December 8, 2016

Ms. Kavita Kale  
Michigan Public Service Commission  
7109 W. Saginaw Highway  
P.O. Box 30221  
Lansing, Michigan 48909  

Re: MPSC Case No. U-18090  

Dear Ms. Kale:  

Attached for paperless electronic filing in the above-referenced matter are the Official Exhibits of the Independent Power Producers Coalition of Michigan, as well as Proof of Service. Exhibits IPP-1 through IPP-5 are the prefiled exhibits. Exhibits IPP-6 through IPP-28 were admitted to evidence at the hearing on December 8, 2016.  

Please contact our office with any questions. Thank you for your assistance in this matter.  

Sincerely yours,  

VARNUM  

Timothy J. Lundgren  

TJL/kc  

c. ALJ  
Parties
Curriculum Vitae for
Kenneth Rose, Ph.D.

email: ken@kenrose.us
Chicago, Illinois

Professional Experience

2002 – Present, Senior Fellow, Institute of Public Utilities, Michigan State University.

2009 – 2011, Lecturer, John Glenn School of Public Affairs, The Ohio State University, Columbus, Ohio.

1998 - 2002, Lecturer, School of Public Policy and Management, The Ohio State University, Columbus, Ohio.

1989 - 2002, Senior Institute Economist, National Regulatory Research Institute, The Ohio State University, Columbus, Ohio.


Education
Areas of Concentration: Applied Microeconomics and Econometrics.
Thesis: Economic Analysis of Electricity Self-Generation by Industrial Firms.

M.A. Economics, University of Illinois at Chicago, 1983.

B.S. Economics, University of Illinois at Chicago, 1981.

Publications

Book Contributions


**Articles**


Kenneth Rose, “Using Auctions to Jump-Start Competition and Short-Circuit Incumbent
Market Power,” *Public Utilities Fortnightly* (February 1, 1999).


Kenneth Rose and Robert E. Burns, “A Need to Act: The FERC, the State Commissions, and the Clean Air Act,” *Public Utilities Fortnightly* Vol. 130, No. 11 (December 1, 1992).


**Reports** *(selected reports since 2000)*

[http://www.ipu.msu.edu/research/pdfs/PURPA%20Title%20II%20Manual%20Final.pdf](http://www.ipu.msu.edu/research/pdfs/PURPA%20Title%20II%20Manual%20Final.pdf)


Kenneth Rose, Electric Restructuring Issues for Residential and Small Business Customers The National Regulatory Research Institute, NRRI 00-10, Columbus, Ohio (June 2000).

Kenneth Rose, “Four Evolving Issues for Policymakers in an Era of Continual Change in the Electric Industry,” in Wirick et al., The State of Regulation: NRRI’s Annual
Examination of the Four Utility Sectors and a Look Forward, The National Regulatory Research Institute, NRRI 00-07, Columbus, Ohio (May 2000).

Conference Papers


“Unbundling Electric Services: U.S. Experience, Options, and Evaluation,” Conference at Gakushuin University, Tokyo, Japan, March 22, 2004. (Appearance also.)

“A Reexamination of the Restructuring of the Electric Supply Industry,” presented at the American Association for the Advancement of Science Annual Meeting and Science Innovation Exposition, Boston, Massachusetts, February 17, 2002 (appearance also).


“Public Utility Commission Policy and the Allowance Market: Some


Testimony and Presentations Before Commissions


Before the Federal Energy Regulatory Commission, Affidavit, filed with Motion to Answer and Answer of Michigan Attorney General Bill Schuette and Michigan Governor Rick Snyder, Docket No. EC14-126-000, November 2014.

Before the Federal Energy Regulatory Commission, Affidavit, filed with Motion to Intervene, Protest, And Request for Hearing of Michigan Attorney General Bill Schuette and Michigan Governor Rick Snyder, Docket No. EC14-126-000, October 2014.


Before the Federal Energy Regulatory Commission, Intervention, Comments and Protest of the Michigan Citizens Against Rate Excess on the Midwest Independent Transmission System Operator, Inc. proposal to change their capacity construct in Module E of their Open Access Tariff for deliverability of load modifying resources and inclusion of locational capacity market mechanisms, Docket No. ER11-4081-000, September 2011.


Illinois Commerce Commission, “Proposed tariff establishing a market value methodology pursuant to Section 16-112(a) of the Public Utilities Act to be effective post-2006 and related revisions to Rider PPO and other tariffs,” No. 05-0159, Commonwealth Edison Company, On behalf of the People of the State of Illinois (the Illinois Attorney General), Direct Testimony June 8, 2005 and Rebuttal Testimony August 3, 2005.


Public Service Commission of West Virginia, Case No. 98-0452-E-GI, “General Investigation to determine whether West Virginia should adopt a plan for open access to the electric supply market and for the development of a deregulation plan,” (testimony on behalf of the Staff of the West Virginia Public Service Commission, addressing June 15, 1999 Initial Positions, filed July 15, 1999; Direct testimony, “Market Power in Electric Power Industry,” August 20, 1999).

The Public Utilities Commission of Nevada, “In Re Investigation of Issues To Be
Considered As a Result of Restructuring of Electric Industry" (pursuant to NRS 704.965 to 704.990, inclusive) proposed Regulation of the Public Utilities Commission of Nevada, October 19, 1998. (Comment on “Provider of Last Resort Service,” in PUCN Docket No. 97-8001).


**Testimony and Presentations Before Legislatures**


Performance of Retail Electricity Market, written testimony and presentation before the House Public Utilities Committee, Ohio House of Representatives, February 5, 2008.

