong credit ratings result in lower debt costs for our customers and greater assurance of access to capital, even in challenging market conditions.

Q. HOW DO THE RATING AGENCIES VIEW ELECTRIC UTILITY REGULATION IN OHIO?

A. The credit rating agencies view the regulatory construct of Ohio as indicative of higher risk than similarly situated utilities that are 100 percent regulated. In its most recent report on Duke Energy Ohio, S&P wrote:

> Since the ESP was implemented, customer and margin losses due to greater competitive forces and low market prices for generation in Ohio have eroded financial results and indicate that business risk has risen in the state....The existing plan was designed to closely replicate a regulated, integrated utility type of risk profile that is inconsistent with the manner in which the retail market has developed in Ohio.[3]

Moody's cited the uncertainty with respect to the new SSO in their rationale for stabilizing the outlook of Duke Energy Ohio in January 2011.

IV. EQUITY INVESTORS

Q. WHAT ROLE DO EQUITY INVESTORS PLAY IN THE FINANCING OF DUKE ENERGY OHIO, AND HOW WILL THE OUTCOME OF THIS CASE IMPACT THESE INVESTORS?

[3] Standard & Poor's Ratings Direct, *"Duke Energy Ohio"*, page 2, January 31, 2011.

A. Equity investors provide the foundation of a company's capitalization by providing significant amounts of capital, for which an appropriate economic return is expected. Duke Energy Ohio, like other investor-owned utilities, must compensate its equity investors for the risk of their investment by targeting fair and adequate returns, a stable dividend policy and earnings growth. Returns to equity investors are realized only after all operating expenses and fixed payment obligations (including debt principal and interest) of the business have been paid. Because these investors are the last to receive surplus earnings and cash flows, it is their capital that is most at risk if a company suffers a downturn in business or general financial conditions. For this reason, equity investors require a higher return for their investment. Equity investors expect utilities like Duke Energy Ohio to recover their prudently incurred costs and earn a fair and reasonable return for their investors. The Company's proposal, particularly a cost-based, non-bypassable capacity rider, supports this investor requirement, and better aligns the risk in the investment with investor expectations. Providing a value proposition to equity investors in this way is critical to maintaining access to this important form of capital.

Q. WHAT CONCERNS DO EQUITY INVESTORS HAVE WITH THE CURRENT DUKE ENERGY OHIO ESP?

A. The major concern of equity investors, with respect to Duke Energy Ohio's current ESP, is that the regulatory construct, as embodied in that ESP, results in asymmetrical risk. Since all generation costs are currently bypassable, the Company has no guarantee of cost recovery if customers switch to alternative

providers. However, if minimal switching occurs, the Company's earning potential is limited by the significantly excessive earnings test (SEET).

Q. PLEASE EXPLAIN HOW THE PROPOSED ESP MITIGATES THE ASYMMETRICAL RISKS OF THE CURRENT ESP.

A. As discussed in the Direct Testimony of Duke Energy Ohio witnesses B. Keith Trent and William Don Wathen Jr., the proposed ESP provides greater assurance of cost recovery, through Rider RC, while still limiting earnings through the SEET requirements.

V. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY

A. Duke Energy Ohio is seeking approval of a long-term ESP that provides for greater assurance of cost recovery, stability, and certainty with respect to earnings; results in lower volatility in prices for customers; and provides a construct by which future necessary infrastructure investments can be made across the system. We believe that this request equitably balances the needs of customers and investors and maintains the financial viability of the Company.

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

A. Yes.

DUKE ENERGY OHIO EXHIBIT_____

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications and Tariffs for Generation Service.	)	Case No. 11-3549-EL-SSO
In the Matter of the Application of Duke Energy Ohio for Authority to Amend its Certified Supplier Tariff, P.U.C.O. No. 20.	)	Case No. 11-3550-EL-ATA
In the Matter of the Application of Duke Energy Ohio for Authority to Amend its Corporate Separation Plan.	)	Case No. 11-3551-EL-UNC

DIRECT TESTIMONY OF

JAMES S. NORTHRUP

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 20, 2011

TABLE OF CONTENTS

PAGE

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is James S. Northrup, and my business address is 526 S. Church Street, Charlotte, North Carolina 28202.

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

A. I am employed by Duke Energy Business Services LLC (DEBS) as Director, Regulated Economic Analysis. DEBS provides various administrative and other services to Duke Energy Ohio, Inc., (Duke Energy Ohio or Company) and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I am a registered professional engineer in the state of North Carolina, having received a Bachelor of Science in Civil Engineering from North Carolina State University and a Master's Degree in Business Administration from Queens University. I began my career at Duke Power Company in 1979 and have held a variety of responsibilities across Duke Energy in the areas of electric system distribution engineering, customer marketing, demand-side management program design and implementation, generation business planning, generation expansion planning, energy risk management, and integrated resource planning. After coordinating the development of demand-side customer programs, I joined the Generation System Planning Group in 1994 and coordinated the development of the integrated resource plan filings for state regulatory agencies. I was promoted to Manager, Generation Business Support in the Power Generation Group in 2000

to lead the business case development and asset strategy for fossil/hydro generation. In 2003, I was promoted to Director, System and Power Planning Group to guide major investments for generation assets and develop expansion plans to maintain system reliability. In 2006, I was promoted to Director, Regulated Economic Analysis where I continue work in integrated resource planning, new generation investments, and maintaining system reliability.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AS DIRECTOR, REGULATED ECONOMIC ANALYSIS.

A. As Director, Regulated Economic Analysis, I am responsible for developing specific strategies for Duke Energy's operating utilities, including commercial support for requests for proposals (RFPs) for renewable and supply side resources and major project/initiative business case analysis. Recently, I was responsible for the development of the Duke Energy Ohio Resource Plan filed in the Company's 2010 Long Term Forecast Report, under Case No. 10-503-EL-FOR.

