BEFORE THE

CORPORATION COMMISSION OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF OKLAHOMA GAS AND ELECTRIC COMPANY FOR AN ORDER OF THE COMMISSION AUTHORIZING APPLICANT TO MODIFY ITS RATES, CHARGES, AND TARIFFS FOR RETAIL ELECTRIC SERVICE IN OKLAHOMA	))))))	Cause No. PUD 201700496

RESPONSIVE TESTIMONY OF

JOHN G. ATHAS

ON BEHALF OF OKLAHOMA COGENERATION

OWNERS

May 2, 2018

DIRECT TESTIMONY OF JOHN G. ATHAS

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DOCKET NO. PUD 17-496

RESPINSIVE TESTIMONY

OF

JOHN G. ATHAS

I. QUALIFICATIONS

Q. Please state your name, position, and business address.

A. My name is John G. Athas. I am a Principal Consultant and Vice President at Daymark Energy Advisors (Daymark). My business address is 370 Main St., Suite 325, Worcester, Massachusetts 01608.

Q. Please summarize your professional experience and qualifications.

A. I am an electric utility industry planning specialist with nearly 40 years of experience in areas including strategic planning, integrated resource planning, generation planning, economic and financial analysis, marketing, wholesale power market analysis and forecasting, electric power retail marketing, and rates and pricing. I have served in my current role as a Principal Consultant at Daymark since February 2006. I also have served the firm in a management function as Treasurer. In addition to my responsibilities as a Principal Consultant, I am currently the Vice President of Business Development. Since joining Daymark, my work has included several aspects of power systems planning and electric industry restructuring, including wholesale and retail market formation, generation asset valuation, resource planning, independent monitor involving wind generating capacity and resource adequacy studies, rates, contracting and retail power

marketing.

Prior to joining Daymark, I worked as an independent consultant with Direct Energy developing retail electric business plans. From 2001 to 2005, I was an Associate Director of North American Electric Power at Cambridge Energy Research Associates (CERA). In that capacity I was responsible for market analysis and forecasting of power prices for the regions of the Eastern Interconnect for the US and Canada. Before CERA, I had various planning positions at Northeast Utilities Service Company (NU) on behalf of corporate NU and its regulated and competitive companies from 1981 through 2000. From 1987 to 1991, I was the Manager of Strategic Analysis and Long-Term Resource Planning at NU, where my responsibilities included conducting NU's Integrated Resource Planning, the analysis of the NU utility companies' competitive position, and various strategic planning efforts regarding diversification leading to the acquisition of HEC, Inc., an energy service company, and the formation of Charter Oak Energy, a competitive generation affiliate of NU. As part of my generation planning experience at NU I performed economic analysis on projects such as new generation as well as generation betterment projects. Also, during my time at NU I spent several years working as part of the budget committee working to review and recommend transmission, distribution and customer service related projects. Attachment 1 contains a complete description of my qualifications.

Q. Please summarize Daymark and its business.

A. Daymark provides integrated policy, planning and strategic decision support services to the North American electricity and natural gas industries. Daymark serves a diverse clientele from our offices in Worcester, Massachusetts and Portland, Maine by providing consulting services to organizations involved with energy markets, including renewable

energy producers, private and public utilities, transmission owners, energy producers and traders, energy consumers and consumer advocates, regulatory agencies, and public policy and energy research organizations. Our technical skills include cost allocation, rates and pricing, power market forecasting models and methods, economics, management, planning, energy procurement, contracting and portfolio management, and reliability assessments. Our experience includes detailed analyses of energy and environmental performance of electric systems, economic planning for transmission and distribution, and market analytics.

Q. Have you previously testified before this or other Commissions?

A. Yes. I have provided testimony on behalf of the Oklahoma Hospital Association in dockets PUD 201500208 (Public Service of Oklahoma) and PUD 20155500273, on behalf of the Oklahoma Office of the Attorney General Cause Nos. PUD 200500516, 20060030, 200700012). I have also testified before commissions in the states of Rhode Island, Arkansas, Michigan, Virginia, Indiana, Massachusetts and Connecticut I have also testified public utility boards in the Canadian Provinces of Nova Scotia, Manitoba, New Brunswick and Newfoundland and Labrador.

II. BACKGROUND & PURPOSE OF TESTIMONY

Q. On whose behalf are you appearing in this proceeding?

A. I am testifying on behalf of the Oklahoma Cogeneration Owners (OK Cogen). OK Cogen retained Daymark to assist in its review of Oklahoma Gas and Electric Company's (OG&E) request in this docket.

Q. Please provide a brief discussion of aspects of the Application of this docket that are

important to OK Cogen.

A. This docket is a comprehensive general rate application by OG&E. A component of the costs that are driving OG&E to request an increase in its rates are the costs associated with the modernization of the Mustang Generating Facility, specifically the addition of seven aero derivative combustion turbines that OG&E developed and now owns and operates. Those units were placed into service in 2018.

OK Cogen currently provides 125 MW of power to OG&E with a contract that is expiring in August 2019. OK Cogen can provide cost effective capacity well beyond the end of the current PPA. OK Cogen participated in the Mustang Modernization Plan ("MMP") pre-approval proceeding[1] ("MMP Case") and responded to an existing capacity Request for Information ("RFI") conducted by OG&E.[2] Through those processes and in other communications with the Company, OK Cogen has repeatedly indicated its interest in selling the facility to OG&E to meet OG&E's identified needs for the Mustang units and other capacity. OK Cogen remains interested selling the facility and believes it can continue to provide cost-effective capacity and energy to ratepayers if OG&E acquires the facility. OK Cogen is concerned that OG&E's process of developing the MMP did not properly consider market alternatives, including the OK Cogen facility,[3] OK Cogen is a market participant that was (and is) interested in offering capacity to OG&E, the MMP process did not provide OK Cogen an opportunity to continue to meet the needs that were indicated by OG&E that it had.

[1] OCC Cause PUD 201400229. In the Matter of the Application of Oklahoma Gas and Electric Company for a Commission Authorization of a Plan to Comply with the Federal Clean Air Act and Cost Recovery; and for Approval of the Mustang Modernization and Cost Recovery.
[2] Request for Information: Electric Generation Capacity and Purchase Power Agreement Information, issued by OG&E on June 8, 2015, responses due date of July 6, 2015.
[3] The Commission found that OG&E failed to seek any competitive solicitations to meet future generation needs and failed to provide sufficient evidence regarding reasonable alternatives. Final Order in Cause No. PUD 201400229, issued December 2, 2015, page 18 of 23.

We believe OG&E's lack of consideration of market alternatives in the MPP Case did not serve the best interest of its ratepayers. We are concerned, both for our own interest and in the interest of ratepayers, that OG&E consider market options in the future and not repeat the process OG&E used in the MMP Case.

Q. Why is a discussion of the OG&E's resource solicitation processes important in the context of this general rate case docket.

A. A large portion of O&E cost structure is to provide adequate generation resources and a transmission system that assures the reliable access to OG&E and SPP Market generation resources. The management of the generation resource portfolio, including the acquisition of new generation resources, needs careful attention and oversight as it ultimately determines whether OG&E is providing these resources at the lowest possible costs. The portfolio is made up of various types of generation technology, fuels utilization, and ownership/PPA arrangement. A general rate case is not only an opportunity for the OCC to review the costs of OG&E but also for providing direction to OG&E on what the OCC requires from OG&E in the management of its resource portfolio. My testimony will focus on this latter issue, as OK Cogen's interest is in seeking Commission direction that will assure that OG&E uses proper resource procurement processes in the future.

Q. Please describe the purpose of your testimony.

A. The purpose of my testimony is to discuss that alternative resource options existed at the time of OG&E's initiation of the Mustang combustion turbine, a finding the Commission has already reached in Cause No. 201400229.[4] In addition, alternative market resources still exist. OK Cogen's generation facility, currently under a PPA with OG&E through 2019, is one of those market alternatives since the facility is fully capable of operating

[4] Cause No. PUD 201400229 Final Order Finding 24 Page 11 of 23

many years into the future. Also, in my testimony I will describe my concerns with OG&E's failure to consider market alternatives by OG&E in the MMP process. I will address the qualitative attributes that OG&E asserts as reasons to proceed with the MPP that can and should be quantified to provide the opportunity for ratepayers to be served by the lowest cost or highest valued generation resources.

III. SUMMARY OF FINDINGS

Q. Would you summarize your findings with respect to the issues before the Commission in this proceeding?

A. In my review, I find that:

1. The need for the specific addition of aero derivative combustion turbines had not been adequately established and is overstated.[5] Despite this omission, OG&E chose aero derivative combustion turbines without quantification of any benefits.

2. The evaluation of alternatives to the additions of the aero derivative combustions was virtually non-existent. OG&E did not consider in its evaluation that OK Cogen capacity could remain in its portfolio after the expiration of its current PPA. The consideration of other existing SPP-based capacity was cursory, at best. The potential for new non-OG&E developed generation was never considered.

3. OG&E needs to assess generation markets to test the value of generation options with varied attributes, which OG&E only considered in a qualitative manner and did not solicit proposals from any market participants.