Testimony and presentation before the Guam Legislature on Proposed Bill No. 122, January 9, 2008.


“Mandatory Rate Discounts: Lessons Learned from Other States,” House Public Utilities Committee, Ohio General Assembly, Columbus, Ohio, May 12, 1999.


General Assembly of the State of Ohio, Joint Committee on Electric Utility Deregulation, May 8, 1997. (Comments)


18090-ELPC-CE-10

Question:

10) Reference Exhibit A-1, sponsored by witness Natalie Busack. Paragraph D states that “Payments shall be reduced by any applicable monthly Interconnection Cost.” Please describe what costs would be applicable here.

Response:

There are monthly communication costs for communication lines needed for the functionality of Consumers Energy’s electric system protection devices. Consumers Energy will obtain the communication lines and will pass-through the monthly charge from the communication providers to the customer. In addition, there are costs associated with scheduled multi-year-interval inspections of protective devices and any identified repairs or replacement costs associated with failed interconnection facilities. These costs do not occur monthly, however the payments could be reduced to cover these costs.

[Natalie N. Busack]
September 27, 2016

Rates and Business Support Department
### Consumers Market Method

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<tr>
<th>Year</th>
<th>Calc1</th>
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- **Consumers' power curve**
  - Total PMT
  - Total PMT
  - Total PMT

- **Engie's power/NG curves**
  - Total PMT
  - Total PMT
  - Total PMT

- **Variation of Costs**
  - Staff's Variable Cost
  - Consumers' power curve (CAP)

### MPSC Staff Proxy Method (CT + NGCC)

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- **Not Adjusted for Availability**
- **Adjusted For 97% Availability**

### Transfer Price Schedule

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<th>Basis for Consumer's Cross Winds Energy Park, Advanced Anaerobic Digestor SOLAR Gardens Program</th>
<th>Basis for Portions of Consumer's Experimental Renewable Program (Solar Photovoltaic)</th>
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**Case No. U-18090**

**Exhibit IPP-3 (TV-1)**

**Page 1 of 2**
June 1, 2015

Memorandum

To: Nelson Turcotte, Tower Kleber Limited Partnership

From: Kim Scribner, Michigan State University

Re: Notice of Appreciation for Cooperation

Since 2009 Tower Kleber Limited Partnership (TKLP) under FERC licensing agreements and based on agreements with the Michigan Department of Natural Resources (MiDNR) has cooperated closely with MiDNR Fisheries Division and Michigan State University (MSU), the operator of the Black River Lake Sturgeon Hatchery Facility, in areas of lake sturgeon conservation. TKLP personnel work with MiDNR and MSU to provide the infrastructure in the form of buildings, maintenance and water supply for the lake sturgeon hatchery. This facility is a primary management tool to recover the state-threatened species in the Cheboygan River watershed.

The goal of the Black River Sturgeon Hatchery is to produce fall fingerling lake sturgeon for release into areas of the Cheyoggan River watershed. Work involves collection and fertilization of gametes from spawning adult lake sturgeon and collection of larval lake sturgeon. Fish are raised at the facility until they reach an age/size suitable for release. Information collected by Michigan State University and MiDNR personnel concurrent with gamete and larval collection provides the demographic background on the Black Lake population of lake sturgeon to facilitate estimation of adult population size and annual natural recruitment to the larval stage. This information is critical to manage the population. Efforts also provide critical information to guide state-wide management actions associated with the Michigan DNR Lake Sturgeon Management Plan.

We appreciate the collegial and professional relationship that has existed between TKLP personnel and personnel from the MiDNR and MSU.

Sincerely,

Kim Scribner
Professor
November 7, 2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Office of the Secretary
888 First Street, N.E.
Washington, D.C. 20426

Docket No. AD16-16-000

Dear Ms. Bose:

Enclosed please find for filing the Post-Technical Conference Comments on behalf of the Independent Power Producers Coalition of Michigan in the above-captioned docket.

Thank you for your attention to this matter.

Sincerely yours,

Laura A. Chappelle
Counsel to the Independent Power Producers Coalition of Michigan

LAC/kc
The Independent Power Producers Coalition of Michigan ("IPPC") hereby submits comments in response to the Commission's September 6, 2016, Notice Inviting Post-Technical Conference Comments, regarding a few of the issues addressed at the June 29, 2016 Technical Conference ("Technical Conference") in the above-captioned proceeding. The Commission has asked a series of questions regarding the one mile rule and the contractual terms and conditions appropriate to the fulfillment of the Congressional intent to encourage development of Qualified Facilities ("QFs").

The IPPC especially appreciates the Commission's questions regarding the potential setting of certain minimum contract lengths and other provisions for PURPA-purchase contracts. The IPPC reiterates its initial comments to the Commission on June 10, 2016, on the importance of both the PURPA contract length and terms, especially for QFs 20 MW and under. The IPPC strongly supports this Commission establishing mandatory, longer-term, minimum length requirements for PURPA-purchase requirements, especially for QFs 20 MW and under.

As with most contracts, the price and term of PURPA-based purchase contracts are two of the most crucial aspects in any PURPA transaction. Financeable, long-term contracts continue to be a necessary requirement for QFs in Michigan, especially given the increasing need of these facilities to perform certain capital improvements to maintain infrastructure needs and
meet environmental and FERC licensing requirements. Such capital expenditures require longer term amortization periods, given the nature and size of the business. As the IPPC has stated, much as regulated electric utilities need "regulatory certainty" in terms of long-horizon periods of rate recovery assurance for plant construction and investments, banks and other financing partners routinely require a QF's power purchase agreement ("PPA") to be long-term in duration in order to be financed. A typical length for such a contract (as with requested retail regulatory rate assurances for a new generation plant) generally amounts to a 20-year term.

