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**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Ohio)
Edison Company, The Cleveland Electric) Case No. 10-176-EL-ATA
Illuminating Company and The Toledo)
Edison Company for Approval of a New Rider)
and Revision of an Existing Rider.)

**DIRECT TESTIMONY OF
STACIA HARPER
ON BEHALF OF OHIO PARTNERS FOR AFFORDABLE ENERGY**

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January 7, 2011

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

2 A. My name is Stacia Harper. My business address is 231 West Lima Street,
3 Findlay, Ohio 45840. I am the Director of Regulatory Affairs and Energy Policy
4 for Ohio Partners for Affordable Energy (OPAE), and I appear in this case as a
5 witness on its behalf.

6
7 Q. PLEASE DESCRIBE YOUR BACKGROUND AND QUALIFICATIONS FOR
8 YOUR TESTIMONY IN THIS PROCEEDING.

9 A. My career has covered a broad spectrum of activities in the energy industry
10 including policy analysis at both the federal and state levels; experience in
11 wholesale market activities; extensive involvement with RTOs and ISOs; trading
12 experience in PJM/ECAR; and the development of national energy modeling
13 methods and systems. I have worked with alternative fuel implementation and
14 distributed generation and have extensive knowledge of energy and
15 environmental policy, including renewable energy development and
16 sustainability.

17
18 I have a Bachelor of Arts degree with dual majors in Political Science and
19 Economics from West Virginia University (1995) and Master of Science degree in
20 Resource and Applied Economics (2000), with a specialization in Energy
21 Economics from the University of Alaska Fairbanks. I have also completed all
22 required coursework towards a Ph.D. in Environmental and Resource Economics
23 at West Virginia University. I have been employed in the energy industry since

1 1998, first with the University of Alaska Fairbanks (Graduate Resource Assistant,
2 1998-200), then Science Applications International Corporation ("SAIC") and the
3 U.S. Department of Energy National Energy Technology Center ("DOE/NETL")
4 as a Project Manager from 2001-2004. From 2004-2006, I was employed by
5 American Electric Power ("AEP") as an Associate in Commercial Operations and
6 joined Direct Energy as a Senior Analyst from 2006-2008. Before joining Ohio
7 Partners for Affordable Energy ("OPAEE") in October of 2010, I was employed by
8 the Ohio Consumers Counsel as the Federal Policy Advisor (2008-2010).

9 While at University of Alaska, I focused on alternative energy for
10 distributed generation applications, my Master's thesis was polymer electrolytic
11 membrane ("PEM") fuel cells for distributed generation in Alaskan villages. At
12 SAIC, a subcontractor to the DOE/NETL, my areas of specialization included
13 valuation of environmental benefits from new technology system implementation
14 in coal plants, demand and supply estimation for both renewable and fossil fuel
15 based energy, as well as price forecast for production and delivered product.
16 Many of my responsibilities involved working directly with national energy models
17 such as the National Energy Modeling System (NEMS) to assist in reviewing and
18 recommended forecast methodology, baseline assumptions that were used in
19 determining forecasted demand, supply, and energy prices associated with
20 electric power generation (coal, natural gas, wind, solar, biomass). As Project
21 Manager with the DOE/NETL I was in charge of alternative fuel implementation
22 for vehicles in India, a joint U.S. Agency for International Development project.
23 Through my experiences at AEP and Direct Energy I was directly involved with

1 wholesale market operations gaining experience to the various PJM
2 administered wholesale markets, long-term contracts, and portfolio management.
3 My role as the Federal Energy Policy Advisor with the Office of the Ohio
4 Consumers' Counsel required direct involvement in the development and review
5 of new and existing energy policy.

6
7 I attach my resume listing my testimony and publications as SH-Exhibit 1.

8
9 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE OHIO PUBLIC UTILITIES
10 COMMISSION ("PUCO" or "Commission")?