Because of these findings, I would recommend that an order in this proceeding include requiring OG&E to fully assess the viability of the continued use of the Ok Cogen

[5] See OCC Order 647346 in Cause Number PUD 201400229, page 18.

capacity in its portfolio beyond the current PPA. In addition, I recommend that the Commission direct OG&E to meet its needs for new resources by seeking all alternatives available from the market.

IV. OKLAHOMA COGENERATION

Q. Please describe the Oklahoma Cogeneration facility.

A. The Oklahoma Cogeneration facility is a 125 MW combined cycle turbine power plant operating in cogeneration mode, providing power output to OG&E in accordance with an existing PPA. The facility was placed into operation in 1989 and has operated as a PURPA qualifying facility selling power to OG&E since it was constructed. The facility is in Oklahoma City, connected to OG&E's 115 kV[6] transmission system and proximate to OG&E's Mustang site.

Q. Is Oklahoma Cogeneration currently part of OG&E's supply portfolio?

A. Yes. Oklahoma Cogeneration is under contract through a Power Purchase Agreement with OG&E through August 2019.

Q. What are OG&E's assumptions regarding Oklahoma Cogeneration after the PPA expiration in 2019?

A. In both the 2014 and 2015 IRPs, the Company assumes that Oklahoma Cogeneration will not be part of OG&E's supply portfolio following the expiration of the PPA in 2019.[7] Additionally in response to Data Request OK Cogen 2-5b, the Company states, "OG&E does not know OK Cogen's plans for the plant beyond the contract expiration."

[6] Attachment to Direct Testimony of Lanny Nickell

[7] See Table 15 on page 38 of 2015 Integrated Resource Plan and Table 17 on page 39 of the 2014 Integrated Resource Plan. Both tables show the Planning Capacity Margin and show a drop of 125 MW in the Purchase Contract row between 2019 and 2020.

Q. Are you aware of OK Cogen having expressed to OG&E its desire to sell the 125 MWQ cogeneration plant to it?

A. Yes. OK Cogen can provide cost effective capacity well beyond the end of the current PPA. OK Cogen participated in the MMP Case and the RFI process. Through those processes, OK Cogen indicted its interest in selling the facility to OG&E to meet OG&E's identified needs for the Mustang units and other capacity. OG&E has not responded to additional correspondence from OK Cogen that included specific offers and pricing to sell them the facility so that OG&E would be operating it beyond the PPA. There are three exhibits in my testimony that serve to document the efforts made by OK Cogen to sell the facility to OG&E at the expiration of the PPA.

JGA-3	Transmittal Cover Letter – OK Cogen Proposed Contract to Sell the Facility to OG&E November 30, 2015
JGA-4	Copies of Email Correspondence with OG&E, Leon Howell April 13, 2016
JGA-5	Ok Cogen Letter to OG&E Leon Howell providing a record of correspondence on the desire to sell the OK Cogen facility to OG&E October 16, 2017

OG&E has not moved forward to discussions so that they could determine if a price could be agreed upon that would be beneficial to its ratepayers. OK Cogen remains interested in OG&E's acquisition of the facility, so the OK Cogen can continue to serve OG&E's customers. OK Cogen is concerned that even though the capacity is an existing resource in OG&E's portfolio, the OK Cogen was for some reason unknown to OG&E and not viewed as a resource option and excluded from its plans after the end of the current PPA.

Q. What is the capability of the facility to provide power beyond the term of the current PPA?

A. The Oklahoma Cogeneration facility has significant remaining useful life. The owners have represented to me that the unit has been well maintained and they plan for continued

operation of the facility well beyond the current PPA. At the request of the owners of OK Cogen, General Electric reviewed the operational history of the units at the site. The results of this review are provided in Exhibit JGA-6. This memo lists recent inspections of major components May 2013 through May 2016. The review recommended other major inspections not being needed until 2031 and as late as 2037. The review did not find any indication that the facility was close to the end of its useful life.

V. OG&E'S NEED FOR ADDITIONAL CAPACITY RESOURCES

Q. What was the OG&E process that led to the retirement of Mustang Units 1 - 4.

A. OG&E has systematically evaluated the costs and reliability of future operation of four coal steam units at Mustang Station. The four Mustang Units represented 463 MW of net dependable capacity. Based on a study by Black & Veatch[8], OG&E determined it was not economically feasible to consider the continued operation of these units and thus retired this generation capacity.

Q. What is the impact of the retirement of the Mustang units and the assumption that OK Cogen cannot be part of the OG&E generation portfolio?

A. With the retirement of this capacity, OG&E's planning capacity margin would drop below the required 12% by 2018. Table 17 of the 2014 IRP Update showed that there would be a 289 MW planning capacity margin deficit by 2018 and a 460 MW deficit by 2020.[9]

[8] Direct Testimony of George McAuley Page 13 line 28-29 to Page 14 line 2
[9] 2014 IRP Update, page 39.

Q. Did OG&E perform any analysis beyond the 2014 IRP that determined a need for capacity?

A. No. They have not produced a need analysis that includes any consideration of location of the generation nor did they produce any separate transmission planning study to demonstrate the need for voltage support under any scenario.

Q. Would this need for additional capacity be reduced if OG&E had assumed that Oklahoma Cogeneration would remain in the supply portfolio beyond 2019?

A. Yes. The 2020 need would be reduced from 460 MW to 340 MW if Oklahoma Cogeneration remained in the supply portfolio beyond 2019.

Q. What is OG&E's plan to meet the need created by the retirement of Mustang Units 1 through 4?

A. OG&E installed seven, modern natural gas-fired units to replace the 1950s-era power generating units at the former Mustang Power Plant as part of the MMP. The Company completed the construction of these units for a total of 462 MW of new peaking capacity[10] in April 2018.

Q. Did OG&E consider any alternatives to building new combustion turbines as replacement capacity?

A. Yes, OG&E's 2014 IRP Update did consider three self-build options for new generation facilities:

- 560 MWs of CC capacity in 2018 (with next capacity addition in 2023)
- 400 MWs of CT capacity in 2018 (with 560 MWs of CC in 2020)

[10] Direct Testimony of Leon Howell ("Howell Direct"), pp. 10-11.

- 280 MWs of CT capacity in 2018, 125 MWs of CT in 2019 (with 560 MWs of CC in 2020)

For all options, the new capacity was assumed to be owned and operated by OG&E.[11]

Q. What were the preferred resource options in OG&E's IRP?

A. OG&E's IRP concluded that the best capacity to meet the need resulting from the retirement of the Mustang units and the end of the OK Cogen PPA would be natural gas fueled generation.

In addition to the quantitative analysis, OG&E has put forward several qualitative justifications for building CTs rather than the CC. The primary qualitative explanation is that with increased wind capacity in SPP, the quick-start capability of the CTs will yield more market revenues and provide more benefits to customers.[12] The case for specifically moving forward with the aero derivative combustion turbines has never been quantifiably established for their value to OG&E ratepayers.

Q. Did OG&E's IRP analysis include options to continue the use of the natural gas fueled OK Cogen in its portfolio?

A. No.

Q. What explanation has OG&E given in its application for its choice of aero derivative combustion turbines?

A. In his direct testimony, Mr. Burch states "As OG&E evaluated the need to replace the Mustang Capacity in 2014 it recognized [that has not been quantified in a study] that new assets needed to be extremely flexible to maximize their value to customers in the evolving

[11] 2014 IRP Update, pp. 41-43.

[12] Ibid. at p. 28.

marketplace. Flexibility was considered to be the ability to start quickly to respond to system needs, ability to start multiple times per day if necessary and ideally be sized in smaller blocks of generation"[13] OG&E has not quantified the benefits of this attribute. In addition, OG&E shows IRP results that only justify some type of natural gas fueled generation. As stated in OG&E Witness Burch's Testimony:

> *Q. After OG&E concluded that natural gas generation would be the optimal replacement for the capacity need, what types of natural gas generation were evaluated?*
>
> *A. OG&E considered conventional and advanced combined cycle units and traditional and aero derivative simple cycle combustion turbines and those types of generation against the required operational characteristics. Because of that screening, OG&E concluded that aero derivative combustion turbines were the best choice.*[14]

It is important to recognize that the choice of combustion turbines is not specifically determined from OG&E's IRP results. IRP results are the only analysis that numerically quantifies the value of natural gas generation but does not go as far as to specify combustion turbine versus combined cycle and geographic location.

Q. Did OG&E evaluate options for obtaining capacity from OK Cogen or other market alternatives instead of building new capacity?

A. No, OG&E dismissed the pursuit of market options. The 2014 IRP Update states that "OG&E also determined that no CT's are available for acquisition in the region."[15] OG&E

[13] Burch Direct Testimony Page 16 Lines 17-22
[14] Ibid Page 19 lined 5 -12
[15] Ibid.

confirmed in response to discovery that it had not conducted any competitive solicitations for alternatives to the Mustang CTs.[16]

Q. Has OG&E provided any SPP assessment of the need for quick starts prior to OG&E's commitment to construct the aero derivative combustion turbines at the Mustang site?

A. No. SPP looked at quick start capacity after OG&E had committed to the installation of the aero derivation combustion turbines as part of MMP. The January 5, 2017 SPP[17] report only addresses whether quick start generation would have benefits to the operation of the system. No one would dispute that the system operators would view it positive to have additional flexible generation. The report has not stated that there is a deficiency in quick start generation within SPP that causes operational concerns. The report has not quantified a monetary value to OG&E ratepayers for quick start versus conventional generation.