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

A. Yes, I testified before the Public Utilities Commission of Ohio (Commission) in connection with Duke Energy Ohio's Application for approval of a Market Rate Offer (MRO), Case No. 10-2586-EL-SSO. I also submitted written testimony, but did not testify at hearing, in Duke Energy Ohio's initial Electric Security Plan (ESP) proceeding, Case No. 08-920-EL-SSO, *et al.*, and in Duke Energy Ohio's Long Term Forecast Report proceeding, Case No. 10-503-EL-FOR.

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

A. The purpose of my testimony is to discuss certain information regarding the competitive bidding process (CBP) plan under Duke Energy Ohio's proposed ESP. Specifically, I address elements of the CBP plan not otherwise discussed by other witnesses in this proceeding and I support the draft Master Standard Service Offer Supply Agreement (Master Supply Agreement).

Q. WHAT IS THE ATTACHMENT FOR WHICH YOU ARE RESPONSIBLE?

A. I am sponsoring the Master Supply Agreement included as Attachment F to the Application.

II. DISCUSSION

Q. PLEASE SUMMARIZE THE PROPOSED CBP.

A. The objective of the CBP is to secure suppliers to provide the most cost-effective, full requirements standard service offer (SSO) supply for Duke Energy Ohio's customers under the proposed ESP. As defined in the relevant bid documents and as used in my testimony, full requirements SSO supply will include energy, transmission, and ancillary services. Full requirements SSO supply excludes capacity. Duke Energy Ohio's CBP plan is based upon staggered procurements, with the first auction to be conducted no later than December 1, 2011, for delivery beginning January 1, 2012. For the term of the proposed ESP, the energy supply for the Company's SSO load will be procured through descending-price clock, full requirements auctions.

Q. AS THE ESP PROVISIONS OF AMENDED SUBSTITUTE SENATE BILL 221 (S.B. 221) DO NOT EXPRESSLY ADDRESS WHOLESALE AUCTIONS, WHAT CRITERIA DID DUKE ENERGY OHIO RELY UPON FOR PURPOSES OF DEVELOPING ITS CBP PLAN?

A. In developing the CBP plan incorporated into and a part of its proposed ESP, Duke Energy Ohio used as guidance many of the statutory and Commission rule requirements applicable to a CBP plan under an MRO. The statutory and regulatory requirements for an ESP do not expressly make provision for securing any aspect of generation service through a CBP. As the auction criteria should not materially differ simply because an electric distribution company operates under an ESP instead of an MRO, reliance upon the relevant aspects of the MRO provisions seemed reasonable for this purpose. I would further observe that the Commission has twice approved the use of competitive auctions within the ESP framework.

Q. PLEASE IDENTIFY THE AUCTION MANAGER SELECTED BY DUKE ENERGY OHIO IN CONNECTION WITH THE CBP PLAN.

A. For its first auction, Duke Energy Ohio has retained CRA International, d/b/a Charles River Associates (CRA) to act as the independent Auction Manager to implement a CBP plan to procure full requirements SSO supply for delivery beginning in 2012. As I understand, CRA has performed numerous competitive bidding processes in a range of industries, including the power sector, and has recently conducted structured procurements for the FirstEnergy Corp. Ohio electric distribution utilities (FirstEnergy Companies) in 2008, 2010 and 2011.

Duke Energy Ohio retained CRA to design an open, fair, and transparent competitive solicitation with clear product definition and standard bid evaluations. Specific Auction Manager activities include widely publicizing the auctions to prospective bidders, conducting information sessions and responding to bidder questions, managing the CBP auction, and communicating with the Commission on the progress and results of the competitive solicitation. The Commission will have access, on a real-time basis, to Company employees and CRA to assist the Commission in its review of the CBP, with such access extending to data, information, and communications relevant to the bidding process.

Q. PLEASE DESCRIBE THE PRODUCTS THAT WILL BE AUCTIONED.

A. The Company seeks to conduct wholesale energy auctions for its entire SSO load beginning in year one of the ESP and continuing every year thereafter, for the period of nine years and five months on a staggered basis. However, the Company proposes that year one of the auction be defined as the period from January 1, 2012, to May 31, 2013, to enable alignment with the PJM Interconnection, L.L.C., (PJM) planning year. Thereafter, the auctions will follow the PJM planning year term, which runs from June 1 to May 31. Consistent therewith and in an effort to attract diverse bidders, Duke Energy Ohio will offer two auctions per year and has incorporated products of various duration into its auction schedule. The proposed Bidding Schedule and Timeline is attached as Attachment B to the Application.

The Company submits, as part of this filing, the draft documents integral to the CBP plan. Duke Energy Ohio witness Robert J. Lee of CRA elaborates on

the documents relevant to the pre-auction period. More specifically, Mr. Lee discusses the Application Process, the Information Website, Bidder Rules, the Communications Protocol, and Glossary. I will discuss below the Master Supply Agreement to be executed by Duke Energy Ohio and the respective successful bidders, after the auction concludes.

Q. WHY DOES DUKE ENERGY OHIO PROPOSE TO ALIGN THE WHOLESALE ENERGY AUCTIONS WITH THE PJM CALENDAR?

A. The goal in extending the first year of the ESP to a seventeen-month term, and thereafter aligning with the PJM calendar, is to achieve timely coordination of Duke Energy Ohio's CBP plan with the PJM auction cycle. It would be disruptive to the auction process to seek to extend or shorten a year under the ESP after the auction format has been approved and certain auctions conducted. The Company is seeking certainty with regard to how and when its auctions will occur and the time periods over which supply will have to be provided. Further, alignment with the PJM planning year at the onset of the lengthy auction schedule prevents disruption to said schedule should the Commission terminate the ESP and order Duke Energy Ohio to migrate to the MRO.