11 A. No.

12
13 Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

14 A. The purpose of my testimony is to offer a potential model for a long-term solution
15 to the need to provide all electric customers of the FirstEnergy operating
16 companies – The Cleveland Electric Illuminating Company, Ohio Edison
17 Company, and The Toledo Edison Company – with affordable electric service
18 using an alternative procurement method.

19
20 Q. PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS.

21 A. I recommend that the Commission authorize a pilot program as described below
22 that would continue to provide all-electric customers of the FirstEnergy operating
23 companies who participate in the Percentage Income Payment Plan, also known

1 as PIPP Plus, with a declining block rate similar to the current rate structure
2 under which they are served and weatherization services to reduce usage. The
3 pilot program would be used to determine whether an expansion of the approach
4 would be an effective mechanism to continue to provide all-electric customers
5 with affordable rates while minimizing the shifting of costs to other customers.
6

7 Q. PLEASE SUMMARIZE THE CURRENT STATUS OF RATES FOR
8 FIRSTENERGY'S ALL ELECTRIC CUSTOMERS.

9 A. All electric customers in the FirstEnergy operating companies' service territories
10 have long been provided service under a declining block rate structure which
11 makes electric heating affordable, providing service at a cost that is comparable
12 to other heating fuels. With the move to electric rates determined through an
13 auction process, the Commission authorized the Companies to alter the
14 residential tariffs to charge a single rate for energy based on the auction price.
15 In response to a public outcry opposing this change, the Commission
16 reintroduced the declining block rate structure to eliminate the rate shock caused
17 by charging all-electric customers the same rate charged to customers that do
18 not heat with electricity.
19

20 Q. WHAT IS THE IMPACT OF CHARGING ALL ELECTRIC CUSTOMERS A
21 REDUCED RATE?

22 A. When rates are reduced for one group of residential consumers below the cost
23 of the electricity, the lost revenue – the delta between the actual cost of

1 electricity and the rate charged those customers – is spread across all residential
2 customers. This results in higher rates for customers that do not heat with
3 electricity and also raises the cost of electricity in the first block of power used by
4 all electric households. Put another way, FirstEnergy customers that do not heat
5 with electricity subsidize the lower rates charged customers that do heat with
6 electricity. The cost savings the declining block rate provides to all electric
7 customers is effectively shifted to all customers.

8
9 Q. IS THERE A MECHANISM WHICH COULD PROVIDE ALL ELECTRIC
10 CUSTOMERS WITH LOWER PRICED POWER WHILE MINIMIZING THE
11 SHIFTING OF COSTS TO OTHER RESIDENTIAL CUSTOMERS?

12 A. One approach that could ameliorate this problem is to secure generation at a
13 price below that set by the auction. The FirstEnergy operating companies would
14 execute a power purchase agreement (“PPA”) to secure this power. The lower
15 cost electricity would be dedicated to serve all electric customers.

16
17 Q. HOW CAN FIRSTENERGY SECURE POWER AT A PRICE LOWER THAN
18 THAT PRODUCED BY AN AUCTION?

19 A. There are a number of generation resources that can provide power at a lower
20 cost than that set by an auction because the auction price represents a market
21 clearing price. Some conventional generation has a lower cost than the ultimate
22 market clearing price. However, the wholesale market does not take into
23 account the revenues streams produced by the sale of renewable energy credits,

1 investment tax credits, accelerated depreciation, renewable production credits,
2 and other tax and economic development incentives which are available to
3 promote the development of renewable energy power projects. The alternative I
4 am proposing is to build a new power plant using solar photovoltaic and wind
5 turbine technologies that produces power at a rate lower than market as a result
6 of these other revenue streams, and dedicate the output from that plant to serve
7 all electric customers. In addition, excess revenue from the power project would
8 be dedicated to weatherize the homes of all electric customers, further reducing
9 the bills for these customers by reducing the amount of electricity they use.

10
11 Q. HOW CAN A NEW POWER PLANT PRODUCE POWER AT A PRICE BELOW
12 THE MARKET?