VI. EVALUATING GENERATION MARKET ALTERNATIVES

Q. Is the acquisition of new resources the singular focus of integrated resource planning?

A. No. Integrated resource planning is a key component of the analysis and decision process utilized to manage a generation resource portfolio. Properly done, this includes the continued evaluation of existing resources to derive their place in the least cost portfolio going forward. IRP should include looking into environmental and reliability constraints and considerations for the existing resources as well as new resources. IRP should investigate the different forms of resource financial structure; ownership, joint ownership and power purchase, as examples.

[16] See OG&E's response to OK Cogen 3-6.
[17] Exhibit LN-1 Direct Testimony of Lanny Nickell

Q. Did OG&E evaluate the existing resources in its IRP prior to proceeding down the path to add the new combustion turbines at Mustang?

A. Partially. OG&E looked at the existing resources it owned. They evaluated the costs of maintaining their old natural gas fueled capacity at Mustang given the environmental requirements and decided that retirement was the correct economic decision.

Q. You answered partially to the question above. Which existing resources that were not evaluated?

A. OG&E appears to look at the existing resources that OG&E owns and operates differently than existing generation resources they have through power purchase agreements (PPAs). A prime example of this is that OG&E in their IRP and resource plans assumes the expiration of a PPA with the 125 MW OK Cogen facility means that the facility just goes away. This assumption means that IRP will focus on replacing the OK Cogen capacity without evaluating its continued operation within the OG&E portfolio. OG&E stated it was not aware of OK Cogen plans after the PPA expiration.[18] As I discussed earlier, this statement does not recognize the dialogue OK Cogen initiated to attempt to sell the facility to OG&E, documented in exhibits JGA-3, 4 and 5. The term of PPAs, whether they are for thermal generating capacity or renewable generating capacity, are not designed to capture the entire physical nor economic lives of the asset. The PPA term is a result of the specific nexus of utility needs and benefits with the term of the contract necessary to assure that financing can be obtained. As I discussed earlier Ok Cogen owners had tried to engage OG&E in discussions to sell the generation facility to OG&E.

[18] OG&E Response to Data Request Ok Cogen 2-5b

Q. Can the existing resources be looked at differently than a need for new capacity to serve the future needs of OG&E's customers?

A. Yes. When planning optimization models are utilized within the IRP, continued operation versus retirements of existing resources are evaluated on a going forward cost basis. This gives an indication as to whether retirement of existing owned resources, or possibly of the continued use of PPA resources, should be more seriously considered. This constant evaluation of the existing resources precedes establishing a need to seek options to retire each individual generating resource.

Q. What about PPA resources?

A. OG&E and any utility should be studying options for the continued operation of a PPA resource, as well. There are three outcomes from such analysis: 1) the age and technology of a PPA resource make it economically unlikely for the resource to continue to be part of the OG&E portfolio; 2) the remaining life of the PPA resource, and its underlying technology, allow consideration of acquisition of that resource at a favorable price; or 3) a negotiation of a PPA extension can best serve the OG&E portfolio. With a not yet 30 year-old resource, acquisition at a favorable price may provide the least cost way to manage a resource's role within the OG&E portfolio. It is not uncommon for generation plant to have lives well beyond the period of the Ok Cogen PPA. Just as continued operation of most of the OG&E generation fleet is part of the least cost portfolio going forward, the continued use of resources currently under PPA could also have future roles in OG&E's portfolio designed to serve customers in a least cost and reliable way. Retirement of OG&E owned, or contracted resources may trigger the need for replacement capacity to be acquired through seeking and evaluating all alternative resources available in the market.

Q. Has OG&E tried to fill its need for capacity associated with the Mustang retirements by finding other resources available in the SPP market?

A. No. Mr. Burch describes in his direct testimony the methods OG&E considered for obtaining aero derivative CTs. "OG&E Resource Planning Group was unaware of any quick start aero derivative CTs for sale or for contract in the market in the 2014 timeframe. Given that no CTs were available and the benefits from re-using the Mustang site… OG&E concluded that a self-build option at Mustang was in the best interest of its customers."[19] These statements are very telling. They indicate to me that OG&E was considering capacity at other sites in SPP versus re-using the Mustang site. OG&E is essentially recognizing that there are trade-offs when comparing generating capacity. A formal competitive bidding process could have provided true options, perhaps with different attributes.

Q. Has OG&E provided any explanation of its reasons for not accessing the market to fill its need for capacity associated with the Mustang retirements?

A. No. it has not provided any analysis demonstrating any benefits of building 400 MWs of CTs over, for example, building 280 MW of CTs and acquiring 125 MW of the existing CC capacity from Oklahoma Cogeneration or any other combination of OG&E build and market alternatives. Further, it offers no studies that show that the Mustang site is the only site that can address the identified need. The only information offered by OG&E is some explanation for why it is specifically targeting CTs over CCs,[20]

[19] Direct testimony of Robert J. Burch Page 20 of 33 Line 26 through Page 21 of 33 Line 1.
[20] Direct Testimony of Leon Howell 2014 IRP Update, p. 28.

Q. What are your conclusions on the potential for alternative resources being available to fill OG&E's need for capacity associated with the Mustang retirements?

A. OG&E did not seek market alternatives and, as a result, it did not consider lower cost options, such as an acquisition of the OK Cogen facility. OG&E's customers would have been better served if OG&E had searched the market for options before securing the CTs as the replacement capacity for the Mustang retirements.

Q. Have other Oklahoma utilities taken a different approach to addressing capacity needs?

A. Yes. OG&E's dismissal of the market differs from the approach that Public Service Company of Oklahoma (PSO) has taken. In planning for the 2016 retirement of the Northeastern coal plant, PSO determined that a PPA with an existing resource would provide the most feasible and economical solution to a capacity shortage.[21] In April 2012, PSO issued an RFP for up to 260 MW of long-term market capacity as part of its coal retirement plans.[22] After receiving multiple responses, PSO contracted with Calpine for a 15-year PPA for 260 MW of the Oneta unit.[23]

Q. Are you familiar with utilities outside of Oklahoma that access the market to fill resource needs?

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21 Direct Testimony of Steven Fate (PSO), p. 26. September 26, 2012. OCC Cause No. PUD 201200054.

22 PSO 2012 Integrated Resource Plan. http://occeweb.com/pu/PSO%202012%20IRP.pdf

23 Direct Testimony of Steven Fate (PSO), pp. 26-30. September 26, 2012. OCC Cause No. PUD 201200054.

A. Yes. In my work with the Arkansas General Staff I have been involved in dockets reviewing the acquisition of natural gas combined cycles, Entergy Arkansas, Inc. and Arkansas Electric Energy Cooperative. In fact, in each of these cases they determined that the lowest cost option was existing combined cycles being sold, rather than new capacity being developed.

Q. What are the implication regarding OG&E just assuming they needed to build replacement for capacity associated with the OK Cogen PPA?

A. By ignoring a willing seller of a power plant that is less than 30 years old OG&E likely increased costs for its ratepayers.

Q. What are your conclusions on how OG&E dealt with its need for capacity associated with their assumption that they would no longer have the OK Cogen PPA capacity?

A. OG&E has not responded to the owners of Ok Cogen's offer to sell the facility to OG&E and thus did not investigate whether the OK Cogen facility should remain part of the OG&E resource portfolio beyond its current PPA.

VII. CONCLUSION AND RECOMMENDATIONS

Q. What do you conclude based on the results of your review?

A. My findings are described below.

1. The need for the specific addition of aero derivative combustion turbines had not been adequately established and is overstated.[24] Despite this omission, OG&E chose aero derivative combustion turbines without quantification of any benefits.

2. The evaluation of alternatives to the additions of the aero derivative combustions was

[24] See OCC Order 647346 in Cause Number PUD 201400229, page 18.

virtually non-existent. OG&E did not consider in its evaluation that OK Cogen capacity could remain in its portfolio after the expiration of its current PPA. The consideration of other existing SPP-based capacity was cursory, at best. The potential for new non-OG&E developed generation was never considered.

3. OG&E needs to assess generation markets to test the value of generation options with varied attributes, which OG&E only considered in a qualitative manner and did not solicit proposals from any market participants.

Q. Based on these conclusions, what do you recommend?

A. Because of the findings above, I would recommend that an order in this proceeding include requiring OG&E to fully assess the viability of the continued use of the Ok Cogen capacity in its portfolio beyond the current PPA. In addition, I recommend that the Commission direct OG&E to meet its needs for new resources by seeking all alternatives available from the market.

Q. Does this conclude your testimony?

A. Yes, it does.

John G. Athas

Principal Consultant and Vice President

John Athas joined Daymark Energy Advisors (formerly La Capra Associates) in 2006, bringing nearly 30 years of diverse electric industry experience. He has substantial, hands-on skills having worked for an electric utility, a competitive retail electric services provider, a power technology manufacturer, and an energy industry consulting firm. Through extensive practical application, he has assumed leadership roles in market pricing and policy, resource planning, analysis of competitive wholesale and retail markets, financial and risk analysis, strategic planning, and contracts and transactions. With expertise in utility regulation, energy marketing and product development, energy policy, asset valuation, mergers and acquisitions, and corporate strategy, Mr. Athas has provided clients valuable insight from his unique blend of experience in strategy consulting, technical evaluations and energy market participation.