As the IPPC has previously stated, there should be no question that short-term contracts, now routinely being offered at five years or less, are exceptionally disadvantageous to a QF. The fact that some utilities are attempting to enter into only year-to-year contracts should be a clear indication that FERC's "backstop" authority will continue to be needed to ensure the spirit and intent of the law are upheld as it relates to contractual provisions related to PURPA PPAs.

Requiring a reasonable, minimum length contractual period in FERC rules would especially help smaller QFs with financing needs, as well as remove an issue of contention at the state level that proves difficult, discriminatory and costly to QFs, especially those 20 MW and under.

Regarding the possibility of increasing the size threshold for requiring standard rates, the IPPC notes that any such change should not be made to decrease the current size limit. If the Commission were to increase the size threshold, it would go a long way to addressing a difficulty that smaller QFs, especially those operating facilities smaller than 5 MWs, incur when attempting to negotiate price, terms and conditions of energy and capacity with large, well-financed incumbent utilities. Small QFs, many of which are operated by sole or small business owners, have neither the deep pockets nor experienced legal staff who routinely negotiate
contractual price and terms, an advantage that their state utility counterparts enjoy. Recognizing this reality and attempting to level the playing field by requiring standard contracts for additional small QFs would further ensure that PURPA’s requirement that both customers and QFs be fairly treated is met.

We thank the Commission for the opportunity to participate and provide comments in this important proceeding.

Dated this 7th day of November, 2016.

Respectfully submitted,

Varnum, LLP

Laura A. Chappelle
Counsel to the Independent Power Producers Coalition of Michigan
The Victor Center, Suite 910
201 N. Washington Square
Lansing, MI 48933
616-336-6920
Question:

12. Reference testimony of Mark Devereaux, page 7 line 17 through page 8 line 1. Mr. Devereaux states that any of Staff’s options “will very likely result in higher costs to Consumers Energy’s customers than if the Company built or purchased the same amount of capacity and/or energy from avoided resources.”

a. What is the basis for Mr. Devereaux’s conclusion that staff’s options will “very likely” result in higher costs to the Company’s customers?

b. Has the Company conducted any analysis or modeling, formal or informal, regarding how Staff’s options will impact costs to customers? If so, please provide any documents referring or relating to such analysis or modeling. If not, please explain why the company has not conducted any analysis or modeling.

Response:

a. The Company’s actual capacity planning and expansion methodology, as discussed by Company witness Thyagarajan, varies depending on the extent and duration of the Company’s capacity need. Generally, the Company relies on short-term purchases for need less than 200 MWs. In the event the Company has projected a long-term deficit greater than 200 MW, the Company (absent purchases from any Qualifying Facilities (“QFs”)) would likely either build a combustion turbine (“CT”) or natural gas-fueled combined cycle facility (“NGCC”) depending on the extent of the deficit. Thus, the Company would be addressing capacity needs by leveraging the Midcontinent Independent System Operator’s (“MISO’s”) Planning Resource Auction (“PRA”), constructing a new CT, or constructing a new NGCC.

The MISO PRA was instituted in 2013 and is structured so that the PRA cannot clear at a price higher than the cost of a new CT. While it is a relatively short history, the highest clearing price to date of all MISO PRAs was approximately 25% of the maximum price. It would not be a reasonable expectation that future PRAs would clear at or near the maximum price on a regular basis because load serving entities in MISO will, from time to time, acquire new capacity to avoid paying the maximum price. Thus, a reasonable expectation of future PRA clearing prices would be in line with what we have observed to-date.¹ All of Staff’s capacity price options are based on a CT at either full cost or 75% of full cost, and most of Staff’s capacity options do not take into account the Company’s need for capacity (i.e., the Company is to make capacity payments regardless of whether it needs capacity). As a result, except in

¹ A recent study by the Brattle Group estimates that if no market design changes are made, the PRA for Zone 7 will clear at the maximum price 65% of the time; however, if the market design changes contemplated by MISO are implemented Zone 7 would clear at the maximum price 39% of the time in a forward auction and 15% of the time in a prompt auction. In either event, the average clearing price would be expected to be significantly less than Staff’s proposed pricing.
when meeting a large deficit that required construction of an NGCC, it is very likely that Staff’s capacity options will result in costs greater than or equal to costs that would otherwise have been incurred by the Company’s customers.

The likelihood that customers will pay more under Staff’s proposal is increased by Staff’s proposed energy options. Staff’s proposal allows QFs to choose between energy-price Options 1 through 3 with the possible addition of Staff’s fixed investment cost attributable to energy (“ICE”). Absent the purchases from any QFs, the Company’s customers would incur either (i) actual LMP, (ii) the lesser of actual LMP and the variable cost of a CT, or (iii) the lesser of actual LMP and the variable cost of a NGCC. Under Staff’s Option 1, customers would pay the actual LMP plus the ICE; which is higher than any of the actual costs identified above. Under Staff’s Option 2, customers would pay a forecast of actual LMP plus the ICE; assuming an accurate forecast, this is also higher than any of the actual costs discussed above. Finally, under Staff’s Option 3, customers would pay the variable cost of an NGCC. Unfortunately, Staff’s option 3 does not allow or incent the production of energy when it is economic in the market, but rather requires payment of the variable cost of an NGCC for all energy delivered under the contract. As a result, it is likely that some significant amount of energy will be delivered at times when it would have been more economic to acquire that energy from the market. Therefore, both by itself and with ICE, energy Option 3 would result in higher costs to customers.