Q. WHAT IS THE PRODUCT THAT WILL BE PROCURED IN THE WHOLESALE ENERGY AUCTIONS UNDER THE CBP PLAN?

A. The product in Duke Energy Ohio's CBP plan is an hourly, load-following full requirements tranche of the Company's SSO load. For purposes of this description, a tranche is defined as 1.0 percent, or a slice, of the Company's total SSO load obligation for energy and ancillary services only. The Company will

include different products of varying contract durations necessary to meet all of its SSO load via a competitive process. To achieve consistent, price-smoothing benefits for customers over the long term, Duke Energy Ohio is planning for a mix of varying term contract durations where possible for the ESP period. After the initial 2011 auction, Duke Energy Ohio anticipates holding two auctions each year. Regardless of the length of time to which a supplier commits, each successful supplier will provide full requirements SSO supply, including energy, transmission ancillaries, and other transmission services as defined in the Master Supply Agreement.

Q. WHAT CUSTOMER LOADS WILL BE SERVED BY THE WINNING BIDDERS?

A. As discussed above and in the Direct Testimony of Company witness Lee, the CBP plan uses a slice-of-system approach. Consequently, the winning bidders will serve a share of each customer's SSO load in proportion to the share of the overall load won in the auction.

Q. WHAT INFORMATION WILL BE MADE AVAILABLE TO BIDDERS?

A. As described in the Bidding Rules provided as Attachment C to the Application, Duke Energy Ohio will make available to prospective suppliers the following information: load data for a historical three-year period, historical hourly load data for its total retail load and SSO load, historical switching statistics, and historical load profiles. This information will be available on the Information Website prior to qualification. The Company's retail electric tariffs are available on its public website, http://www.duke-energy.com/rates/ohio/electric.asp.

Q. WHAT OPTIONS WILL A SUPPLIER HAVE TO DELIVER ENERGY TO THE PJM DUKE ENERGY LOAD ZONE?

A. Suppliers will have several options to deliver energy to the PJM Duke Energy Ohio Load Zone. Options include the purchase of energy directly from PJM at the PJM Duke Energy Ohio Load Zone as well as scheduling energy from a source in PJM to be delivered to the PJM Duke Energy Ohio Load Zone. PJM energy sources examples may be a specific generator in PJM or a commercial trading hub inside PJM, such as AEP/Dayton Hub. Energy delivered to the PJM Duke Energy Ohio Load Zone from generating sources located within contiguous regional transmission organizations outside of PJM, such as from the Midwest Independent System Operator or New York Power Pool, are also acceptable.

Q. DID THE COMPANY CONSIDER INCLUDING ITS ALTERNATIVE ENERGY OBLIGATION IN THE WHOLESALE ENERGY AUCTIONS UNDER ITS CBP PLAN?

A. Yes. Duke Energy Ohio did explore including renewable energy certificates (RECs) in the wholesale energy auctions for its SSO load but has opted not to pursue that tactic for multiple reasons. Some of the key reasons for this include the greater transparency of actual costs of alternative energy compliance under the proposed plan as compared to auctioning the alternative energy requirement combined with other full requirements SSO supply in one price; greater assurance that the compliance targets will be met if Duke Energy Ohio retains this component as opposed to potential alternative compliance payments being paid by bidders; and because the auction is considered to be more straightforward to

bidders if the REC requirement is not included, in part because the REC obligations are based upon the Company's historical sales and the energy auction is prospective in nature.

Q. WHY DID DUKE ENERGY OHIO SELECT A SLICE-OF-SYSTEM PRODUCT?

A. Again, the auction structure proposed here is familiar to prospective bidders. Furthermore, the full requirements, slice-of-system product better enables prospective bidders to mitigate costs and financial risks, which should result in more competitive prices for customers.

Q. HOW DID THE COMPANY SELECT THE TIMELINE AND NUMBER OF TRANCHES PROPOSED FOR THIS COMPETITIVE BID PROCESS?

A. The auction timeline was influenced by the planning year concept used by Regional Transmission Organizations, including PJM, which is also consistent with the timing of PJM's annual base residual auction, as well as the Company's effective date of the Company's proposed ESP. Furthermore, the timeline and number of tranches was influenced by the prospective reviews of the ESP that will be conducted in year four and year eight. As the reviews could result in Commission-ordered termination of the ESP and migration to an MRO, the auction timeline provides for the possibility of reverting to a blending period as required under R.C. 4928.142.

I will further note that the staggered timeline and varying contract durations from approximately one to three years serve to smooth out potentially

volatile market prices, provide for longer-term price stability, and encourage efficient pricing of the products.

Q. PLEASE DESCRIBE THE MASTER SUPPLY AGREEMENT.

A. The Master Supply Agreement sets forth the contractual obligations of successful suppliers and the Company with respect to each auction. The Agreement expressly details the terms and conditions that will govern the relationship between the Company and successful suppliers. The Master Supply Agreement must be executed by each successful supplier in the prescribed period of time; otherwise, Duke Energy Ohio has the right to consider the agreement void and to retain any pre-bid security provided by the successful supplier.

Q. WHAT TOPICS ARE INCLUDED IN THE MASTER SUPPLY AGREEMENT?

A. The Master Supply Agreement addresses the following topics: (1) Definitions; (2) Term and Termination; (3) General Terms and Conditions; (4) Scheduling, Forecasting and Information Sharing; (5) Credit and Performance Security; (6) Billing, Payment and Netting; (7) Breach and Default; (8) Representations and Warranties; (9) Risk of Loss; Limitation of Liability; (10) Indemnification; (11) Dispute Resolution; and (12) Miscellaneous Provisions.