Mr. Athas holds an M.B.A. from the University of Connecticut, an M.S. in Mechanical Engineering from Rensselaer Polytechnic Institute, and a B.E. from Cooper Union.

PROFESSIONAL EXPERIENCE

Rates and Regulation

- Provided expert testimony on behalf of the Nova Scotia Small Business Advocate regarding Nova Scotia Power Inc. proposed tariffs and regulations concerning Sales of Renewable Low Impact Electricity Generated within Nova Scotia by a Retail Seller to a Retail Customer
- Serves as Primary Advisor to the Manitoba Public Utility Board in their Cost of Service Methodology review proceeding
- Provided expert review and critique for Public Service Organization of Oklahoma's request for proposal for baseload generation in support of the Office of the Attorney General.
- Provided review and comment on the Philadelphia Electric Smart Metering Implementation Plan for the Pennsylvania Office of Consumer Advocate
- Drafted changes to proposed demand-side rules in Oklahoma for the Oklahoma Industrial Energy Consumers.
- Managed rates and cost-of-service functions for Northeast Utilities (NU).

Economic Development

- Developed special incentive packages of utility rate discounts and comprehensive energy efficiency investments for large customers in Business Retention and Economic Development circumstances. These packages were coordinated with and integrated into broad incentive packages developed by state and local economic development agencies.
- Provided expert testimony before the Nova Scotia Public Service Board regarding the appropriateness of special load retention tariffs for Nova Scotia Power Incorporated
- Managed NU's economic development and special contracting flexible rate tariffs in Connecticut and Massachusetts.

- Negotiated special contracts with NU's large customers in Massachusetts, Connecticut and New Hampshire.

Integrated Resource Planning

- Collaborating to review and critique the Connecticut utilities' 2010 IRP on behalf of the Connecticut Energy Advisory Board (CEAB), including extending analysis and modeling to 2030.
- Managing consultant leading IRP planning and related regulatory filings for various New England electric utilities and cooperatives, including Green Mountain Power, Washington Electric Cooperative (VT), Vermont Electric Cooperative, and Vermont Marble Power.
- Provided a critique of Public Service of Oklahoma's IRP and Oklahoma Gas & Electric Company's IRP, in response to their joint application to build a base load coal fired generating capacity, on behalf of the Oklahoma Attorney General's Office.
- Managed NU's resource planning function from the inception of Integrated Demand/Supply Planning (now IRP) through 1991.

Market Analysis

- Project manager and principal lead on analysis for Vermont Combined Heat and Power and Distributed Generation Potential Study in 2010 on behalf of Vermont's System Planning Committee.
- Provide principal leadership to the team responsible for the Daymark Energy Advisors' Electric Market Model, which is used to support the analysis for numerous client projects.
- Conducted scenario planning studies for all North America regional power markets (U.S. and Canada). Provided capacity requirements, resource adequacy assessment, and energy price outlooks.
- Conducted scenario planning studies for all North America regional power markets (U.S. and Canada). Provided capacity requirements, resource adequacy assessment, and energy price outlooks.
- Charged with the role of principal for power research and consulting for the Eastern Energy Service, providing insight into the interactions of electric and gas markets within the Eastern Interconnect.
- Led marketing, structuring and product development for Select Energy's retail energy commodity and energy services business.
- Directed market research regarding customer choice and customer satisfaction.
- Supervised market modeling activities for North America (U.S. and Canada) for Cambridge Energy Research Associates (CERA).
- Analyzed power prices and their impacts on clients in the evolving market structures for ISO New England (ISO-NE), New York Independent System Operator (NYISO) and the PJM Interconnection (PJM).
- Supported the development and marketing, while negotiating a power and energy services package to, major retail aggregations and affinity for Select Energy. This includes the largest Municipal Aggregation the Cape Light Compact for communities on Cape Cod and Martha's Vineyard.

Stakeholder Facilitation and Process

- Facilitated information exchange and consensus building between the utilities and stakeholders —for Connecticut's *first IRP since the 1980s*—including multiple generation owners, operators and

developers; energy efficiency planners, regulatory oversight groups and public advocate organizations; environmental agency and environmental advocacy organizations, transmission owners and the regional transmission ISO; and consumers.

- In 2010, facilitated a greatly-expanded process during the subsequent Connecticut IRP to include nuclear power operators, developers, advocates and opposition groups, natural gas utilities and pipeline operators; energy security experts; and CHP developers, policymakers and commercial/industrial business.

Utility Planning

- Project Principal and Witness in the review of acquisition of generation resources in Arkansas (EAI – KGEN Hot Springs, AECC – Suez Hot Spring Plant).
- Managed strategic planning analyses for NU including the areas of competition, integrated resource planning (IRP), and utility strategic and organizational goal development.
- Representation on the Northeast Utilities Service Company Transmission & Distribution Budget and Planning Committee
- Member of the CL&P – Hartford District Storm Restoration Management Team
- Led the team responsible for analysis and presentation materials for executive planning conferences, including utility diversification into energy services and merchant generation.
- Supervised generation planning for a large utility provided economic and financial analysis of power plant construction and capital additions and determined avoided costs.
- Developed a New England market entry business plan for Direct Energy's retail business.
- Advised the management team at Cape Light Compact on the merits of forming an Electric Cooperative.

Expert Witness

- Presented expert testimony on behalf of the Rhode Island Division of Public Utilities and Carriers in Docket No. 4770 The Narragansett Electric Compant d/b/a National Grid INVESTIGATION AS TO THE PROPRIETY OF PROPOSED TARIFF CHANGES
- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket 17-041-U IN THE MATTER OF THE PETITION OF ENTERGY ARKANSAS, INC. FOR A DECLARATORY ORDER REGARDING A POWER PURCHASE AGREEMENT FOR A RENEWABLE RESOURCE AND FOR RECOVERY OF AN ADDITIONAL AMOUNT*
- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket 17-061-U IN THE MATTER OF THE APPLICATION OF THE EMPIRE DISTRIC ELECTRIC COMPANY FOR APPROVAL OF ITS CUSTOMER SAVINGS PLAN*
- Presented expert testimony on behalf of the Nova Scotia Small Business *IN THE MATTER OF The Public Utilities Act, R.S.N.S. 1989, c.380, as amended CI 47124 – NS Power Advanced Metering Infrastructure Project Application (M08349)*
- Presented expert testimony on behalf of the Nova Scotia Small Business Advocate *IN THE MATTER OF The Public Utilities Act, R.S.N.S. 1989, c.380, as amended CI 29807 - Tusket Falls Main Dam Refurbishment Project (M08162)*
- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket 17-038-U IN THE MATTER OF THE APPLICATION OF SOUTHWESTERN ELECTRIC POWER COMPANY FOR APPROVAL TO ACQUIRE A WIND GENERATING FACILITY AND TO CONSTRUCT A DEDICATED GENERATION TIE LINE*

- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket 16-060-U IN THE MATTER OF ENETERGY ARKANSAS, INC.APLLICATION FOR AN ORDER FINDING THE DEPLOYMENT OF ADVANCED METERING INFRASTRUCTURE TO BE IN THE PUBLIC INTEREST AND EXEMPTION FROM CERTAIN APPLICATION RULES*
- Presented expert testimony on behalf of the Oklahoma Hospital Association in *Cause No. PUD 20155500273 APPLICATION OF OKLAHOMA GAS & ELECTRIC COMPANY, AN OKLAHOMA CORPORATION, FOR AN ORDER OF THE COMMISSION AUTHORIZING APPLICANT TO MODIFY RATES, CHARGES AND TARIFFS FOR ELECTRIC SERVICE IN THE STATE OF OKLAHOMA*
- Presented expert testimony on behalf of the New Brunswick Office of Public Intervenor in the continuance of *New Brunswick EUB Matter 271 IN THE MATTER of a review of New Brunswick Power Corporation's Class Cost Allocation Study (CCAS) methodology*
- Presented expert testimony on behalf of the Nova Scotia Small Business Advocate *In the Matter [M06214] of an Application by Nova Scotia Power Inc. concerning Sales of Renewable Low Impact Electricity Generated within Nova Scotia by a Retail Seller to a Retail Customer pursuant to The Electricity Act*
- Presented expert testimony on behalf of the Newfoundland & Labrador Hydro in *Docket No. P.U. 28(2013) AMENDED Newfoundland & Labrador Hydro - 2013 AMENDED General Rate Application Prudence Review*
- Presented expert testimony on behalf of the Oklahoma Hospital Association in *Cause No. PUD 21055500208 APPLICATION OF PUBLIC SERVICE COMPANY OF OKLAHOMA, AN OKLAHOMA CORPORATION, FOR AN ADJUSTMENT IN ITS RATES AND CHARGES AND THE ELECTRIC SERVICE RULES, REGULATIONS AND CONDITIONS FOR ELECTRIC SERVICE IN THE STATE OF OKLAHOMA*
- Presented expert testimony on behalf of the Nova Scotia Small Business Advocate *In the Matter [M06733] of an Application by EfficiencyOne for Approval of a Supply Agreement for Electricity Efficiency and Conservation Activities between EfficiencyOne and Nova Scotia Power Inc., the Establishment of a Final Agreement between the Parties and Approval of the 2016-2018 Demand Side Management ("DSM") Plan-E-ENSC-R-2015*
- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket 14-118-U IN THE MATTER OF THE PETITION OF ENETERGY ARKANSAS, INC. REQUEST FOR APPROVAL OF THE ACQUISITION OF A GENERATING UNIT AT THE UNION POWER STATION TO SERVE ITS RETAIL CUSTOMERS*
- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket 15-014-U IN THE MATTER OF THE PETITION OF ENETERGY ARKANSAS, INC. FOR A DECLARATORY ORDER REGARDING A PURCHASE POWER AGREEMENT FOR A RENEWABLE RESOURCE*
- Presented expert testimony on behalf of the New Brunswick Office of Public Intervenor in *New Brunswick EUB Matter 272 IN THE MATTER of a review of New Brunswick Power Corporation's General Rate Application*
- Presented expert testimony on behalf of the Michigan Environmental Council and the National Resources Defense Council in *Michigan 2015 GRC-U-17735 Consumers Energy Company (General Electric Rate Case)*
- Presented expert testimony on behalf of the New Brunswick Office of Public Intervenor in *New Brunswick EUB Matter 271 IN THE MATTER of a review of New Brunswick Power Corporation's Class Cost Allocation Study (CCAS) methodology*
- Presented independent expert testimony on behalf of the Manitoba Public Utilities Board in *2013/14 NFAT Proceeding NEEDS FOR AND ALTERNATIVES TO (NFAT) REVIEW OF MANITOBA HYDRO'S PROPOSAL FOR THE KEEYASK AND CONAWAPA GENERATING STATIONS* (In this