Regardless of the combination of Staff’s proposed capacity payment and energy payment options, the result is higher costs than would otherwise be incurred absent any purchases from QFs.

b. No, based on the above-explanation, the Company has not conducted any analysis or modeling, formal or informal, regarding how Staff’s options will impact costs to customers.

Mark T. Devereaux
Mark T. Devereaux
September 29, 2016

Transactions and Wholesale Settlements
18090-ELPC-CE-16

Question:

16. Is it the Company’s position that the same avoided cost should be applied to all QFs? If yes, please explain the basis for that position.

Response:

Yes, if the avoided cost pricing is structured as the Company has proposed. Specifically, (1) the avoided capacity cost should be structured in $/ZRC and (2) the avoided energy cost should be structured as the lower of the MISO locational marginal price ("LMP") and the $/MWh variable operating cost of the avoided capacity resource.1 If avoided costs are structured this way, then the Company’s customers will incur the same cost whether the capacity and energy is provided by the avoided cost resource or by a Qualifying Facility.

Mark T. Devereaux
Mark T. Devereaux
September 29, 2016

Transactions and Wholesale Settlements

1 Assuming the Company needs capacity and the capacity resource avoided has a variable operating cost. If the capacity resource avoided is capacity from MISO’s Planning Resource Auction, then the avoided energy cost would just be LMP.
Question:

13. Provide a copy of the Company’s Fixed Resource Adequacy Plan (FRAP) for 2016-17. For each resource included in the FRAP, provide the capacity cost per ZRC and the basis for determination of the capacity cost. If the capacity cost for Registered Demand Resources is determined by some means other than the amount by which tariffs for Registered Demand Resources are discounted on an annual basis per ZRC, then provide the amount by which tariffs for Registered Demand Resource are discounted on an annual basis per ZRC.

Response:

The Company’s FRAP for Planning Year 2016 consisted only of its Rate GI Demand Response resource. The Company received 68.4 ZRCs for this resource at a cost of $53,947/ZRC-Year. This cost is based on the product of the contract price for Rate GI customers times the number of kW under contracts with Rate GI customers, divided by the number of ZRCs awarded by MISO for this resource.

Mark T. Devereaux
Mark T. Devereaux
October 4, 2016

Transactions and Wholesale Settlements
18090-ELPC-CE-32

Question:

16. Reference Exhibit A-1, sponsored by witness Natalie Busack. In Section B. (5) on sheet No. C-60.00, how are characteristics of service developed for each location? How are characteristics of service impacted by the presence of distributed generation, distributed storage, demand response customers, or other customers utilizing or operating distributed energy resources?

Response:

With respect to distributed generation, characteristics of service (i.e. electrical service configuration and service voltage) are determined based on the type of utility distribution system serving the area and the size/type of generator being connected so that service voltage and power quality are maintained in accordance with Company standards.

Characteristics of service are impacted to the extent that adding any of the types of customers identified in the question to the existing distribution system affects service voltage or power quality, or increases the potential for interruption of service. Each type of customer would be evaluated on a case-by-case basis and if it is determined that the characteristics of service would be impacted, then the Company’s distribution system, the customer’s system/operations, or both would be modified to preserve service voltage and power quality.

Mark T. Devereaux
Mark T. Devereaux
October 4, 2016

Transactions and Wholesale Settlements
Question:

21. Reference testimony of Mark Devereaux, pages 4 and 5, discussing the Company’s need for capacity.

   a. Please explain the timeline over which the Company assesses the need for capacity.

   b. Please explain how the Company values the avoided capacity cost associated with long-lived distributed generation installed today and which may still be operating when new capacity needs arise.

   c. Please explain whether the Company would refuse to consider QF capacity that was available at a cost lower than the Company is currently acquiring capacity from other sources.

   d. Please explain how the Company evaluates distributed energy resources in meeting requirements for capacity.

Response:

   a. The Company considers capacity needs as far as 25 years into the future as part of its Integrated Resource Planning (“IRP”) evaluations; however, capacity needs over the next ten years are the primary focus of such evaluations in order to inform decisions that need to be made in the near-term.

   b. The Company would value any new resources by estimating the Zonal Resource Credits (“ZRCs”) expected to be awarded to the resource by Midcontinent Independent System Operator (“MISO”). The ZRCs avoided would then be multiplied by the forecasted MISO capacity price for a given planning year.

   c. If the Company needed additional capacity to meet its peak demand plus reserve requirements in a given planning year, it would purchase capacity and energy from a QF at its latest avoided cost filed with the Michigan Public Service Commission (“MPSC”). If the Company did not need additional capacity, it would purchase only the energy from the QF at its latest avoided cost filed with the MPSC. The cost of the QF capacity compared to “other sources” is irrelevant given the Company’s requirement to purchase capacity from QFs at the Company’s avoided cost.

   d. As part of IRPs, the Company may evaluate scenarios with increased distributed generation by reducing the forecasted peak load or generation requirements needing to be served by utility-scale resources.
Electric Sourcing and Resource Planning

Priya D. Thyagarajan
October 4, 2016
Question:

23. Reference testimony of Mark Devereaux, pages 10 through 11, regarding Staff's proposal. Please explain under what circumstances the Company believes that any MISO requirements and treatments should be controlling over the Commission's independent determination of avoided costs, operating requirements, evaluation criteria, and other provisions. Please explain the basis for this position.