Q. WHAT IS THE CONTINGENCY PLAN IF ONE OR MORE OF THE SUPPLIERS DEFAULT PRIOR TO OR DURING THE DELIVERY PERIOD?

A. The Master Supply Agreement addresses default and the remedies available to Duke Energy Ohio should a supplier default on its contractual obligations. To

summarize, should a supplier default and not timely cure that default, Duke Energy Ohio may terminate the contract with no remaining contractual obligations owing to that defaulting supplier and may also seek monetary damages from the defaulting supplier. Monetary damages may include, but are not limited to, withholding payment for prior supplier performances and/or pursuing our rights under any credit support provided by a supplier such as a guaranty of letter of credit. Duke Energy Ohio will fill the tranches of the defaulted supplier by purchasing the necessary supply through the PJM administered markets. Open tranches made available by defaulting suppliers will be offered to current SSO suppliers as soon as practicable consistent with the procedures set forth in Section 7.4 of the Master Supply Agreement.

Q. WHAT ARE CREDITWORTHINESS STANDARDS AND WHY ARE THEY NEEDED?

A. It is typical of commercial power transactions to include standards around creditworthiness. This serves to ensure that the contracting entity that does perform under the contract is not financially disadvantaged should the other contracting party default. In other words, the creditworthiness requirements under the Master Supply Agreement are intended to allow the Company to recover monetary damages from the supplier where that supplier is responsible for causing damages to the Company. Duke Energy Ohio thus believes it is commercially reasonable to include these provisions in the Master Supply Agreement, as without these provisions its customers would likely have a higher risk of absorbing the costs associated with a supplier's default. As discussed by

Duke Energy Ohio witness Wathen, should the Company have unreimbursed costs as a result of procuring power in the spot market due to a supplier's default, it will seek to recover those costs through Rider RE (retail energy rider). But it will first enforce the Master Supply Agreement and exhaust all available remedies before seeking recovery through the Rider RE.

Q. WILL THE ESP PLAN AS PROPOSED ENSURE REASONABLE ENERGY PRICING?

A. Yes. The CBP plan designed and administered by an independent Auction Manager promotes competitive pricing through a transparent and standardized market-based procedure. The staggered procurement timeline and multi-tiered contract durations of slice-of-system load enables the supplier market to offer the most cost-effective supply proposals available providing customers more stable market-based prices for energy.

Q. DOES THE ESP CREATE BARRIERS TO COMPETITION?

A. The ESP eliminates barriers to competition by allowing open access to alternative retail suppliers supplying market-based energy products to customers. Under the ESP, Duke Energy Ohio will procure energy supply at the lowest prices available in the market, thereby creating for energy suppliers a new purchaser and avenue to sell their resources. The ESP allows customers to continue to make individual "choice" decisions on their preferred energy supplier based on their own price and reliability preferences. Further, the extended term of the proposed ESP ensures that a competitive retail market will continue in Ohio.

Q. HOW WILL THE IMPLEMENTATION OF AN AUCTION FOR ENERGY SUPPORT A COMPETITIVE ENERGY MARKET IN OHIO?

A. Duke Energy Ohio's auction to select successful bidders to supply energy to its customers will provide a robust opportunity for competition to continue in our service territory over the next nine years and five months. Duke Energy Ohio customers have embraced competition and the auction will allow for customers to continue to have choices with respect to their energy providers.

Q. DOES THE AUCTION SUPPORT A COMPETITIVE ENVIRONMENT IN OTHER WAYS?

A. Yes. The proposed auction in Duke Energy Ohio's ESP does not include the blending requirement inherent in an MRO and thus the competitive auction price is passed through directly to customers, thereby allowing customers to experience the benefits of the competitive process immediately. Additionally, the auction provisions are designed to attract a diverse set of bidders and will potentially attract new participants to the southwestern Ohio market. In this regard, the long-term nature of the proposed ESP confirms for competitive suppliers that a retail market will persist. Thus, these suppliers will be in a position to make investment in Duke Energy Ohio's service territory in respect of their businesses, where such investment could take the form of a committed sales force. The auction format allows existing competitive suppliers to continue to serve customers and invites new entrants in the competitive market that is perpetuated under the Company's plan. Further, as indicated by Duke Energy Ohio witness Lee, participation in the

auction does not require ownership of generation. Thus, no one prospective supplier is advantaged vis-à-vis other prospective suppliers.

Q. HOW WILL DUKE ENERGY OHIO SECURE ENERGY FOR ITS SSO LOAD IN THE EVENT IT IS UNABLE TO CONDUCT WHOLESALE ENERGY AUCTIONS IN 2011 FOR DELIVERY BEGINNING JANUARY 1, 2012?

A. As described in the Application and supporting testimony, Duke Energy Ohio proposes to conduct wholesale energy auctions for its SSO load, with delivery beginning on January 1, 2012. In the event a Commission order approving the proposed ESP is not issued in sufficient time to enable the first auction to be conducted in time to procure energy for the period starting January 1, 2012, Duke Energy Ohio proposes to procure the energy necessary to serve its SSO load via the PJM Spot Energy Market, for whatever period is necessary as a result of the delay. Duke Energy Ohio witness William Don Wathen Jr. testifies as to the method of cost recovery applicable to this approach.

Q. WHAT IS THE COMPANY'S CONTINGENCY PLAN IF A WHOLESALE ENERGY AUCTION PROCEEDS NO LATER THAN DECEMBER 1, 2011, FOR DELIVERY JANUARY 1, 2012, BUT SUCH AUCTION IS UNDER-SUBSCRIBED?

A. In the event that fewer tranches than a product's tranche target are purchased in the auction, Duke Energy Ohio will implement a Contingency Plan for the unfilled tranches. Under that plan, if all tranches are not fully subscribed through the auctions in any given year, any remaining tranches will be met through PJM-

administered markets at prevailing day-ahead, real-time zonal spot prices. More details on the Contingency Plan are included in the Bidding Rules. I would further note that this Contingency Plan is applicable to any auction and not just the first auction for delivery beginning January 1, 2012.