Proceedings the filing of reports by Daymark Energy Advisors were the basis for cross examination of Mr. Athas.)

- Presented expert testimony on behalf of the Southern Environmental Law Council in *Case No. PUE-2013-00088 Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to § 56-597 et seq. of the Code of Virginia*
- Presented expert testimony on behalf of the Nova Scotia Small Business Advocate in *Matter NSPI-P-128.13 In the Matter of an Application by Nova Scotia Power Incorporated for Approval of its 2014 Annual Capital Expenditure Plan*
- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket NO.13-033-U In the Matter of the Petition of the Southwestern Electric Power Company for a Declaratory Order Finding That Certain Renewable Wind Energy Purchase Agreements are Prudent, and Wind Energy Purchase Agreements are Energy Only Contracts Eligible for Cost Recovery Through the Energy Cost Recovery Rider*
- Provided expert testimony on behalf of the Small Business Advocate of Nova Scotia in *NSPI-128-13 In the Matter of an Application by Nova Scotia Power Incorporated for Approval of Capital Expenditure for 2013 for South Canoe Wind Project - CI#42127 for $93,091,536*
- Provided expert testimony on behalf of the Small Business Advocate of Nova Scotia *NSPI-128-13 In the Matter of an Application by Nova Scotia Power Incorporated for Approval of its 2013 Annual Capital Expenditure Plan*
- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket NO.12-067-U In the Matter of the Application of Oklahoma Gas and Electric Company for an Oder Approving a Temporary Surcharge to Recover the Costs of a Renewable Wind Generation Facility*
- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket NO.12-038-U In the Matter of Entergy Arkansas, Inc.'s Request for approval of certain wholesale base load capacity to serve EAI customers and a proposed rider recovery mechanism for these and other capacity costs.*
- Presented expert testimony on behalf of the Citizen's Action Coalition of Indiana before the State of Indiana Utility Regulatory Commission. *In the Matter of the application of Indiana Michigan Power Company requesting from the Commission, 1) A Finding that the Life Cycle Management program for the Donald C. Cooke Nuclear Plant is Reasonable and Necessary, 2) Approving of Cost and Schedule, 3) Authorizing Recovery through a periodic Rate Adjustment Mechanism, 4) Granting I&M Authority to Defer Costs and 5) Grant I&M future Rate Relief as may be Necessary and Appropriate.*
- Presented expert Public Service Commission regarding IRP and Existing Nuclear Capital Projects. *In the Matter of the application of Indiana Michigan Power Company for a certificate of necessity pursuant to MCL 460.6s and related accounting authorizations*
- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket NO.12-012-U In the Matter of Arkansas Electric Cooperative Corporation for Approval of the Acquisition of the Hot Spring*
- Provided expert testimony on behalf of the Small Business Advocate of Nova Scotia in *Matter M04862 Application by Pacific West Commercial Corporation and NSPI for a Load Retention Rate*
- Provided expert testimony on behalf of the Small Business Advocate of Nova Scotia in *Matter M04175 Proposed Amendments to Nova Scotia Power Inc.'s Load Retention Tariff*
- Provided expert testimony on behalf of the Small Business Advocate of Nova Scotia in *Matter M04892 Main Computer Centre Upgrade*

- Presented expert testimony on behalf of the Arkansas Public Service Commission (ASPC) General Staff in *Docket NO.11-069-U In the Matter of Entergy Arkansas, Inc.'s Request for Approval of the Acquisition of the Hot Spring Plant to Serve its Retail Customers*
- Presented expert testimony on behalf of the Oklahoma Attorney General before the Oklahoma Corporation Commission regarding IRP and baseload coal RFPs. *(Causes Nos. PUD 200500516, 200600030, 200700012, 2006 through 2007.)*
- Presented expert testimony before the Connecticut Department of Public Utility Control (DPUC) for Select Energy in Connecticut regarding its retail licensing application in 2000.
- Testified on customer impacts, pricing levels and utility planning during various electric industry restructuring proceedings in Connecticut and Massachusetts.
- Presented expert testimony on numerous occasions before the Connecticut DPUC regarding special contract approvals.

EMPLOYMENT HISTORY

Daymark Energy Advisors (*formerly La Capra Associates, Inc.)* Boston, MA
Principal Consultant *2009 - Present*
Managing Consultant *2006 - 2009*

Direct Energy North America Stamford, CT
Independent Consultant *2005*
Assignment – New England Market Entry Business Plan, Channel Management Plan Development

Northeastern US Markets

Developed a business plan outlining the potential market entry for the client into the New England power market.

Cambridge Energy Research Associates Cambridge, MA
Associate Director, North American Electric Power *2001 – February 2005*
Eastern North American Energy Service Principal

Developed independent primary research on various aspects of power markets around the Eastern U.S. and Canada, primarily responsible for the Northeast and Midwest markets, including price outlooks for energy and "full requirements" electric power. Analyzed market structure, supply/demand balances, price caps, market clearing prices, capacity markets, and generation technologies.

Northeast Utilities Berlin, CT
Director, Retail Business Strategy - Select Energy *1997 – 2000*
Managing Director, Marketing - Select Energy

Directed market strategy, market research, product development, product management, strategic alliance development, retail electric energy supply management and pricing strategy for Northeast Utilities' unregulated retail energy service company, Select Energy, formed in 1997. Managed the activities of 31 professionals, including six managers. Negotiated a major retail supply agreement with the Massachusetts Municipal Association, which resulted in participation by 120 cities and towns.

Director, Market Pricing & Policy *1995 – 1997*
Directed the work in all areas of pricing for Northeast Utilities and its operating companies: CL&P, WMECo, PSNH and HWPCo, with revenues totaling over $3 billion. Three managerial units comprised the pricing organization, Cost of Service, Rates and Special Contracts. Led the development of proposals in unbundled rates prior to the restructuring of electric utility markets in Connecticut and Massachusetts. Responsible for developing utility discount rate and energy efficiency offerings for

large customers in Business Retention and Economic Development circumstances, which were coordinated and packaged into state and local economic development agencies incentive packages.

Manager, Market Analysis *1990 – 1995*
Led market planning and market research functions in developing strategies to prepare NU for the competitive business environment, including sales force program training and development.

Manager, Strategic Analysis & Long Term Resource Planning *1987 – 1990*

Held various positions within the Capacity Planning Department *1981 – 1987*

United Technologies Corporation Hartford, CT
Analytical Engineer – International Fuel Cells/Pratt & Whitney Aircraft *1977 – 1981*

EDUCATION

University of Connecticut Storrs, CT
Masters of Business Administration 1987

Rensselaer Polytechnic Institute – HGC Troy, NY
M.S., Mechanical Engineering 1982

Cooper Union New York, NY
B.E., Mechanical Engineering *1977*
Elected to Pi Tau Sigma – Mechanical Engineering Honorary Fraternity

PROFESSIONAL ACHIEVEMENTS

- Recipient, **1998 Northeast Utilities Chairman's Award** for innovation in developing offerings and negotiating with large aggregation groups
- Recipient, **1996 Northeast Utilities Chairman's Award** and **1996 Retail Business Group's President's Award** for the role in leading efforts in the Retail Competition Pilot in New Hampshire
- Recipient, **Northeast Utilities 1994 Retail Business Group's President's Award** for developing and successfully implementing special utility contracting efforts
- Licensed **Professional Engineer** - State of Connecticut
- Past appointee to the **Electric Power Research Institute (EPRI)** Industrial Business Unit Council
- Participation in the Energy Committee of the Manufacturer's Alliance of Connecticut, Inc.
- Participation in various **NEPOOL** Committees
- Member of the **Association of Energy Engineers**
- Author of the paper **'Fulfilling on the Promises of Deregulation'**
- Speaking experience includes:
  - 2012, Speaker at EUCI *Resource Planning: A Practitioner's Toolkit for Current Issues*
  - U.S. Chamber Of Commerce Satellite Seminar Series on Deregulation
  - Massachusetts HEFA sponsored conference on *Organizing Energy Buying Groups*
  - INFOCAST Seminars on *Negotiating Power Contracts*
  - Interview on a nationally syndicated news show, *First Business,* on energy deregulation