Response:

The Commission has the authority delegated to it under PURPA regarding the determination of implementation of avoided costs. Since Consumers Energy's capacity and energy costs are primarily determined by MISO's capacity and energy markets, it is the Company's position that these markets must be reflected in the Commission's determination and implementation of PURPA for the Commission to act consistent with its authority.

Mark T. Devereaux
October 4, 2016

Transactions and Wholesale Settlements
Question:

26. Reference testimony of Mark Devereaux, pages 18, regarding Renewable Energy Credits (RECs).

   a. Please describe in detail how the Company understands the market prices for energy and capacity in MISO to account for and incorporate the value of environmental and renewable energy attributes embodied in RECs.

   b. Please describe in detail how the value of environmental and renewable energy attributes is reflected in QF rates that the Company proposes, including a quantitative breakdown of energy, capacity, environmental, and renewable energy avoided cost and price components.

   c. Please explain how the Company’s customers’ “enjoyment” (lines 15-16) of environmental benefits equates to a contractual assignment or sale of RECs.

   d. Please provide documents, including but not limited to, contracts, pricing regulations, regulatory decisions, and court rulings, referring or relating to the Company’s position that QF purchases include RECs.

Response:

   a. The Company does not believe that the market prices for energy and capacity in MISO incorporate the value of environmental and renewable energy attributes embodied in RECs.

   b. The Company does not assert that the value of environmental and renewable energy attributes is reflected in QF rates that the Company proposes.

   c. The Company’s customers are effectively required to purchase the power from QFs under PURPA because of the same renewable nature that is responsible for the existence of RECs. Since RECs represent all of the environmental attributes associated with the energy generated by a QF, if customers do not also obtain the RECs with the avoided cost power they are paying for then customers are effectively not purchasing renewable energy and the Company should not have any obligation to purchase from the QF because it effectively lacks the characteristics (i.e., a generator of renewable energy) required to be a QF.

   Green-e, the nation’s leading independent certification and verification program for renewable energy, exemplifies this understanding with regard to renewable energy through its requirements for the sale of RECs. Green-e’s “Green-e Energy Renewable Attestation from Wholesale Provider of Electricity or RECs” requires a declaration that “the electrical energy that was generated with the attributes was not
separately sold, separately marketed or otherwise separately represented as renewable energy by [the seller], or, to the best of my knowledge, by any other entity.” In other words, if the generating facility represents itself as renewable, then it cannot sell its RECs to a third party under Green-e’s program.

Therefore, based on the foregoing, the Company does not equate its customers’ “enjoyment” of environmental benefits as a contractual assignment or sale of RECs, rather the Company equates its customers’ “enjoyment” of environmental benefits as receiving their due for the renewable energy they are required to pay for at avoided cost.

d. The Federal Energy Regulatory Commission has left the ownership of RECs to the states. As a result, the Company is making an argument in this case as to why RECs should belong to the purchasing electric utility.

Mark T. Devereaux
Mark T. Devereaux
October 4, 2016

Transactions and Wholesale Settlements
Question:

28. Reference testimony of Priya Thyagarajan, page 12, regarding resource operating life. What useful life is the Company assuming for QFs, especially those with a “materially shorter operating life (such as solar)” (See line 21). What is the basis for the assumed operating lives used by the Company? Please provide citations to all sources.

Response:

The Company currently has no assumption around the useful life of existing QFs. All existing contracts with QFs are expected to cease at the current contract termination date. At that point in time, a new contract may be executed based on the Company’s most recent avoided costs.

The Company currently assumes a 25 year operating life for new utility-scale solar generators. This is based on the typical performance warranty length offered by solar panel manufacturers. The Company’s application for ex parte approval of Engineering, Procurement, and Construction contracts related to the solar gardens program (MPSC Case U-15805) supports the 25 year life assumption, as shown in Attachment 3 of that filing.

Priya D. Thyagarajan
October 4, 2016

Electric Sourcing and Resource Planning
18090-ELPC-CE-47

Question:

31. Reference testimony of Priya Thyagarajan, page 16, regarding the limits of forecasting when applied to resource planning.

   a. Please explain how the Company overcomes the uncertainty associated with future LMP and gas prices in its resource planning, capital planning, and other planning activities.

   b. How does the Strategist model account for uncertainty in future LMP and gas prices?

   c. Is it the Company’s position that there is no economic benefit in hedging, with either physical or financial tools, against uncertainty in future LMP and gas prices?

Response:

   a. The Company uses Strategist for its Integrated Resource Planning ("IRP") modeling. IRP modeling, by definition, evaluates future uncertainties associated with resource planning and generation-related expenditures through the evaluation of optimal resource plans under a range of scenarios and sensitivities. For example, in order to evaluate uncertainties in future gas prices, the Company could use high or low gas price sensitivities over a range of future years to test the performance of resource options and plans. Furthermore, the Company could also evaluate future scenarios which include alternative gas price pathways in combination with other affected or correlated variable(s), such as coal prices or demand. The Company then considers which resource or resources provide the best balance between cost and risk by reviewing the optimal plans among all scenarios and sensitivities evaluated.

   b. Please see part (a).

   c. No. In certain circumstances, it is possible for hedging to provide an economic benefit.

Priya D. Thyagarajan
October 4, 2016

Electric Sourcing and Resource Planning
Question:

1. On page 16 of Mark Devereaux’s prefilled direct testimony, you recommend a 5 year term length for new QF contracts. Based on Mr. Devereaux’s experience working with power purchase agreements, does he believe that a 5 year term length is long enough for a new qualifying facility to obtain project financing?

