BEFORE THE CORPORATION COMMISSION

OF THE STATE OF KANSAS

IN THE MATTER OF THE PETITION OF	)	
THE EMPIRE DISTRICT ELECTRIC COMPANY	)	Docket No. 18-EPDE-184-PRE
FOR APPROVAL OF ITS CUSTOMER SAVINGS	)	
PLAN	)	

DIRECT TESTIMONY OF

ANDREA C. CRANE

ON BEHALF OF

THE CITIZENS' UTILITY RATEPAYER BOARD

March 1, 2018

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I. STATEMENT OF QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Andrea C. Crane and my business address is 2805 East Oakland Park Boulevard, #401, Ft. Lauderdale, FL 33306.

Q. By whom are you employed and in what capacity?

A. I am President of The Columbia Group, Inc., a financial consulting firm that specializes in utility regulation. In this capacity, I analyze rate filings, prepare expert testimony, and undertake various studies relating to utility rates and regulatory policy. I have held several positions of increasing responsibility since I joined The Columbia Group, Inc. in January 1989. I became President of the firm in 2008.

Q. Please summarize your professional experience in the utility industry.

A. Prior to my association with The Columbia Group, Inc., I held the position of Economic Policy and Analysis Staff Manager for GTE Service Corporation, from December 1987 to January 1989. From June 1982 to September 1987, I was employed by various Bell Atlantic (now Verizon) subsidiaries. While at Bell Atlantic, I held assignments in the Product Management, Treasury, and Regulatory Departments.

Q. Have you previously testified in regulatory proceedings?

A. Yes, since joining The Columbia Group, Inc., I have testified in over 400 regulatory proceedings in the states of Arizona, Arkansas, Connecticut, Delaware, Hawaii, Kansas, Kentucky, Maryland, New Jersey, New Mexico, New York, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Vermont, Washington, West Virginia and the District of Columbia. These proceedings involved electric, gas, water, wastewater, telephone, solid waste, cable television, and navigation utilities. A list of dockets in which I have filed testimony since January 2008 is included in Appendix A.

Q. What is your educational background?

A. I received a Master of Business Administration degree, with a concentration in Finance, from Temple University in Philadelphia, Pennsylvania. My undergraduate degree is a B.A. in Chemistry from Temple University.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony?

A. On October 31, 2017, Empire District Electric Company ("Empire" or "Company") filed a Petition with the Kansas Corporation Commission ("KCC" or "Commission") for approval of a "Customer Savings Plan", including preapproval to construct, own, and operate up to 800 MW of new wind generation facilities ("Wind Projects") through a tax equity partnership arrangement. In addition, the Company is proposing to retire the Asbury generating station, and is seeking authorization to record a regulatory asset associated with the unrecovered investment in Asbury.

The Columbia Group, Inc. was engaged by the Citizens' Utility Ratepayer Board ("CURB") to review the Company's Petition and to provide recommendations to the KCC regarding various accounting and ratemaking issues.

III. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Q. What are your conclusions and recommendations concerning the Customer Savings Plan proposed by Empire?

A. Based on my analysis of the Company's filing, my review of discovery responses and other documentation in this case, my conclusions and recommendations are as follows:

1. The Wind Projects, which are the foundation of the Company's Customer Savings Plan, are not needed to serve Kansas ratepayers.
2. The Wind Projects will increase the Company's rate base by approximately 37% and will almost double its generation resources.
3. The Wind Projects will increase the Company's return to shareholders by approximately$358 million over the next twenty years.
4. The Wind Projects will only provide a net savings to ratepayers if the Company's estimates are accurate. This includes estimates for construction costs, price of alternative fuels, capacity factors, market prices, tax rates and other factors.
5. As proposed, there is no guarantee that ratepayers will experience <u>any</u> savings from the Wind Projects. However, there is a certainty that Empire's shareholders will receive millions of dollars in increased profit. As currently structured, ratepayers bear all the risk while shareholders reap significant benefits through increased earnings.
6. At this time, Empire has not finalized plans for the construction, financing, or location of the Wind Projects. Therefore, it would be premature for the KCC to approve the Customer Savings Plan at this time.