Q. DOES THE CBP PLAN PROPOSED IN THIS APPLICATION DIFFER IN ANY WAY FROM THE PLAN THAT WAS PROPOSED BY DUKE ENERGY OHIO IN ITS MRO?

A. Yes. We have incorporated into the plan many of the suggested changes offered by competitive retail suppliers in their testimony in Case No. 10-2586-EL-SSO. For example, the Company has agreed to include Fitch, Inc., as an acceptable rating agency for purposes of determining a potential bidder's creditworthiness. Likewise, the Company has relaxed some of its credit requirements. Additionally, the Company will provide auction participants and winners with additional information to enhance their ability to participate in the auction effectively. The Company further commits to providing responses to questions (FAQs) within two business days in most cases and to the extent reasonably practicable.

III. CONCLUSION

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

A. Yes.

DUKE ENERGY OHIO EXHIBIT _____

BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications and Tariffs for Generation Service.	)	Case No. 11-3549-EL-SSO
In the Matter of the Application of Duke Energy Ohio for Authority to Amend its Certified Supplier Tariff, P.U.C.O. No. 20.	)	Case No. 11-3550-EL-ATA
In the Matter of the Application of Duke Energy Ohio for Authority to Amend its Corporate Separation Plan.	)	Case No. 11-3551-EL-UNC

DIRECT TESTIMONY OF

ROBERT J. LEE

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 20, 2011

TABLE OF CONTENTS

PAGE

Attachment:

RJL-1: Curriculum Vitae

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, PROFESSIONAL POSITION, BUSINESS ADDRESS, AND FOR WHOM YOU ARE TESTIFYING.

A. My name is Robert J. Lee. I am a Principal at CRA International, Inc. d/b/a Charles River Associates (CRA) and a member of CRA's Auctions & Competitive Bidding consulting practice. Founded in 1965, CRA provides economic and financial expertise and management consulting services to businesses, law firms, accounting firms, and governments. My business address is John Hancock Tower, T-32, 200 Clarendon Street, Boston, Massachusetts 02116. I am testifying on behalf of Duke Energy Ohio, Inc. (Duke Energy Ohio or the Company).

Q. WHAT ARE YOUR PROFESSIONAL AND EDUCATIONAL BACKGROUNDS?

A. I have been at CRA since 2001. I received an MSIA degree from Carnegie Mellon University in Pittsburgh in 1996. From the mid 1990s through the mid 2000s, my work focused on the domestic energy sector generally and the power sector specifically. For the past five years, I have focused primarily on auctions and other transaction mechanisms in a range of industries, including the power sector. In various industries including electricity, CRA's Auction & Competitive Bidding practice designs and conducts auctions and other bidding mechanisms, acts as independent monitors of bidding processes, and provides support to bidders. In the course of that work, I have played a leadership role in a wide range of auctions in a broad set of industries, including auctions in the power

sector. My curriculum vitae is marked as Attachment RJL-1, listing my background and experience in further detail.

Q. HAVE YOU PREVIOUSLY WORKED ON MATTERS BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO?

A. Yes I have. In the fall of 2010, I submitted testimony in Case Number 10-2586-EL-SSO on behalf of Duke Energy Ohio's Market Rate Offer (MRO). In addition, CRA was retained by the FirstEnergy's Ohio electric distribution utility companies (First Energy Companies) for structured procurements in 2008, through 2011. I served as part of the CRA Auction Manager team on the procurements. Finally, during the late 1990s, prior to joining CRA, I worked on behalf of Cinergy Corp. and Dayton Power & Light on their transition plans related to the deregulation of the Ohio power sector.

Q. AS PART OF THE AUCTION MANAGER TEAM FOR STRUCTURED PROCUREMENTS, HAVE YOU HAD OCCASION TO INTERACT WITH THE PUBLIC UTILITIES COMMISSION OF OHIO?

A. Yes, CRA worked with the Public Utilities Commission of Ohio (Commission) in administering and conducting the structured procurement auctions for the FirstEnergy Companies that I mentioned previously. This interaction included, but was not limited to, elements of the design of the competitive bidding process (CBP) plan, product definition, bidding format, and general indications of interest from prospective bidders.

Q. DURING THESE INTERACTIONS WITH THE COMMISSION, DID THE COMMISSION EVER EXPRESS CONCERN AS TO CRA'S INDEPENDENT ROLE IN THE STRUCTURED PROCUREMENT PROCESS?

A. No. The Commission found CRA to be an active, fair, and impartial participant in the structured procurement process. The Commission, either acting on its own volition or through its consultant, had ready insight into the auction process and I am thus confident that CRA would not have served, and would not continue to serve, in this capacity as an Auction Manager if there was any question about its unbiased and independent role.

Q. HAS THE COMMISSION AFFIRMATIVELY FOUND CRA TO BE AN INDEPENDENT AUCTION MANAGER?

A. Yes. In connection with the most recent auction that CRA conducted for the FirstEnergy Companies, the Commission found CRA to be independent. Furthermore, Commission Staff did not dispute CRA's designation as an independent auction manager in the request for an MRO made by the FirstEnergy Companies under Case No. 09-906-EL-SSO.

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

A. CRA has been retained by Duke Energy Ohio to serve as the independent Auction Manager to design and implement a CBP Plan to procure standard service offer (SSO) supply for energy, and ancillary services for delivery periods beginning on January 2012. My testimony describes how the proposed solicitations will work,

what alternative CBP designs were considered, and how the proposed CBP supports the establishment of an electric security plan (ESP) under Section 4928.143 of the Ohio Revised Code.