Response:

Yes. The ability of a new QF to obtain project financing for any term length is likely QF and project specific, but there are indications that factors generally deemed inimical to project financing (i.e., shorter term lengths and/or variable pricing compensation) are achievable. I believe this is true for two reasons:

1) In accordance with PURPA a QF would be eligible for subsequent contracts. While the pricing of the subsequent contracts might include some uncertainty it is consistent with price uncertainty included in many existing QF contracts in which the energy payments are based on the actual cost of coal. Similarly, all but one of the Renewable Resource Program (aka Green Generation Program) contracts were financed based on the Company’s average PSCR costs, not knowing whether such costs would rise or fall from the cost experienced at the time of contract execution.

2) Several relatively recent contracts the Company has entered into with new facilities have included terms between 5 years and 10 years in length. All of these projects were financed based on the term lengths included in these contracts. A few examples are:

   a. The Green Meadow Farms anaerobic digester facility began with a contract term of 5 years.

   b. The North American Natural Resources Colby Road landfill gas-fueled facility began with a contract term of 5 years.

   c. The Scenic View Dairy Fennville anaerobic digester facility began with a contract that did not include any capacity payments and had an initial term that lasted only three years.

   d. The Scenic View Dairy Freeport anaerobic digester facility began with a contract term of just over 6 years. The term length of this contract was established based on the seller’s request (i.e., a longer term contract was available to the seller).

1 The Bay Windpower I, Mackinaw City contract began with pricing comprised of the Company’s top incremental cost of energy plus 3¢/kWh.
e. Two Zeeland Farm Services landfill gas-fueled facilities had contracts with terms of seven years. The term lengths of these two contracts were also established based on the seller’s request (i.e., longer term contracts were available to the seller).

f. The Michigan Wind 1 (one of two contracts) wind facility contract (a Green Generation Program contract) has a term of 10 years at the seller’s request (a longer term contract was available to the seller).

Furthermore, the recommendation included in my testimony was based on a scenario in which QF payments would be based on estimated avoided costs and was made to protect customers. There is nothing to prevent a QF under a 5-year contract from obtaining subsequent new 5-year contracts at the conclusion of each preceding contract. In addition, under estimated avoided cost pricing, the Company would not be opposed to longer term lengths if the payment rates were updated every 5 years during the term. Moreover, my testimony also stated that longer term lengths could be appropriate if energy pricing was based on actual market prices and a reasonable approximation of the actual production cost of the avoided capacity resource (i.e., the Company’s proposed pricing and compensation structure).

Mark T. Deveraux
Mark T. Deveraux
October 10, 2016

Transactions and Wholesale Settlements
18090-ELPC-CE-50

Question:

1. Reference testimony of Priya Thyagarajan, page 4 lines 7 to 9. Is it the Company’s position that forecasted energy costs should not be available in standard contracts?

Response:

Yes, the Company has concerns with the use of forecasted energy costs in standard contracts, as discussed in the direct testimony of myself and Company witness Mark Devereaux in this case. However, the Company recognizes that the option of forecasted energy costs must be made available to QFs. Thus, if forecasted energy prices must be available in contracts, the term length of such contracts should be no more than five years. After five years, new contracts could be entered into based on refreshed avoided cost calculations.

Priya D. Thyagarajan
October 26, 2016

Electric Sourcing and Resource Planning
Question:

2. Reference testimony of Priya Thyagarajan, pages 17 to 18. With respect to energy payments to QFs, is it the Company’s position that the only standard contract rate available to QFs should be the actual MISO LMP at time of delivery?

Response:

No. Energy payments under the Company’s proposed methodology include payments based on actual LMP, actual Natural Gas Combustion Turbine (“NGCT”) variable costs, and actual Natural Gas Combined Cycle (“NGCC”) variable costs at the time of delivery, depending on the Company’s capacity need. Tiers 1 and 2 under the Company’s proposal would be based on the actual LMP at the time of delivery.

Priya D. Thyagarajan
October 26, 2016

Electric Sourcing and Resource Planning
Question:

3. Reference testimony of Priya Thyagariajan, page 5 lines 3 through 13. With respect to Option 2 of Staff’s modified proxy plant energy component, Ms. Thyagariajan states that “If utilized, the Company proposes paying the QF the monthly on- or off-peak price based on the hourly production of the facility.” Please clarify whether the Company proposes paying the QF the monthly on- or off-peak price as forecasted in Exhibit A-2 (PDT-1), or if the company proposes paying the QF the monthly on- or off-peak price at the time of delivery.

Response:

With respect to Staff’s energy component option 2, if adopted, the Company would pay the forecasted monthly on- or off-peak price provided in Exhibit A-2 (PDT-1) for production occurring during on-peak or off-peak hours, respectively, as defined by MISO.

However, the Company’s avoided cost methodology proposes energy payments based on the actual LMP, actual Natural Gas Combustion Turbine (“NGCT”) variable cost, or actual Natural Gas Combined Cycle (“NGCC”) variable cost at the time of delivery, depending on the Company’s capacity need.

Priya D. Thyagarajan
October 26, 2016

Electric Sourcing and Resource Planning
Question:

4. Reference testimony of Priya Thyagariajan, page 6 lines 4 through 13. With respect to Ms. Thyagariajan’s testimony describing Confidential Exhibit A-3, and specifically that “Line 2 represents the ZRCs associated with the Company’s long-term PPAs,” for each of the forecasted years, how many ZRCs are from long-term PPAs with QFs?