Exhibit JGA-2

Summary of Testimony Appearances for John G. Athas

Docket No.	Date	Name
Various	*1983-1991*	*Miscellaneous Dockets before the Connecticut DPUC, Connecticut Siting Council,Massachusetts DPU, and Massachusetts Energy Facility Siting Council on Generation and Integrated Resource Planning topics*
--------	*1993*	*Connecticut DPUC Docket on Retail Wheeling and Transmission Access*
--------	*1994*	*Massachusetts DPU Docket on Electric Industry Restructuring*
91-04-05	*August, 1991*	*Application of Connecticut Natural Gas Corp. for Approval of New and Modified Tariffs*
94-05-13	*July 13, 1994*	*Application of the Connecticut Light and Power Company and Kimberly-Clark Corporation for Approval of a Special Rate Contract56 for Provision of Firm Service to Kimberly-Clark Corporation*
93-12-34	*April 27, 1994*	*Application of the Connecticut Light and Power Company and Hamilton Standard for Approval of Special Electric Rate Contract*
99-08-03	*August, 1999*	*Application of Select Energy, Inc. for an Elecrric Supplier License*
*08-07-01**	*September, 2008*	*DPUC Review of Connecticut 2008 Comprehensive Electric Procurment Plan (integrated Resource Plan)*
*09-05-02**	*July, 2009*	*DPUC Review of Connecticut 2009 Comprehensive Electric Procurment Plan (Integrated Resource Plan)*
*10-02-07**	*June, 2010*	*DPUC Review of Connecticut 2010 Comprehensive Electric Procurment Plan (Integrated Resource Plan)*
NSPI-P-202/ M40175	*August, 2011*	*An Application by NewPage Port Hawkesbury Corp. and Bowater Mersey Paper Company Ltd for Amendments to Nova Scotia Power's Load Retention Tariff and for a Load Retention Rate*
*11-069-U***	*October, 2011*	*In the Matter of Entergy Arkansas, Inc.'s Request for Approval of the Acquisition of the Hot Spring Plant to Serve its Retail Customers*
CAUSE NO. PUD 201100186**	February, 2012	Application of Oklahoma Gas & Electric Company for an Order of the Commission approving a Special Contract with Oklahoma State University and a Wind Energy Purchase Agreement
M04892**	May, 2012	Main Computer Centre Upgrade (Capital Improvements Data Centre)
NSPI-P-203/ M04862	June, 2012	An Application by Pacific West Commercial Corporation and Nova Scotia Power Inc. for a Load Retention Rate
12-012-U**	June, 2012	In the Matter of Arkansas Electric Cooperative Corporationfor Approval of the Acquisition of the Hot Spring Generating Facility Near Malvern, Arkansas
U-17026**	August, 2012	In the Matter of the application of Indiana Michigan Power Company for a certificate of necessity pursuant to MCL 460.6s and related accounting authorizations.
IURC Cause No. 44182	August, 2012	In the Matter of the application of Indiana Michigan Power Company requesting from the Commission, 1) A Finding that the Life Cycle Management program for the Donald C. Cooke Nuclear Plant is Reasonable and Necessary, 2) Approving of Cost and Schedule, 3) Authorizing Recovery through a periodic Rate Adjustment Mechanism, 4) Granting I&M Authority to Defer Costs and 5) GrantI&M future Rate Relief as may be Necessary and Appropriate.
12-038-U	September, 2012	In the Matter of Entergy Arkansas, Inc.'s Request for approval of certain wholesale base load capacity to serve EAI customers and a proposed rider recvoery mechanism for these and other capacity costs.
12-067-U	October, 2012	In the Matter of the Application of Oklahoma Gas and Electric Company for an Oder Approving a Temporary Surcharge to Recover the Costs of a Reneweable Wind Generation Facility
NSPI-P-128.13	January, 2013	In the Matter of an Application by Nova Scotia Power Incorporated for Approval of its 2013 Annual Capital Expenditure Plan
NSPI-P-128.13	January, 2013	In the Matter of an Application by Nova Scotia Power Incorporated for Approval of Capital Expenditure for 2013 for South Canoe Wind Project - CI#42127 for $93,091,536
13-033-U	August , 2013	IN THE MATTER OF THE PETITION OF SOUTHWESTERN ELECTRIC POWER COMPANY FOR A DECLARATORY ORDER FINDING THAT CERTAIN RENEWABLE WIND ENERGY PURCHASE AGREEMENTS ARE PRUDENT, AND WIND ENERGY PURCHASE AGREEMENTS ARE ENERGY ONLY CONTRACTS ELIGIBLE FOR COST RECOVERY THROUGH THE ENERGY COST RECOVERY RIDER
NSPI-P-128.13	February, 2014	In the Matter of an Application by Nova Scotia Power Incorporated for Approval of its 2014 Annual Capital Expenditure Plan
Case No. PUE-2013-00088	February, 2014	Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to § 56-597 et seq. of the Code of Virginia
PUB NFAT Proceeding***	April, 2014	NEEDS FOR AND ALTERNATIVES TO (NFAT) REVIEW OF MANITOBA HYDRO'S PROPOSAL FOR THE KEEYASK AND CONAWAPA GENERATING STATIONS
New Brunswick EUB Matter 271	April, 2014	IN THE MATTER of a review of New Brunswick Power Corporation's Class Cost Allocation Study (CCAS) methodology

Exhibit JGA-2

Summary of Testimony Appearances for John G. Athas

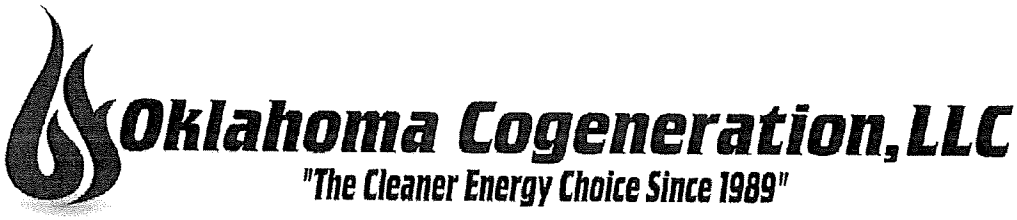
Docket No.	Date	Name
Michigan 2015 GRC-U-17735	April, 2015	Consumers Energy Company (General Electric Rate Case)
New Brunswick EUB Matter 272	May, 2015	IN THE MATTER of a review of New Brunswick Power Corporation's General Rate Application
NSPI-P-128.13 Matter No. 06733	June, 2015	In the Matter of an Application by EfficiyOne for Approval of a Supply Agreement for Electricity Efficiency and Conservation Activities between EfficiencyOne and Nova Scotia Power Inc., the Establishment of a Final Agreement between the Parties and Approval of the 2016-2018 Demand Side Management ("DSM") Plan-E-ENSC-R-2015
APSC 15-014-U	June, 2015	IN THE MATTER OF THE PETITION OF ENETERGY ARKANSAS, INC. FOR A DECLARATORY ORDER REGARDING A PURCHASE POWER AGREEMENT FOR A RENEWABLE RESOURCE
APSC 14-118-U	July, 2015	IN THE MATTER OF THE PETITION OF ENETERGY ARKANSAS, INC. REQUEST FOR APPROVAL OF THE ACQUISITION OF A GENERATING UNIT AT THE UNION POWER STATION TO SERVE ITS
CAUSE NO. PUD 2015500208	October, 2015	APPLICATION OF PUBLIC SERVICE COMPANY OF OKLAHOMA, AN OKLAHOMA CORPORATION, FOR AN ADJUSTMENT IN ITS RATES AND CHARGES AND THE ELECTRIC SERVICE RULES, REGULATIONS AND CONDITIONS FOR ELECTRIC SERVICE IN THE STATE OF OKLAHOMA
NO. P.U. 28(2013) AMENDED****	November, 2015	Newfoundland & Labrador Hydro - 2013 AMENDED General Rate Application Prudence Review
APSC 16-060-U	June, 2017	IN THE MATTER OF ENETERGY ARKANSAS, INC.APLLICATION FOR AN ORDER FINDING THE DEPLOYMENT OF ADVANCED METERING INFRASTRUCTURE TO BE IN THE PUBLIC INTEREST AND EXEMPTION FROM CERTAIN APPLICATION RULES
APSC 17-038-U	December, 2017	IN THE MATTER OF THE APPLICATION OF SOUTHWESTERN ELECTRIC POWER COMPANY FOR APPROVAL TO ACQUIRE A WIND GENERATING FACILITY AND TO CONSTRUCT A DEDICATED GENERATION TIE LINE
NSUAB Matter No. 08162	December, 2017	IN THE MATTER OF The Public Utilities Act, R.S.N.S. 1989, c.380, as amended CI 29807 - Tusket Falls Main Dam Refurbishment Project (M08162)
NSUARB Matter No.08349	January, 2018	IN THE MATTER OF The Public Utilities Act, R.S.N.S. 1989, c.380, as amended CI 47124 – NS Power Advanced Metering Infrastructure Project Application (M08349)
APSC 17-061-U	February, 2018	IN THE MATTER OF THE APPLICATION OF THE EMPIRE DISTRIC ELECTRIC COMPANY FOR APPROVAL OF ITS CUSTOMER SAVINGS PLAN
APSC 17-041-U	February, 2018	IN THE MATTER OF THE PETITION OF ENTERGY ARKANSAS, INC. FOR A DECLARATORY ORDER REGARDING A PURCHASE POWER AGREEMENT FOR A RENEWABLE RESOURCE AND FOR
Rhode Island DPUC Docket No. 4770	April, 2018	The Narragansett Electric Compant d/b/a National Grid INVESTIGATION AS TO THE PROPRIETY OF PROPOSED TARIFF CHANGES