7. The Commission, with input from the parties, should have the opportunity to review the actual construction agreements, tax equity partnership agreements, and other terms and conditions prior to making a determination in this case.
8. Since the energy from the Wind Projects is not needed, and since these projects are being promoted exclusively on financial grounds, the Commission should require certain performance guarantees as a condition of any future approval of the Customer Savings Plan.
9. The Company's request to establish a regulatory asset relating to the retirement of the Asbury plant should be denied.

IV. DISCUSSION OF THE ISSUES

A. Description of the Wind Projects

Q. Please provide a brief description of Empire.

A. Empire provides regulated utility service to approximately 172,000 electric customers in four states: Kansas, Missouri, Oklahoma, and Arkansas. Approximately 10,000 customers, or 5.8%, are located in the Kansas service territory. The overwhelming majority of customers (approximately 153,000) are located in Missouri. The Company has a mix of generation resources including coal, gas, and hydro facilities. Empire also has a Purchased Power Agreement ("PPA") for 255 MW of wind energy. The Company has total generation resources of 1,686 MW, including the wind PPA. Empire was acquired by Liberty Utilities (Central) Co. ("Liberty"), on January 1, 2017. Liberty is an indirect subsidiary of Algonquin Power and Utilities Corp.

Q. Please describe the proposed Customer Savings Plan that is the subject of Empire's Petition.

A. Empire is proposing to add 800 MW of wind generation to its resource portfolio. The Company intends to utilize tax equity partnership financing in order to finance a portion of this investment. With tax equity partner financing, a tax equity partner provides a significant portion of the initial financing in return for receiving most of the Production Tax Credits ("PTCs") associated with the project. As part of its proposal, Empire is also proposing to retire the Asbury generating facility and to record a regulatory asset for its stranded costs. Empire states that it proposes to recover this regulatory asset over 30 years. According to Empire, the Company estimates that the unrecovered investment for Asbury would be approximately $204 million at April 2019, when it anticipates that the facility would be retired. This estimate does not include accumulated deferred income taxes associated with the facility. Mr. Sager acknowledges that "…the amount that would end up as a regulatory asset would be less once an estimate for accumulated deferred income taxes is calculated".[1] The Company's estimated costs related to the retirement of Asbury do not include the estimated costs of removal or salvage, which Empire estimates to be $24 million.[2]

Q. What specific approvals is Empire seeking in this case?

A. Empire is seeking the following approvals:

[1] Page 3, lines 19-21 of Mr. Sager's testimony. According to the Company's response to MECG 2-01 in Missouri Case No. EO-2018-0092, the estimated deferred income taxes as of September 30, 2017 associated with depreciation were $44.98 million.

[2] Response to Office of Public Counsel Request 8508 in Missouri case, Case No. EO-2018-0092.

- Authorization to record its investment in, and the costs to operate and maintain, certain Wind Projects, including a finding that the Wind Projects will not be excluded from rate base in the Company's next base rate case on the grounds that they are imprudent;
- Authorization to include a regulatory asset associated with retirement of the Asbury generating facility;
- Approval of affiliate arrangements necessary to implement the Customer Savings Plan;
- Approval of an initial depreciable life of 30 years for the Wind Projects;
- Issuance of an Order by June 30, 2018 so that Empire can meet certain construction deadlines imposed by the Internal Revenue Service ("IRS") and therefore take maximum advantage of the PTCs available for the Wind Projects.