13 A. Ohio has passed a law, SB 221, which requires generation suppliers to ensure
14 that a percentage of the power they sell comes from advanced energy
15 resources. The law requires that a portion of the advanced energy come from in-
16 state solar resources. Because Ohio has little installed solar capacity, the
17 market price for this type of resource is quite high. In a typical transaction
18 involving solar power, the renewable attributes of the electricity generated from
19 solar resources is stripped off and sold as a solar renewable energy certificate.
20 When stripped of its environmental attributes the actual electricity produced by
21 the solar installation is referred to as "brown power". FirstEnergy would commit
22 to purchase the brown power through a power purchase agreement, and enter
23 into a contract to purchase the solar renewable energy certificates. In addition,

1 solar power installations are eligible for a number of incentives including
2 production credits, investment tax credits, and accelerated depreciation. When
3 the value of the renewable energy certificates, the tax advantages, and other
4 incentives are subtracted from the cost of producing power from solar resources,
5 the brown power produced at the facility costs less than the auction price which
6 is the basis of rates charged by the FirstEnergy operating companies. My
7 calculations indicate that building a solar power plant and selling the renewable
8 energy certificates can result in a brown power cost of \$40-50/mWh, which is
9 below the auction price which is the basis for residential power costs in the
10 service territories of the FirstEnergy operating companies. Additionally, a portion
11 of the revenue from the project would be used to weatherize the homes of all
12 electric customers.

13
14 Q. WHAT ACTION DO YOU RECOMMEND THE COMMISSION TAKE?

15 A. I recommend that the Commission order the Companies to develop a pilot
16 project along the lines described above to prove the concept that energy can be
17 delivered at a price lower than that provided through the auction process. The
18 output from the pilot project should be dedicated to all electric customers that
19 participate in PIPP Plus because all ratepayers subsidize the rates paid by these
20 customers. PIPP Plus customers represent approximately 10% of all electric
21 customers and the load associated with these customers can be met by a single
22 pilot project. In addition, the Commission should require that any excess
23 revenue produced by the pilot be spent to weatherize the homes of customers

1 participating in the pilot. Weatherization will reduce the amount of electricity
2 used by an all electric home by an average of 22 percent. The combination of
3 weatherization and lower cost power should lower the bills of all electric
4 customers to the point where bills are affordable and the cost shift to residential
5 customers is minimized.

6
7 Q. DOES THIS CONCLUDE YOUR TESTIMONY

8 A. Yes

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Testimony of Stacia Harper was served by regular U.S. Mail upon the following parties identified below in this case on this 7th day of January 2011.



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Summary of Qualifications:

Energy Economist and policy expert with specialized experience in the following fields:

Long-Term Planning	Wholesale Markets	Modelling
Integrated Resource Planning	Resource adequacy/RPM	Demand/Supply Forecasting
Non-Transmission Alternatives	RTO/Stakeholder Governance	Market Fundamentals (gas and power)
Portfolio Optimization	Demand Side Management	Cost Benefit Analysis
Transmission Expansion	Price Responsive Demand	Econometrics/Statistics
Alternative/Renewable Energy	Transmission Cost Allocation	Spatial Analysis/ArcView/GIS
Cap and Trade	Retail and LMP Pricing	Least Cost Optimization
SmartGrid/AMI	Auction Design	Analysis of State and Federal Legislation

Over 10 years of increasingly responsible experience in the energy profession applying a unique understanding of resource and energy economics, engineering, and public policy to design and implement long term sustainable energy policies. Expert knowledge in distributed generation, spatial analysis for long-term planning, demand response, PRD, SmartGrid, AMI, rate design. Active participant in state and national collaboratives and organizations. Experience at FERC, DOE, EIA, NERC, state Commissions, PIOs/NGOs, RTOs, deregulated and regulated utilities. Effective at facilitating and managing coalitions.

Professional Experience

Ohio Partners for Affordable Energy– Columbus, Ohio

2010 - Present

Director Regulatory Affairs and Energy Policy

- Develop, coordinate, and manage alternative energy projects for community energy development working with utilities, industrials, community action agencies, federal funding partners
- Represent low income consumers interests in all SmartGrid cases in Ohio, advocate at national level, member of Demand Response Coordinating Committee, SmartGrid Interoperability Committee.
- Develop, coordinate, and advocate regulatory strategy with local, state, and federal officials and Commission staff.