Q. WHAT ARE THE ATTACHMENTS AND SCHEDULES FOR WHICH YOU ARE RESPONSIBLE?

A. I am sponsoring all or part of the following items:

- Attachment RJL-1 – Curriculum vitae
- Attachment B to the Application – Schedule and Timeline
- Attachment C to the Application – Parts 1 and 2 Application Documents
- Attachment D to the Application – Bidding Rules
- Attachment E to the Application – Communications Protocols
- Attachment G to the Application – Glossary

II. DESCRIPTION OF THE CBP SOLICITATIONS

Q. PLEASE SUMMARIZE THE CRITERIA THAT INFLUENCED THE DEVELOPMENT OF THE CBP PLAN UNDER THE COMPANY'S PROPOSED ESP.

A. R.C. 4928.143 does not specifically address the procurement of any aspect of generation service through a competitive process. Rather, it requires that an electric distribution company include in its ESP provisions related to the supply and pricing of generation service, which includes energy. In this regard, the Commission rule requirements contemplate that the utility explain and support each aspect of the ESP.

Duke Energy Ohio's CBP plan is supported – and guided – by the relevant statutory and Commission rule requirements applicable to a CBP plan under R.C. 4928.142.

Q. PLEASE DESCRIBE THE CBP PLAN.

A. The CBP plan is designed to promote open, fair, and transparent competitive solicitations with clear product definitions, standardized bid evaluation criteria, oversight by an independent third party, and the evaluation of the submitted bids prior to the selection of the least-cost bid winner or winners. The major elements include the following:

(a) Developing products and contract terms, as formalized in the Master Standard Service Offer Supply Agreement (Master Supply Agreement), that encourage participation from a range of power industry and financial institutions.

(b) Maintaining a CBP Information Website that facilitates interest and participation by providing documents, announcements, a timeline including deadlines for the CBP, load and other data, frequently asked questions (FAQs), and other information.

(c) Conducting bidder information sessions and other pre-bidding activities to promote and encourage participation.

(d) Developing communications protocols to ensure parties have equal access to information.

(e) Administering the two-part bidder application process, including establishing financial and non-financial requirements to encourage participation by serious parties.

(f) Developing the auction design and bidding procedures to attract bidders and to promote competitive bidding.

(g) Educating and training bidders through informational materials and mock auctions.

(h) Customizing and testing the bidding platform and help desk facility.

(i) Providing starting prices for the CBP auction that are intended to attract bidding participation.

(j) Conducting each solicitation in accordance with the bidding rules and in a manner that promotes participation and allows for verification of procedures and results.

(k) Submitting a post-bidding report to the Commission that allows the Commission to select the least-cost bid(s) and bidder(s) in the CBP.

Q. HOW WILL THE PRODUCT DEFINITIONS AND CONTRACT TERMS ENCOURAGE PARTICIPATION?

A. The products and contract terms are familiar to market participants and prospective bidders. They are standardized and yet provide flexibility through staggered contract delivery periods that allow participants to bid their preferred supply profile over time. The tranche size also encourages participation from a range of potential suppliers, where each tranche is a specified, fixed percentage of energy for the SSO load.

Q. HOW WILL PROSPECTIVE BIDDERS AND OTHER PARTICIPANTS BE KEPT INFORMED DURING THE CBP?

A. Documents, announcements, a timeline, load data, FAQs, and other information will be readily available via the CBP Information Website, which will be hosted and updated regularly by the Auction Manager. Interested parties can register at the Information Website to receive updates and announcements about the CBP directly via email. Parties can submit questions and comments to the Auction Manager directly via a link on the Information Website or via email. Responses will be posted to the FAQ section of the Information Website, and registered parties will receive email notifications of new information posted to the Information Website. In addition to the Information Website, bidder information sessions will be conducted with presentations about the CBP and with time allowed for attendees to ask questions. The bidder information sessions will be conducted in person and/or via the Web conference to accommodate prospective bidders. Bidders also will be encouraged to participate in mock auctions to familiarize themselves with the bidding platform and procedures.

Q. WHAT PRECAUTIONS AND PROCEDURES WILL BE FOLLOWED TO ENSURE APPROPRIATE COMMUNICATIONS AND INFORMATION EXCHANGE?

A. The Communications Protocols establish what communications are permitted among various parties including the Auction Manager, Duke Energy Ohio, the Commission, Commission Staff, and prospective bidders. The Communications Protocols are found as Attachment E to the Application. The protocols are

intended to protect confidential information and to allow equal access to information without providing any advantage or disadvantage to prospective bidders.

The Auction Manager will provide the communications channel for interested parties. This includes addressing questions from parties about the CBP, providing information via the CBP Information Website, broadcasting email notifications to registered parties (using the bcc email field), conducting bidder information sessions, managing the auctions, communicating results, and submitting a post-bidding report. This will facilitate a process in which information is provided consistently, timely, and on an equal basis to parties.

Certain individuals at Duke Energy Ohio will be part of the information exchange, but in a limited way and only to support the competitiveness and success of the CBP. Their role primarily will be as follows: development of data posted to the CBP Information Website, assistance on FAQs (they will not know the identity of questioners), assistance in reviewing certain information in the Part 1 Applications (to determine creditworthiness and pre-bid security requirements), confirming the pre-bid security posted as part of the Part 2 Applications, and administration of the Master Supply Agreement.