In addition, the Company is seeking a determination that any project acquired in Kansas would meet the requirements under K.S.A. 66-1245, which would allow the utility to retain up to 10% of the net revenues from sales of electricity to out-of-state customers. The relevant legislation reads:

(a) If an electric public utility constructs new or expanded electric generation capacity on or after January 1, 2004, in a county where the population has not increased more than 5% between the dates of the two most recent decennial censuses taken and published by the United States bureau of the census, the state corporation commission, in determining the utility's revenue requirements, shall make adjustments that allow the utility to retain benefits equivalent to 10% of the net revenues from sales of electricity generated by such new or expanded capacity to customers outside the state.
(b) The provisions of this section shall not apply to net revenues which are subject to the provisions of K.S.A. 66-1,184a and amendments thereto.

The Company is not seeking ratemaking treatment in this case, although it has indicated that it plans to seek recovery of the regulatory asset associated with the Asbury facilities over 30 years. In addition, during the recovery period, Empire plans to seek to recover not only a return of the unrecovered investment, but also a return on these facilities at its weighted average cost of capital ("WACC").

Q. Does the Company need this wind generation in order to meet its service commitments?

A. No, the Company does not need the Wind Projects in order to meet its service commitments to Kansas ratepayers. According to the response to CURB 1-04, the Company is not forecasting the need for any capacity additions within the next ten years. Instead, Empire is promoting the Wind Projects as a Customer Savings Plan, which it states will result in savings to its ratepayers, primarily through lower fuel costs when the wind replaces other energy resources.

Q. Please describe the impact that the proposed Wind Projects will have on Empire's utility investment.

A. The proposed Wind Projects will have a significant impact on the Company's total rate base and on its generation portfolio. As stated on page 11 of Mr. Swain's testimony, the Generation Fleet Savings Analysis assumed a total cost of approximately $1.5 billion, approximately $700 million of which the Company assumed would be financed by Empire. The Generation Fleet Savings Analysis shows that the total rate base under the base case scenario is expected to increase from $1.601 billion in 2018 to $2.436 billion in 2020, an increase of 52%. In addition, the Company estimates that the Wind Projects will increase its 2020 rate base by 37% relative to the 2020 projected rate base assuming implementation of the 2016 Integrated Resource Plan.

The Company's anticipated return on equity is projected to increase from $82 million in 2018 to $107 million in 2020. According to the response to Staff 3-18, the return on equity will increase by $216 million (on a net present value basis) under the base case scenario over a twenty-year period[3]. On a nominal basis, the Customer Savings Plan is expected to increase shareholder earnings by $358 million over the next twenty years. Therefore, the proposed Wind Projects represent a major increase in utility investment. In addition, the Wind Projects will increase the Company's generation portfolio by over 47%. These increases to rate base and generation are all the more significant because this generation is not needed to serve Kansas ratepayers.

Q. Given that the Wind Projects are not necessary to serve Kansas ratepayers, what is the Company's rationale for requesting approval for the Customer Savings Plan?

A. As discussed in the testimony of Mr. McMahon on page 10, "…Empire, in conjunction with its new owners, Algonquin Power & Utilities Corp., identified a potential opportunity to leverage its experience in developing renewable projects in concert with tax equity partners. As a result, Empire launched a new study to assess the impacts of adding wind to its portfolio prior to the expiration of federal production tax credits ("PTCs"), using the 2016 IRP as a baseline, but updating several key assumptions to reflect market, policy,

[3] The Company's model assumes a 51% equity ratio and a return on equity of 10%.

technology, and regulatory trends." The Company subsequently completed the Generation Fleet Savings Analysis, which is the basis for its proposal in this case. This testimony suggests that Empire was predisposed to investing in wind projects prior to undertaking a reexamination of its 2016 IRP and completing the Generation Fleet Analysis. In fact, even before the acquisition of Empire was completed, Algonquin had identified utility investment in renewable generation as a source of attractive returns and strong cash flow.[4]

The Company also claims that there will be a net savings to ratepayers if these facilities are added to the supply portfolio, due to the fact that the energy from these wind facilities will replace energy from more expensive fossil facilities, thereby generating fuel savings. Much of the savings relates to the availability of PTCs for the first ten years of the project, and the fact that the PTCs will allow the Company to utilize tax equity partnership financing for a significant portion of the investment. Accordingly, the Wind Projects are being proposed by Empire as a purely financial play – being undertaken with the explicit intent to increase shareholder earnings without increasing utility rates.