Office of the Ohio Consumers' Counsel – Columbus, Ohio

2008 - 2010

Senior Energy Policy Advisor

- Coordinate company participation in trade associations, develop strategic alliances and collaborative efforts at state and national levels (AEP, FE, DP&L- SmartGrid/AMI/PRD/DR)
- Manage participation in regulatory proceedings including outside counsel and consultants

- Subject matter expert on, electric power industry restructuring and competitive market design long-term planning, including but not limited to: demand response/PRD, Transmission/NTAs planning, SmartGrid/AMI, climate change, and alternative/renewable energy, auction design
- Active participant in committees, symposiums, panels, and task forces at NASUCA, MISO, PJM, OPSI, OMS, NARUC

Direct Energy – Dublin, OH

2006 – 2008

Sr. Analyst Pricing and Portfolio Management

- Gross margin management and product development of retail energy products for C&I customers
- Implemented portfolio planning and sector analysis concepts
- Responsible for forecasting energy trends (commodity pricing, LMP, demand, supply, carbon legislation, emerging market opportunities)
- Recognized natural gas and electricity fundamentals expert
- Responsible for development and implementation of new billing system to accommodate smart metering

American Electric Power Company – Columbus, OH

2004-2006

Associate Commercial Operations

- Hourly trader in ECAR/PJM
- Structured commodity pricing development for municipal and large industrials
- Experience with LMP pricing, capacity requirements, and ancillary charges
- Development of forecasts for weekly US gas storage injections
- Development of pricing models for both RT and DA power markets
- Provide market forecasts with day ahead and monthly traders

**U.S. Department of Energy, National Energy Technology Laboratory/SAIC - Morgantown, WV
2001-2004**

Economist / Project Manager

- Project Manager alternative fuels implementation program in association with USEPA Clean Cities and USAID
- Senior economic modeler for carbon trading strategies and national energy forecasting models
- Authored non-market valuation methodology techniques
- State inventory of carbon trading programs
- Social benefit analysis of Title IV of Clean Air Acts
- Assessment of natural gas infrastructure constraints
- Work directly with EIA in generating and updating energy market forecast

Organization Involvement

PJM/ Organization of PJM States (OPSI)

- Long-Term Capacity Evolution Advisory Committee
- Demand Response Task Force
- Markets and Reliability Committee
- Scarcity Pricing Working Group
- Market Implementation Committee
- Members Committee
- Governance Assessment Special Team
- SMART Transmission Study Stakeholders Group

MISO/ Organization of MISO States (OMS)

- Demand Response Working Group

- Planning Committee
- Eastern Interconnection Planning Committee
- RECB Task Force
- EISPC
- CARP
- MAWDRI

NASUC/ FERC/NARUC/NIST/NERC

- Electricity Committee
- Transmission SubCommittee
- Smart Grid Task Force
- Smart Grid Clearinghouse
- SGIC Advisory Committee
- Electricity Sector Steering Group (ESSG)

Academic Experience

West Virginia University, Department of Resource and Environmental Economics (2005) PhD candidate

- GIS/ArcView analysis of social/economic impact of Section 401 of the Federal Clean Water Act for coal producing regions
- GIS/ArcView feasibility study of fly-ash disposal in abandoned mine sites along the Allegheny River in the Northern Appalachian coal basin (Transmission Network Planning)

University of Alaska Fairbanks, Department of Resource and Applied Economics (2000) M.S.

- Implementation assessment of PEM fuel cells for distributed power generation
- Cost benefit analysis of alternative fuel implementation for distributed generation
- Cost benefit analysis of Mackenzie Delta natural gas pipeline project

Ohio State University - Biochemistry (1991-1993)

- Ice core sampling of carbon deposition with Loni Thompson

West Virginia University - Political Science and Economics (1995) B.A.