** In these Dockets the Filing of the IRP Plans served as the basis for cross examination topics for Mr. Athas*
*** In these Proceedings Mr. Athas filed testimony yet was not asked to appear for cross examination*

**** In this Proceedings the filing of reports by La Capra Associates NOW Daymark Energy Advisors were the basis for cross examination of Mr. Athas.*
***** In this Proceedings the filing of reports by La Capra Associates now Daymark Energy Advisors were the basis for cross examination of Mr. Athas.*

Jointly Considered		
CAUSE NO. PUD 200500516	*June 27, 2007*	*APPLICATION OF PUBLIC SERVICE COMPANY OF OKLAHOMA FOR A DETERMINATION THAT ADDITIONAL ELECTRIC GENERATING CAPACITY WILL BE USED AND USEFUL*
CAUSE NO. PUD 200600030	*June 27, 2007*	*APPLICATION OF PUBLIC SERVICE COMPANY OF OKLAHOMA FOR A DETERMINATION THAT ADDITIONAL BASELOAD GENERATING CAPACITY WILL BE USED AND USEFUL*
CAUSE NO. PUD 200700012	*June 27, 2007*	*IN THE MATTER OF THE APPLICATION OF OKLAHOMA GAS AND ELECTRIC FOR AN ORDER OF THE COMMISSION GRANTING PRE-APPROVAL TO CONSTRUCT RED ROCK GENERATING FACILITY AND AUTHORIZING A RECOVERY RIDER*

Exhibit JGA-3



November 30, 2015

Via E-Mail: howelllc@oge.com

Mr. Leon C. Howell
Director, Resource Planning
Oklahoma Gas and Electric
321 North Harvey Avenue
Oklahoma City, OK 73102

Dear Leon:

Please find enclosed an executed Purchase and Sale Agreement (PSA) for the sale of Oklahoma Cogeneration, LLC's electric generating facility and related plant (the Facility), to Oklahoma Gas and Electric (OG&E).

We provide the PSA in an executed format to demonstrate our commitment and the terms and conditions of the PSA were developed to reflect a reasonable and balanced contract for the sale of the Facility with closing to occur immediately upon the conclusion of the term of the current Power Sales Agreement between the parties. We believe that all details necessary to finalize the PSA schedules and exhibits are straight forward and can be easily prepared by the parties. We understand that there may be provisions that OG&E may like to address to meet specific needs and we are willing to negotiate in good faith any such matters. In addition, should OG&E desire to acquire the Facility prior to the conclusion of the Power Sales Agreement, Oklahoma Cogeneration would be open to those discussions as well.

The pricing in the PSA is extremely attractive to OG&E and its customers as it is based upon half (50%) of the all-in costs on a $/kW basis of OG&E's planned new facility at it Mustang location (known as OG&E's Mustang Modernization Plan). This would allow OG&E to build 125 MW less at Mustang and do so at a significantly reduced cost. This provides enormous savings to OG&E and, most importantly, to its customers.

The benefits of the continued future operation of the Facility for the benefit of OG&E's customers are significant, including the location of the facility to OG&E's major load center and the Facility's favorable heat rate (efficiency), which is better than the efficiency anticipated from OG&E's planned new plant at its Mustang location.

7425 SW 29TH STREET, OKLAHOMA CITY, OK 73179
PHONE: 405.745.4442 • FAX: 405.745.2499
WWW.OKLAHOMACOGENERATION.COM

We respectfully request that OG&E carefully consider the enclosed PSA as we believe what is reflected within its terms and pricing is an extremely attractive proposal that warrants serious consideration by OG&E. Oklahoma Cogeneration plans to treat the period from the date of this transmittal through January 15, 2016, as an exclusive negotiation period and, should the parties enter into good faith negotiations during this time, then discussions may continue as exclusive until concluded.

I will be in Oklahoma City on December 7th and 8th and am available to meet with you to discuss this matter in more detail. Please contact me at jrb@beerscpa.com or call (202) 337-1423 so that we may determine if a meeting on either of these days can be scheduled.

Thank you in advance for your careful and serious consideration of this matter.

Respectfully,

James R. Beers

Enclosure: executed Purchase and Sale Agreement

CC with Enclosure:

Mr. William J. Bullard, OG&E General Counsel, via e-mail: bullarwj@oge.com
Mr. Kimber L. Shoop, OG&E Senior Attorney, via e-mail: shoopkl@oge.com
Mrs. Deborah R. Thompson, attorney, OK Energy Firm, PLLC, via e-mail: dthompson@okenergyfirm.com
Mr. Mark J. Thurber, attorney, Andrews Kurth, LLP, via e-mail: markthurber@andrewskurth.com
Mr. Lawrence N. Brandt, Oklahoma Cogeneration, LLC, via e-mail: lbrandt@brandtinc.com

Exhibit JGA-4

From: James R Beers
Sent: Wednesday, April 13, 2016 5:09 PM
To: HowellLC@oge.com
Cc: Deborah Thompson <dthompson@okenergyfirm.com>; shoopkl@oge.com
Subject: Oklahoma Cogeneration meeting follow-up

Dear Leon,

I've finally organized a response to your attached letter. To begin and clarify, OG&E did not offer "approximately $22.5 million" for the Oklahoma Cogeneration plant. You clearly stated that you were willing to make an advance payment of your contractually obligated capacity payments, discounted for the present value. I assume you estimate that to be $22.5 million. You specifically said the payment for the plant at the end of our PPA would be zero. If OG&E decides to make an offer to purchase the plant please feel free to modify and respond to the executed contract we sent to you on November 30, 2015.
As to OG&E's continued interest in pursuing the CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT, please explain why either of us should spend time and money on this undertaking without having had serious good faith negotiations on the price.
As you know I visit the plant monthly and am always available to meet with you and your team if there is a sincere interest in purchasing the plant.

Jim

From: Howell, Leon [mailto:HowellLC@oge.com]
Sent: Thursday, March 31, 2016 3:47 PM
To: James R Beers <jrb@beerscpa.com>
Cc: Deborah Thompson <dthompson@okenergyfirm.com>; Shoop, Kimber <shoopkl@oge.com>
Subject: RE: Oklahoma Cogeneration meeting follow-up

Jim,
Please find attached a response to your request discussed in our previous meeting. I have also mailed a hard copy. Please let me know if you have questions.
Leon

From: Deborah Thompson [mailto:dthompson@okenergyfirm.com]
Sent: Tuesday, March 22, 2016 2:33 PM

To: Shoop, Kimber; Howell, Leon
Cc: 'Jim Beers'
Subject: RE: Oklahoma Cogeneration meeting follow-up

External email - Use caution with links and attachments.

Kimber and Leon,
This is a follow-up to my email below. Based on the 4-6 week time frame your team described during our meeting in late January, we should have received the detailed provisions for an early sale of the plant and release terms from the current PSA should such a sale occur. Because there was no response to my prior email, I'm not sure if you need more time than you originally projected. Please advise when we will receive this from you. If you are now not intending to provide such information, please let me know that as well.

Thank you,
Deborah

From: Deborah Thompson [mailto:dthompson@okenergyfirm.com]
Sent: Wednesday, February 10, 2016 10:54 AM
To: 'Kimber Shoop (shoopkl@oge.com)' <shoopkl@oge.com>; 'Leon Howell ' <howelllc@oge.com>
Subject: Oklahoma Cogeneration meeting follow-up

Kimber and Leon,
Thank you for your time last month to meet with James and me. I wanted to follow-up on the calculations that were discussed near the end of the meeting related to a sale of the plant prior to the end of the current contract. I think Leon said it might take 4-6 weeks before you could get back with some information. Do you think we might get something by the end of February or are we looking at mid-March?
Thank you,
Deborah

Deborah R. Thompson
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(405) 445-3707 office
(405) 202-3773 cell

Exhibit JGA-5

From: James R Beers
Sent: Monday, October 16, 2017 4:23 PM
To: HowellLC@oge.com
Cc: Jerry A. Peace (peaceja@oge.com) <peaceja@oge.com>; 'Roth, Jim A.' <jaroth@phillipsmurrah.com>; Deborah Thompson <dthompson@okenergyfirm.com>; 'Edwards, Marc' <medwards@phillipsmurrah.com>; Robert Brandt <RBrandt@brandtinc.com>
Subject: Oklahoma Cogeneration, LLC

Dear Leon:

As we recently discussed the owners of Oklahoma Cogeneration have decided to actively pursue a purchaser for our 125MW cogeneration plant. I have been puzzled and disappointed with OG&E's repeated lack of interest in purchasing our plant. The price we have discussed in the past is competitive and will be an excellent addition to OG&E's capacity. And your ratepayers will appreciate the substantial savings when compared to the cost of a new plant such as the 400MW at Mustang.
I know you have the Mustang rate case scheduled for later this year and the Oklahoma Corporation Commission will be very interested in your efforts to control costs and maximize value. Therefore I thought it important to recap past efforts, responses and our plans for our plant.