Q. Please describe the tax equity partnership arrangement proposed by Empire for the Wind Projects?

A. As described in the testimony of Mr. Mooney, the Company anticipates entering into an arrangement with the tax equity partner, who would provide up to 60% of the financing for the Wind Projects. Assuming that 60% of the Wind Projects is financed by the equity investor, the investment that is included in Empire's rate base would only be 40% of the

[4] Algonquin Power & Utilities Corp., Investor Presentation, November 2016, page 12.

overall project costs. In addition, during the first ten years of the Wind Project's life, the tax equity partner would receive the vast majority of the tax incentives (including both 99% of the PTCs and accelerated depreciation) associated with the Wind Projects. During this ten-year period, Empire can also benefit from additional annual contributions made by the tax equity partner in the event that actual production is higher than a production threshold. This higher energy production would result in additional PTCs being generated. The after-tax value of these PTCs would then be monetized as a contribution to Empire and credited to customers.

In addition to receiving the majority of the PTCs and accelerated depreciation, the tax equity partner also receives cash distributions in the later years (e.g. years 6-10) which reflect a return on capital. Once the tax equity partner has recovered the return on and of its investment, the ownership structure "flips", with the tax equity partner retaining a small share of the ownership interest and the majority of any financial benefits accruing to the utility. The utility also has an option to purchase the equity partner's investment at that time at fair market value. As stated in the response to CURB 1-19, the Company's financial model assumes a return on investment of 7.3% for the tax equity partner.

Q. Will Empire directly own its share of the Wind Projects under the proposed financing mechanism?

A. No, it will not. As discussed on page 10 of Mr. Mooney's testimony, both Empire and the tax equity partner will contribute capital to a new limited liability company, termed "the Wind Project Co." in the filing. Wind Project Co. will sell the energy produced by the Wind Projects to the Southwest Power Pool ("SPP") and will receive all of the revenue associated with the sale of this energy. Empire and Wind Project Co. will enter into a ten-year fixed price hedging agreement whereby Empire will pay a fixed price for the energy to Wind Project Co. but will also receive (or pay) the difference between the fixed price and the SPP locational marginal price. Empire will also receive the Renewable Energy Credits generated by the Wind Projects.

The revenues received by Wind Project Co. related to the sale of the energy to the SPP and any payments made by Empire will be used to pay the expenses of the Wind Projects, including operation and maintenance expenses, administrative and general expenses, and property taxes. During the first five years, any remaining net cash flows will be paid back to Empire. In years 6-10, any remaining net cash flows will be paid to Empire and the tax equity partner in the allocations agreed upon in the tax equity partnership agreement. After the initial ten-year period, Empire's ownership share increases to 95% of the Wind Projects. At that time, Empire would have the right to purchase the tax equity partner's remaining 5% share at fair market value.

Q. Please describe the Generation Fleet Savings Analysis.

A. The Generation Fleet Savings Analysis updated the Company's 2016 IRP for three factors: updated capital costs associated with wind generation, updated wind capacity factors, and modeling of the SPP Integrated Marketplace. The Company evaluated nine different plans, with various amounts of wind capacity, various assumptions about the levelized cost of energy ("LCOE") in different locations where wind could be sited, various assumptions regarding gas, coal, and energy prices, and various assumptions regarding retirement of the

Asbury plant. The Company's analysis assumes annual capacity factors of 46% in mid-LCOE regions and of 54% in low-LCOE regions.

In addition, the Generation Fleet Savings Analysis included a sensitivity analysis for each of the nine plans, covering 18 discrete scenarios. These scenarios examined a range of probabilities for variations in power and fuel prices, carbon taxes, and congestion.