Q. PLEASE PROVIDE AN OVERVIEW OF THE BIDDER APPLICATION AND QUALIFICATION PROCESS.

A. To participate in the CBP, prospective bidders will need to satisfy financial and non-financial requirements through a two-part application process. The purpose of the two-part application process is for prospective bidders to demonstrate their

ability and commitment to meet the requirements of participation in the CBP and the requirements of being an SSO Supplier as set forth in the Master Supply Agreement (Attachment F to the Application). The Part 1 and Part 2 Applications are included as Attachment C to the Company's Application. As much as possible, the Part 1 and Part 2 Application process will be conducted electronically via the CBP Information Website. The process is designed to be secure and to make it easier and less time consuming for applicants to submit applications, the review and assessment of the applications, providing feedback to applicants, applicants to check on the status of their applications, and applicants to cure any deficiencies. If an applicant prefers to submit its applications manually, the Part 1 and Part 2 Application forms will be available on the CBP Information Website for download.

Q. PLEASE DESCRIBE THE PART 1 APPLICATION PROCESS.

A. In its Part 1 Application, a prospective bidder must satisfy the following requirements:

(a) Submit a completed application.

(b) Provide contact information for the applicant and for designated representatives of the applicant.

(c) Agree to comply with the provisions of the Master Supply Agreement and all the rules of the CBP, including the Communications Protocols.

(d) Demonstrate regional transmission organization participant status, or certify that there are no impediments to establishing that status prior to the start of the relevant SSO supply period.

(e) Provide financial and credit information to be used in determining creditworthiness and credit requirements.

(f) Make certifications regarding confidentiality and other matters.

Part 1 Applications are to be submitted by the Part 1 Application due date. The Auction Manager team will process and evaluate all Part 1 Applications to determine whether each applicant has satisfied the requirements of Part 1. Financial and credit information will be submitted to representatives of Duke Energy Ohio in order to conduct a creditworthiness assessment. If an applicant's Part 1 Application is incomplete or requires clarification, the Auction Manager will send a deficiency notice to the applicant, and the applicant will have until the end of the next business day or until the Part 1 Application due date — whichever is later — to respond.

Following the evaluation of Part 1 Applications, the Auction Manager will notify each Part 1 applicant whether or not they have successfully completed the Part 1 Application process to become a Qualified Bidder. The Auction Manager will send a Notification of Qualification to each Qualified Bidder that will include details about the pre-bid security the Qualified Bidder will be required to post as part of its Part 2 Application. The Auction Manager will send a list of the Qualified Bidders to each Qualified Bidder, including representatives from Duke Energy Ohio, Commission Staff, and any advisor who Commission Staff may have retained for this purpose, as well as to other parties as necessary to oversee the proper conduct of the CBP. All parties, including Qualified Bidders, will have undertaken to maintain the confidentiality of the list of Qualified Bidders, as

further explained in the Communications Protocols. The terms relevant to the Communications Protocols as well as other auction documents are contained in the Glossary Attachment G to the Application.

Q. PLEASE DESCRIBE THE PART 2 APPLICATION PROCESS.

A. To continue participation in the CBP, Qualified Bidders must submit a Part 2 Application. In the Part 2 Application, the Qualified Bidder makes a number of certifications regarding its associations with other Qualified Bidders in order to ensure that each Qualified Bidder participates independently of other Qualified Bidders and to ensure the confidentiality of information regarding the CBP. Also with the Part 2 Application, each Qualified Bidder must submit an indicative offer that specifies the number of tranches that it would be willing to serve at the minimum starting price and at the maximum starting price.

Part 2 applicants also must post pre-bid security in the form of a letter of credit or electronic wire transfer sufficient to support its indicative offer. A Part 2 applicant also may be required to submit additional security in the form of a letter of intent to provide a guaranty and/or a letter of reference; such a requirement would be determined during the assessment of the Part 1 Applications. Any pre-bid security submitted to support the indicative offer must be in a form acceptable to the Duke Energy Ohio. Sample pre-bid security documents will be posted to the CBP Information Website and are attached as appendices to the Part 1 and Part 2 Application forms, which are provided in Attachment D to the Company's Application.

Part 2 Applications are to be submitted by the Part 2 Application due date. The Auction Manager team will process and evaluate all Part 2 Applications to determine whether each applicant has satisfied the requirements of Part 2. A Part 2 Application will be acceptable if it satisfies the following:

(a) Must be complete;

(b) Must include an indicative offer in the appropriate form;

(c) Must meet the requirements provided to the Part 2 applicant resulting from the Part 1 Application process; and

(d) Must include the pre-bid security in a form acceptable to Duke Energy Ohio that is sufficient to cover the indicative offer submitted by the Part 2 applicant at the maximum starting prices.

If an applicant's Part 2 Application is incomplete or requires clarification, the Auction Manager will send a deficiency notice to the applicant, and the applicant will have until the end of the next business day or until the Part 2 application due date — whichever is later — to respond.

Following the evaluation of Part 2 Applications, the Auction Manager will notify each Part 2 applicant whether or not they have successfully completed the Part 2 Application process to become a Registered Bidder. The Registered Bidder's pre-bid security establishes the Registered Bidder's initial eligibility, which is the maximum number of tranches the bidder will be allowed to bid in the wholesale energy auction. The Auction Manager will send a Notification of Registration to each Registered Bidder that will include the Registered Bidder's initial eligibility. The Auction Manager will send to each Registered Bidder, as

well as to other parties as necessary to oversee the proper conduct of the CBP, a list of the Registered Bidders and the total initial eligibility across all Registered Bidders. All parties, including Registered Bidders, will have undertaken to maintain the confidentiality of this information provided to them.

Q. WHAT BIDDING DESIGN WILL BE USED?

A. A version of the simultaneous, multiple-round, descending-price clock auction format will be used. A version of this format has been used in numerous electricity procurements including in Massachusetts in 1997 and used later in New Jersey, Ohio, Illinois, and elsewhere. It currently is being used in the CBP for the FirstEnergy Companies to procure their SSO supply for the period January 1, 2011, through May 31, 2014. This bidding design also has been used for buying and selling other energy products and has been used in other industries.