Response:

Attachment 1 to this response contains the forecasted ZRCs by planning year from the Company’s existing PURPA-based contracts with QFs, some of which no longer qualify for the “must purchase” obligation.

Priya D. Thyagarajan
October 26, 2016

(NOTE: Attached is numbered document 09000078.)

Electric Sourcing and Resource Planning
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</table>
18090-ELPC-CE-54

Question:

5. Reference testimony of Priya Thyagarajian, page 6 lines 4 through 13 and Confidential Exhibit A-3. When forecasting resources available to the Company over the next ten years, does the Company forecast purchases from QFs? Why or why not?

Response:

For forecasting purposes, the Company assumes purchases from QFs cease based on termination dates of existing contracts. The Company has no knowledge about the ability of specific QFs to continue operation past termination dates defined in current contracts, which may vary based on the condition of the generating unit and financial or market considerations. Furthermore, the Company’s tiered methodology is calculated based on the Company’s capacity need assuming such contracts would not be replaced. This ensures fair compensation to QFs when utilizing the Company’s tiered avoided cost methodology.

However, the Company recognizes its “must purchase” obligation from QFs 20 MW or less in size and would enter into new contracts with QFs able to provide energy and capacity at the Company’s avoided costs.

October 26, 2016

Electric Sourcing and Resource Planning
Question:

7. Reference testimony of Priya Thyagariajan, page 7 lines 14-21. What was the cause in the change to the Company’s expected capacity position? How frequently does the company re-forecast its expected capacity position?

Response:

The Company maintains a forecast of its expected capacity position at all times; however, significant changes in the capacity position forecast occur only periodically. Key inputs driving changes to the capacity position forecast include, but are not limited to: the Company’s load forecast, results of Net Demonstrated Capability (“NDC”) tests, Equivalent Forced Outage Rate on demand (“EFORd”) performance data, and more.

In this case, the major change to the Company’s expected capacity position was driven by newer EFORd data available for some of the Company’s generating units.

Priya D. Thyagarajan
October 26, 2016

Electric Sourcing and Resource Planning
9. Reference testimony of Priya Thyagariajan, page 9, explaining Confidential Exhibits A-4 and A-6. With respect to fuel costs, given that the operating life of both the Combustion Turbine and the Combined Cycle Unit are 30 years, how does the Company account for future volatility in fuel prices?

Response:

With regards to Confidential Exhibits A-4 and A-6, the start-up fuel costs provided in line 12 are forecasted for 2017 and are provided for the purpose of forecasting variable costs under Staff’s methodology. However, the Company’s methodology is based on actual fuel costs, among other costs, of the avoided unit. No uncertainty needs to be taken into account if actual costs are used.

Priya D. Thyagarajan
October 26, 2016

Electric Sourcing and Resource Planning
Question:

10. Reference testimony of Priya Thyagariajan, page 18 through 20, discussing the four tiers of capacity costs proposed by Consumers. Please explain the basis on which those four tiers were chosen. Does the Company use these same tiers in resource planning?

Response:

No. The Company uses Strategist, a production cost and capacity expansion model, to determine its resource planning strategy in future years, based on capacity need, market conditions, technology costs, and more.

The tiers proposed by the Company were chosen as a reasonable approximation of the Company’s strategy around procuring or building capacity based on current market conditions and expected capacity position, thus determining appropriate avoided costs. Other options may be available to the Company in resource planning such as Demand-Side Management (“DSM”) resources and renewables, all of which would be considered when using Strategist for resource planning. However, the three capacity options proposed by the Company’s tiered methodology – market purchases, Natural Gas Combustion Turbine (“NGCT”) build, and Natural Gas Combined Cycle (“NGCC”) build – represent the strategies that are guaranteed to be sufficiently scalable to meet any level of expected capacity need and thus represent the highest cost strategies expected to be employed for each of the proposed capacity need tiers, ensuring fair compensation to QFs.

Priya D. Thyagariajan
October 26, 2016

Electric Sourcing and Resource Planning
Question:

11. Reference testimony of Priya Thyagarajan, page 20 lines 14 through 18. Is it the Company’s position that capacity payments for tiers 2, 3 and 4 should be re-adjusted with each new MISO planning period? How would this be incorporated into a standard offer?

Response:

Under the Company’s proposal, capacity planning periods and methodologies for Tiers 2, 3, and 4 would be fixed for the term of a contract. The capacity rate would be established based on the Tier (on a $/ZRC basis) for each MISO planning period.

Under the biennial process proposed by Michigan Public Service Commission (“MPSC”) Staff, every two years the Company would file refreshed avoided costs. At that time, the standard offer would be updated, and any new contracts entered into after that filing would be based on the refreshed avoided costs as well as any changes to the MISO capacity market structure.

Priya D. Thyagarajan
October 26, 2016

Electric Sourcing and Resource Planning
18090-ELPC-CE-61

Question:

12. Reference testimony of Priya Thyagarajan, page 19 lines 19 through 21. Please explain why tier 3 extends up to 1,000 ZRCs when the Company’s analysis in Confidential Exhibit A-4 indicates that construction of a NGCT would yield only 313 ZRCs.

Response:

In Tier 3, the construction of one NGCT would not be the only expected mechanism used to fill the Company’s capacity need, but likely would be the most expensive mechanism used to fill the Company’s capacity need.