Q. Please summarize the results of the Generation Fleet Savings Analysis.

A. As shown in Table 1 to Mr. McMahon's testimony, the optimal plan resulting from the Generation Fleet Savings Analysis was to build 800 MW of wind generation and to retire the Asbury plant. It is not surprising that the analysis selected 800 MW of wind, since 800 MW of wind was the maximum amount that could have been included per the parameters utilized by Empire. Thus, presumably a larger amount of wind generation would have resulted in even greater "savings" if permitted to be included in the model. The Company utilized both 20-year and 30-year Present Value Revenue Requirements ("PVRR") to evaluate the results of the model. Twenty years is consistent with the time period used in prior IRPs while the Company claims that thirty years is a better indicator of the actual anticipated life of the new wind generation. The Generation Fleet Savings Plan indicated that adding 800 MW of wind generation and retiring the Asbury plant could save ratepayers $325 million over a twenty-year period on a net present value basis, with projected net present value savings of $607 million over thirty years.

Q. Why is the Company's proposing to retire the Asbury generating facility as part of its proposal in this case?

A. Empire states that the Generation Fleet Savings Analysis indicated a savings to ratepayers of $75 million (on a net present value basis) over twenty years if Asbury is retired in April 2019. The Asbury plant was commissioned in 1970 and currently has an accredited capacity of 198 MW. The current projected retirement date for the Asbury plant is 2035. Empire claims that the facility is no longer as competitive as new, larger coal-fired facilities and recently has been subject to short periods of economic shutdown. In addition, Empire claims that continued operation of Asbury will require environmental compliance upgrades by April 2019, with additional estimated investment of $20-$30 million. Empire is proposing to recover the stranded costs of the Asbury plant over 30 years. In addition to requesting a return of this unrecovered investment, Empire is also seeking a return on this investment during this period at the WACC. Mr. Sager testifies that "failure to obtain approval of a regulatory asset for the retired Asbury plant would prevent the Company from moving forward with any aspect of the Customer Savings Plan….".[5]

Q. What is the impact of the Customer Savings Plan on Kansas utility rates?

A. On both a nominal and a net present value basis, the benefits associated with the Customer Savings Plan are largely skewed to the later years. On a net present value basis, the projected savings based on a thirty-year analysis are almost double those projected over the next twenty years ($607 million vs $325 million). Moreover, in the first ten years, the net present value of the savings is only $71 million. Clearly, the Company is relying heavily on savings in the later years in order to justify the proposed Wind Projects.

[5] Testimony of Ms. Sager, page 5, lines 15-18.

Similarly, savings are also skewed to the later years on a nominal basis as well. The Company's filing is based on projected nominal revenue requirement savings of $829.86 million over twenty years. According to the testimony of Mr. Macias, the benefits of the Wind Projects are estimated to result in a levelized reduction of $10.02 per month over the first twenty years of the project, or approximately $0.01 per kWh for a typical residential service customer. However, in the early years (2020-2021), residential rates are expected to be higher under the Company's proposal than under the current IRP. In fact, it is not until 2030 that residential customers would actually reach the levelized savings of $10.02 per month. Accordingly, much of the savings related to the Wind Projects occurs in the later years. This is troubling, given that assumptions tend to be less accurate the further out one is in the estimation process. Therefore, to the extent that actual results differ from the modeling assumptions assumed for the later years, ratepayers could ultimately be left with little or no savings from the Wind Projects.

Q. What impact did the recent Tax Cuts and Jobs Act ("Tax Bill") have on the economics of the Wind Projects?

A. The biggest impact of the Tax Act on the Wind Projects was a reduction in the corporate federal income tax rate, from 35% to 21%. This reduction made all generation less expensive, since the related tax gross-up was reduced. The Company claims that the Tax Act lowered the net present value revenue requirement for all scenarios by approximately $500 million. While it made the base case slightly more favorable relative to the 2016 IRP, increasing potential savings over 20 years from $325 million to $334 million, the overall impact on the Company's Generation Fleet Savings Analysis was not significant.