The bidding format is simultaneous in that multiple products and/or multiple tranches are bid on simultaneously. Bidding takes place typically online using Web-based software in a series of bidding rounds, with pre-specified starting and ending times for each round. Prior to the start of each round, the announced price for each product is disclosed to bidders. The announced price is the same for each tranche for a product, but may differ across products. The starting announced price for each product — *i.e.*, the announced price in effect during round 1 — is set artificially high so as to encourage bidding participation. At the end of each round, the bidding software, as overseen by the Auction Manager team, determines which products are over-subscribed and which products are under-subscribed. A product is over-subscribed if more supply

tranches were bid on it across all bidders than the number of tranches needed to procure for the product. Likewise, a product is under-subscribed if fewer tranches were bid on it than needed. If a product is over-subscribed, the announced price for that product will be reduced by a decrement for the next round. If a product is not over-subscribed, its announced price will not change for the next round. The bidding process continues in this manner, with prices tending to tick down like hands on a clock. As prices change across the products, bidders are allowed to change the number of tranches they bid subject to certain restrictions. Subject to these restrictions, in each round, a bidder simply specifies the number of tranches that it is willing and able to supply for each product given the announced price for each product. There is no pre-determined number of rounds before the auction closes. The auction closes when the closing criteria have been met. For the auction to close, the number of tranches bid for each product at the announced price must be less than or equal to the supply for that product. The closing criteria are outlined in detail in the Bidding Rules. Winning bidders are those bidders who bid the tranches that are winning tranches as of the close of the auction. The Bidding Rules provide a more detailed description of the bidding process and are included as Attachment D to the Company's Application.

Q. PLEASE DESCRIBE THE PROCESS FOLLOWING THE CLOSE OF EACH WHOLESALE ENERGY AUCTION.

A. At the close of each auction, the Auction Manager will provide a report to the Commission. The post-bidding report will summarize the bidding process and results, and will provide a list of the least-cost bidder(s) and the number of the

least-cost tranches for each product for each such bidder. Duke Energy Ohio proposes that the bids of the least-cost bidders be approved by the Commission within three calendar days of the submission of the post-bidding report, with these bids serving to determine the retail rates for energy for the relevant periods of the ESP.

After the last round of the auction, bidders that remained active in the auction will see preliminary auction results through the Bidding Website. These bidders will see the clearing prices for each product and the number of tranches the bidder tentatively has won for each product. These preliminary results remain subject to the Commission's determination. Upon the third calendar day following the close of the auction, and subject to Commission approval, the Auction Manager will notify each winning bidder of the number of tranches the bidder has won for each product and the associated clearing prices. The Auction Manager also will provide Duke Energy Ohio the identities of the winning bidders, the number of tranches each winning bidder has won for each product, and the associated clearing prices.

Once the Commission selects the winning bidder(s), the winning bidder(s) and Duke Energy Ohio will execute the Master Supply Agreements. Pre-bid security will be returned to all bidders upon execution of the Master Supply Agreements, on or before the third calendar day after the close of the auction. Pre-bid security may be held back for any bidder that violated any of the rules or certifications of the CBP.

The Commission may release certain non-confidential information about the CBP results including winning bidders, winning tranches, and clearing prices.

Q. WHAT IS THE SCHEDULE FOR BIDDING AND THE TIMELINE PROPOSED BY THE COMPANY?

A. The proposed schedule that shows number of tranches and a timeline for the competitive bid process for each tranche is Attachment B to the Application. The schedule calls for a single auction in 2011 that would secure power for delivery starting January 1, 2012. There would be two auctions per year in each of the subsequent CBP years.

Q. WHY IS THERE ONLY A SINGLE AUCTION IN 2011?

A. The purpose of holding multiple solicitations is to ensure that there is no perception that CBP results were overly influenced by short-term market conditions. However, given the lead time required for bidder education and qualification and given the fact that deliveries start on January 1, 2012, there is not sufficient time to conduct multiple solicitations in 2011. Even if it were possible, both would occur very close together in time and the benefits of conducting multiple solicitations would, therefore, be negligible.

Q. HOW MUCH TIME IS REQUIRED TO CONDUCT A CBP AUCTION?

A. In general, two to three months are required in advance of an auction to facilitate bidder education and qualification. The auction must also be held with enough lead time prior to power flow to allow all parties to execute the Master Supply Agreement and to implement the Contingency Plan if any tranches are unfilled by

the auctions in a given year. For 2011, the latest possible date for an auction would be December 1, 2011.

Q. WHAT IS THE CONTINGENCY PLAN IF NOT ENOUGH TRANCHES ARE SECURED THROUGH A CBP AUCTION?

A. In the event that fewer tranches than a product's tranche target are purchased in the auction, Duke Energy Ohio will implement a Contingency Plan for the unfilled tranches. Under that plan, if all tranches are not fully subscribed through the auctions in any given year, any remaining tranches will be offered to current Duke Energy Ohio SSO Suppliers as set forth in Section 7.4 of the Master Supply Agreement. These suppliers will have won tranches in the current or a prior Duke Energy Ohio CBP auction. The tranches will be offered to current suppliers at the clearing price, starting price, or reservation price, whichever is lowest. If, there still are unfilled tranches, then the necessary SSO supply requirements will be met through PJM-administered markets at prevailing Day-ahead, Real-time zonal spot prices. More details on the Contingency Plan are included in the Bidding Rules.

Q. WHAT WILL THE SCHEDULE BE AFTER 2011?

A. After 2011, there will be two auctions per year. The first will take place in June and the second in October.

Q. HOW IS THE CBP DESIGNED TO ENCOURAGE PARTICIPATION IN EACH WHOLESALE ENERGY AUCTION AND TO ENSURE THAT NO ONE BIDDER IS ADVANTAGED?

A. Physical generation assets are not required to participate in the CBP or to bid on