- We discussed selling the plant in August 2014. You were not interested.
- In October 2014 our lawyers from Phillips Murrah P.C. met with OG&E's general counsel. Their attempt to give them the term sheet for the sale of our plant brought to the meeting was rejected.
- In April 2015 we began discussing ways to explore a sale of our plant to OG&E. This continued through the Summer and in the Fall we reviewed your 2015 IRP and better understood your future capacity requirements.
- In 2015 OG&E began planning to add 400MW of natural gas fired capacity at their Mustang plant. We realized that provided an opportunity for us to sell our plant at a substantial savings to OG&E and its ratepayers.
- On November 30, 2015 we sent an executed Purchase and Sale Agreement. We felt it was very important to offer an attractive price even though we did not know the estimated cost of your new Mustang plant. Therefore we agreed to sell our plant for 50% of the all-in cost of similar capacity at the new Mustang facility. Our objective was to be certain we provided a substantial savings.
- I did not receive an acknowledgement of receipt of our contract and sent a follow-up email December 22. No response again. I called you on January 6, 2016 and still no response. We finally met on January 25 after our lawyer contacted Kimber Shoop and asked for a meeting.

Exhibit JGA-5

- In our January 25 meeting OG&E did not show any interest in pursuing a purchase or engaging in good faith negotiations of the price. You did offer to pay us the discounted value of your contractually required capacity payments and specifically said you would not pay anything for the plant and equipment. You thereby stated the plant had no value, which did not provide an opportunity for good-faith negotiations to save money for the company and ratepayers.

If OG&E is interested in negotiating in good faith to purchase our plant we will make time to meet and attempt to complete a mutually beneficial sale/purchase agreement. We are motivated sellers and believe our executed November 30, 2015 contract is a good starting point. If we do not hear from you we will assume OG&E has no interest in purchasing our plant and saving money for its ratepayers and will proceed to sell the plant.

Sincerely,

Jim Beers

James R. Beers
Beers Consulting, LLC
700 New Hampshire Avenue, NW #1006
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(O)202-337-1423
(C)202-413-4576
JRB@beerscpa.com

Exhibit JGA-6

Hugh Bereman
Oklahoma Cogeneration, LLC
7425 SW 29th Street
Oklahoma City, OK 73179

Patrick Hamilton, PE
Contract Performance Manager
12307 S. Florence Ave.
Jenks, Oklahoma 74037
USA

T 918 296 6489
F 918 296 6598
patrick.hamilton@ge.com

February 8, 2018

Dear Hugh,

As you requested, I have reviewed the operational history of the units and the gas turbine capital parts at Oklahoma Cogeneration. The most recent inspection of each unit is listed below:

Unit Serial #	Description	Inspection Type	Completion Date
282625	Gas Turbine	Major Inspection	May 2016
335X297	Gas Turbine Generator	Major Inspection	February 2014
198058	Steam Turbine	Major Inspection	May 2015
316X744	Steam Turbine Generator	Major Inspection & Rewind	May 2013

Gas Turbine

GE's gas turbine maintenance recommendations are contained in GER 3620, Heavy Duty Gas Turbine Operating and Maintenance Considerations (currently revision M, dated 05/14). Additional guidance for gas turbine rotor inspections is discussed in TIL 1576-R1 (dated 3 February 2011). GER 3620M recommends inspections at the following intervals:

Inspection	Fired Hours Interval	Fired Starts Interval
Combustion	8000	900
Hot Gas Path	24000	1200
Major	48000	2400

Note: GER 3620M uses maintenance factors to modify the intervals for Combustion and Hot Gas Path inspections. The Hours maintenance factor adds the impact of Peak Fire and using fuels other than natural gas. For Oklahoma Cogeneration, the Hours maintenance factor is approximately 1, so the inspection intervals can be estimated using unmodified Fired Hours. The Starts maintenance factor adds the impact of trips. At Oklahoma Cogeneration, unit trips add the equivalent of approximately 40 Starts per year.

Based on the current operating profile of approximately 1600 Fired Hours and 155 Fired Starts (including the Trip factor) per year the inspection schedule is projected to be:

Inspection	Projected Date	Basis
Combustion	Spring 2021	8000 Hours
Hot Gas Path	Fall 2023	1200 Starts
Combustion	Spring 2026	16000 Hours
Major	Spring 2031	2400 Starts

Gas Turbine Rotor

The rotor inspections discussed in GER 3620M and TIL 1576-R1 require sending the rotor to a repair facility for complete disassembly and inspection. This inspection is required at or before the rotor reaches either 200,000 Hours or 5000 Starts (as modified by maintenance factors). Based on the current operating history, the gas turbine at Oklahoma Cogeneration has a rotor maintenance factor of 1.00 for Hours and 1.10 for Starts, therefore the inspection will be required at 200,000 Fired Hours or 4500 Fired Starts. As of 31 August 2017, the gas turbine had 147,925 Fired Hours and 2302 Fired Starts. At the current operating profile, the rotor inspection interval will be driven by Fired Starts. The gas turbine is projected to reach the next rotor inspection based on Fired Starts in the Spring of 2037.

Gas Turbine Compressor

The gas turbine compressor section is inspected as part of a major inspection. The compressor rotor was sent to the repair shop for inspect and had new blades installed during the major inspection in 2004. The compressor section was cleaned and inspected, and had minor repairs (blade blending or replacement, as required) during maintenance outages in 2010 and 2016. The next required inspection of the compressor section will be during the next major inspection, currently projected to occur in the Spring of 2031.

Gas Turbine Capital Components

GER 3620 also discusses planning for replacement of gas turbine capital parts based on estimated service life, repair vs. replacement costs and current repair techniques/technology. Based on operating history, most of Oklahoma Cogeneration's gas turbine capital parts are projected to remain in service beyond the next Major Inspection, projected to be Spring 2031.

The following parts will be needed to support the next scheduled Hot Gas Path Inspection:

Stage 3 Buckets
Stage 3 Nozzle

The following components may require replacement before the Major Inspection based on service life:

Fuel Nozzles (both sets)
Cap & Liner Assemblies (set currently in the warehouse)
Transition Piece Assemblies (set currently in the warehouse)

Steam Turbine

GE's steam turbine maintenance recommendations are contained in GEK 111680, Creating an Effective Steam Turbine Maintenance Program (currently revision C, dated August 2017). Steam turbine minor inspections should be performed at intervals of no more than 24,000 operating hours for units that are not monitored with a GE On Site Monitor (OSM). GE performs the minor inspection in conjunction with a gas turbine hot gas path inspection for units operating in combined cycle. Steam turbine major inspections should be performed at intervals of no more than 48,000 operating hours for unmonitored units. GE performs the steam turbine major inspection in conjunction with a gas turbine major inspection for combined cycle units.

Because of the restricted lay down area at Oklahoma Cogeneration, the steam turbine outage is typically performed in an outage period immediately before or immediately after the corresponding gas turbine outage.

Oxide and scale (which build in the valves over time) can restrict valve movement and impair operational safety. Steam turbine valves may, therefore, require maintenance more frequently than the minor inspection interval.

Based on the current operating profile, the projected inspection schedule is:

Minor Inspection	2022-2024 (proceeds or follows GT HGPI)
Major Inspection	2030-2032 (proceeds or follows GT MI)

The steam turbine rotor should be blast cleaned and be non-destructively tested during the major inspection. This inspection was last performed in 2015.

Generators

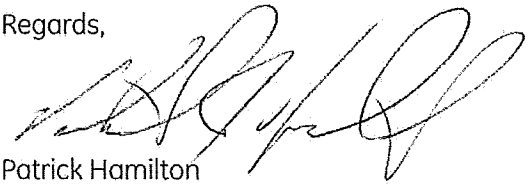
GE's generator maintenance recommendations are discussed in GEK 103566, Creating an Effective Generator Maintenance Program (currently revision L, dated February 2017). Typically, generators can be inspected commensurate with the associated turbine outage schedule. At the time of a gas turbine hot gas path inspection or a steam turbine minor inspection, a visual/borescope inspection of the generator is recommended. Additionally, a series of high and low voltage testing (shown in GEK 103566) should be conducted. At the time of a gas or steam turbine major inspection, a generator major inspection should be performed.

Based on the current operating profile, the projected outage schedule is:

Visual/borescope inspection	2022-2024 (based on turbine outages)
Major inspection	2030-2032 (based on turbine outages)

Typically, the insulation system of the field will deteriorate over time such that a rewind will be required before the rotor structure components reach the design life. A rotor inspection should be performed in conjunction with a field rewind. The rotor inspection was performed on the steam turbine generator rotor in 2013.

Regards,



Patrick Hamilton

cc: Jim Beers, Mike Sisk (NAES)