However, the Tax Act also made the tax benefits of the PTCs and accelerated depreciation less valuable to the tax equity partner. Therefore, the amount of capital that a tax equity partner would be willing to contribute is likely to be less than the contribution assumed in the original Application.

B. Allocation of Risk

Q. Does the Company currently bear any risk associated with increasing fuel prices that would prompt it to invest in wind generation in order to protect its shareholders?

A. No, Empire bears no risk because it recovers its fuel costs dollar-for-dollar from ratepayers through an Energy Cost Adjustment ("ECA") Rider. Therefore, if the price of natural gas or other fuels increases, then ratepayers are charged higher costs through the ECA and the Company is made whole for the higher cost of fuel. While utilities have the responsibility to continually seek to implement the lowest cost options for ratepayers, this case is unique in that the Company does not need additional generation in order to serve its Kansas load. Instead, it is proposing to include approximately $700 million of additional investment in rate base solely on the basis that this investment will result in lower costs to ratepayers.

Q. Given that the Company is not at risk for higher fuel costs and does not need additional generation, do you believe that the Company's desire to bring lower costs to ratepayers is the primary factor driving its proposal for this massive investment in wind energy?

A. No, I do not. Given that the Company is not at risk should fuel costs rise, I believe that this transaction is being driven primarily by the desire for higher profits for shareholders.

By owning these new facilities, and therefore increasing its rate base, Empire will earn a return on these facilities for many years into the future. According to the Company's models, these facilities will provide an incremental return of about $358 million to Empire shareholders during this period.

As shown in its November 2016 Investor Presentation discussing the acquisition of Empire, Algonquin highlighted the investment opportunities created by replacing coal generation with renewable generation, citing the opportunity for "significant incremental capital investment". Given the slower growth in electric sales, utility investment has become a major driver of increased earnings growth for utilities. Therefore, while the Wind Projects are being presented as a cost-saving opportunity for ratepayers, it is clear that they are also being presented to the investment community as an earnings growth opportunity for shareholders.

Q. As currently structured, what risks do ratepayers bear under the Company's proposal?

A. Ratepayers bear essentially all of the risk under the Company's proposal. First, they bear the risk of construction costs. There is no guarantee that the actual construction costs will be the costs reflected in the Company's model. Empire assumed capital costs ranging from $671/kW to $769/kW, depending on whether the facilities were located in a low or mid-cost area. However, Empire does not yet have construction agreements for these facilities nor does it have an agreement with an equity tax partner. Empire is currently evaluating bids received in response to a Request for Proposal, seeking projects with a minimum of 100 megawatt blocks. Bidders were not required to include an equity tax partnership agreement. Therefore, if Empire chooses projects that do not include an equity tax partner, it will need to seek out an equity tax partner itself. Accordingly, at this time we do not know what the underlying costs of the Wind Projects will be, nor do we know how the specific equity tax partnership agreement will be structured.

Second, the economics of the Wind Projects are being driven by the availability of PTCs, rather than by the intrinsic economics of wind energy. If Empire should fail to place the wind facilities into commercial operation by the deadline for qualifying for PTCs of December 31, 2020, without qualifying for an IRS exception, then the Wind Projects may not receive any PTCs whatsoever. In that event, the economic justification for the Wind Projects will have been eliminated. Yet, in the absence of a construction agreement and/or tax equity partnership agreement, we do not know what Empire's responsibility would be in that case, or how much of that responsibility would fall to Empire's Kansas ratepayers.

Third, ratepayers bear the risk of changes in fuel costs and other assumptions used in the Generation Fleet Savings Analysis. To the extent that these assumptions differ from those included in the Generation Fleet Savings Analysis, then the actual savings to ratepayers could be less than those estimated in the filing. Empire did conduct sensitivity analyses to determine the impact of various changes in its assumptions and the Wind Projects appeared favorable under most of these alternative scenarios. Nevertheless, the Wind Projects could have a useful life of up to 30 years and no one can predict what may happen over this period with regard to fuel prices, technological innovations, or other factors that could impact the savings projected by Empire.