Construction of two NGCT resources may be considered prior to building a NGCC. Furthermore, bilateral capacity purchases, purchases through the MISO Planning Resource Auction (“PRA”), demand-side management or other capacity options may be considered to supplement the construction of a NGCT, if available at a lower cost.

Priya D. Thyagarajan
October 26, 2016

Electric Sourcing and Resource Planning
Question:

14. How does the Company calculate capacity charges for the purposes of standby rates (see tariff GSG-2)? What is the justification for this method of calculation?

Response:

The GSG-2 capacity charges are based on the Company’s highest priced contracted capacity for each applicable month in which the standby service was used during on-peak periods and charges the customer LMP for all energy used. This was approved by the MPSC in June 2008, in MPSC Case No. U-15245.

Natalie Busack
October 24, 2016

Rates & Regulation
1. On page 5 of her testimony, Ms. Thyagarajan states that Consumers proposes that its “avoided energy cost payment ... would either be based on the actual LMP or the lesser of the actual LMP and the actual GCT or NGCC incremental energy cost.”

a) Does the Company receive for its own energy generation costs that “actual LMP” or the equivalent from its ratepayers?

b) Does the Company believe that “actual LMP” as proposed by Ms. Thyagarajan would fully compensate the Company for its costs to generate electric power?

c) If the answer to a) is “no,” then please describe in detail the way that the Company recovers its own energy costs.

**Objection by Counsel:** Consumers Energy objects to this request on the grounds that it seeks information which is not relevant or material to any issue in this case and which is not reasonably calculated to lead to the discovery admissible evidence.

Subject to this objection, and without waiving it, Consumers Energy answers as follows:

Response:

a) No. The Company receives the actual LMP as compensation from the Midcontinent Independent System Operator (“MISO”) for the energy that it generates.

b) The actual LMP is what the Company receives as compensation for generating energy from its own units when they are dispatched economically by MISO. The Company is not proposing the actual LMP represents the Company’s total avoided cost. Depending on the Company’s capacity need tier, the Company’s total avoided cost is made up of an energy component (to represent variable avoided costs) and a capacity component (to represent fixed avoided costs). The actual LMP proposed by the Company represents the energy (variable) cost component of the Company’s methodology.

c) The Company receives the actual LMP as compensation from MISO for the energy it generates; similarly, the Company pays actual LMP to MISO to serve its entire load. The net revenue generated by the operation of the Company’s generating units is used to reduce the costs recovered from customers for their load. The net result is that the Company receives, on average, an amount less than the actual LMP from ratepayers for all variable costs associated with the energy generated. As discussed in part (b),
this amount will not fully compensate the Company for its avoided costs because it does not address avoided fixed costs.

Priya D. Thyagarajan
November 8, 2016

Electric Sourcing and Resource Planning
Question:

3. The Commission’s May 3, 2016 Order in this docket called on the Company to file tariff sheets with standard offer rates. It also noted that “QFs may then select the standard offer (if applicable) or negotiate an agreement with the provider.” May 3, 2016 Order, p.3.

   a) Please provide a list of all QFs with whom Consumers has current PPAs that would meet the design capacity limitations under C18.A. of the proposed tariff in Exhibit A-1.

   b) Please provide a list of all QFs with whom Consumers has current PPAs that would meet all of the “Availability” requirements or standards under C.18.A. of the proposed tariff in Exhibit A-1.

Response:

a) The Company currently has a PURPA-based PPA with the certified QF Michiana Hydroelectric Company that meets the capacity limitations under C18.A. No other current PURPA-based PPAs with certified QFs meet the design capability limitations under C18. A. of the proposed tariff in Exhibit A-1. The Federal Energy Regulatory Commission (FERC) does not require facilities of 1 MW or less in size to file for certification as a QF. The Company currently has 354 customers under its Experimental Advanced Renewable Program (EARP) and 553 net metering customers that can claim QF status without filing for certification and who could also meet the design capability limitations should they no longer continue participation in their current programs.

b) The Company has advised (see the response to 18090-ELPC-CE-8) that the second sentence of the second paragraph of C.18.A was included in error and the following response is based on the tariff absent this sentence. The Company currently has a PURPA-based PPA with the certified QF Michiana Hydroelectric Company that meets the “Availability” requirements or standards under C18.A. No other current PURPA-based PPAs with certified QFs meet the “Availability” requirements or standards under C18. A. of the proposed tariff in Exhibit A-1. FERC does not require facilities of 1 MW or less in size to file for certification as a QF. The Company currently has 354 customers under EARP and 553 net metering customers that can claim QF status without filing for certification and who could also meet all of the “Availability” requirements should they no longer continue participation in their current programs.
Transactions and Wholesale Settlements
STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's Own Motion, )
   establishing the method of avoided cost calculation )
   for CONSUMERS ENERGY COMPANY to fully )
   comply with the Public Utilities Regulatory Policy )
   Act of 1978, 16 USC 2601 et seq. )

________________________________________

PROOF OF SERVICE

STATE OF MICHIGAN  )
  ) ss.
COUNTY OF INGHAM  )

Kimberly Champagne, the undersigned, being first duly sworn, deposes and says that she
is a Legal Secretary at Varnum LLP and that on the 8th day of December, 2016, she served
a copy of the Independent Power Producers Coalition of Michigan's Official Exhibits IPP-1
through IPP-28, as well as Proof of Service upon those individuals listed on the attached
Service List via email at their last known addresses.

Kimberly Champagne

Digital signature on file with the Michigan Public Service Commission.
SERVICE LIST
MPSC CASE NO. U-18090

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