Fourth, ratepayers bear the risk that the Wind Projects will not run at the capacity factors projected in the Generation Fleet Savings Analysis. There are many reasons why capacity factors could be less than projected. These include: a lower than projected availability due to maintenance issues or other problems, variations in the weather that result in a lower capacity factor, and curtailment by the SPP. Under the Company's proposal, ratepayers will be paying the capital costs associated with these facilities regardless of whether they are actually running and producing energy, so any reduction in the amount of energy produced will reduce (or potentially eliminate) the net savings to ratepayers.

Finally, the Company's proposal results in intergenerational inequity, which will negatively impact ratepayers in the early years of the Wind Projects. Under the Company's assumptions, the benefits of the Wind Projects are based largely on savings that accrue to ratepayers in the later years.

Because the proposal before us does not concern utility assets that are needed to provide service to Kansas customers, and are instead simply an economic opportunity brought forth for the Commission's consideration, the allocation of risk between stakeholders in this non-traditional proposal becomes of paramount importance when addressing many of the concerns I have listed above.

Q. Did Empire evaluate the possibility of entering into a PPA for the wind energy?

A. No, it did not. A PPA would have protected ratepayers from some of the risks discussed above, such as the risk of the generating facilities running at lower capacity factors or the risk of maintenance outages. However, Empire did not consider a PPA. The Company claims that "Empire is in a unique position to benefit from Algonquin Power & Utilities Corp.'s expertise in owning and managing wind farms, and its expertise developing such opportunities with tax equity partners…”.[6] However, Algonquin’s experience is relatively limited compared with major wind developers and the projects that it has undertaken to date are small compared with those proposed in this filing. The Company goes on to state that ownership will allow utility customers to benefit from the Wind Projects over the entire service life of the facilities, which it estimates is ten years longer than the traditional twenty-year PPA. While it is true that ratepayers have the potential to benefit over a longer period through the ownership structure, it is also true that they are exposed to greater risks over this period as well.

The Company also claims that a PPA would be more expensive for customers than utility ownership, but since Empire did not investigate PPAs in this case, there is no basis for this conclusion. The costs of a PPA relative to the costs of ownership would depend on many factors, including each party’s required cost of capital. Finally, Empire states that ownership “inherently creates healthier utilities and provides better local economic development opportunities…”.[7] I am not sure what the Company means by “healthier” utilities, although owned facilities certainly lead to “healthier” earnings for shareholders. While the Company stated that a PPA would have required Empire to give up certain control of the project, a PPA would also have required shareholders to forego millions of dollars in additional earnings. Finally, there is no reason why utility-owed generation would necessarily lead to better local economic development opportunities, especially since Empire has not yet identified where such facilities would be located. The construction of new wind facilities is likely to create local economic development

[6] Testimony of Mr. Mertens, page 9, 9-11.
[7] Id., page 9, line 23 – page 10, line 1.

opportunities in the locations where they are sited regardless of the entity that actually owns the facilities.

Q. Is there any guarantee that ratepayers will benefit from the Wind Projects?

A. No, there is no guarantee that the Customer Savings Plan will actually result in cost savings for Kansas ratepayers. The Company's filing was based on estimated savings of $325 million over a twenty-year period, or $607 million over a thirty-year period. Empire's model shows that even under a higher LCOE for the wind, ratepayers could still expect savings of $172 million to $421 million over periods of twenty to thirty years. The Company ran various sensitivity analyses that demonstrated that in virtually all cases, there would be a savings to Kansas ratepayers. However, based on the probabilities assigned to the various scenarios, there is still a 7.5% probability that the Wind Projects will not produce savings relative to the 2016 IRP. In addition, while the Wind Projects appear to be favorable under almost all assumptions, there is always uncertainty with regard to the future. Moreover, the Commission should keep in mind that these wind projects are not actually needed to serve Kansas ratepayers but instead are being implemented largely in order to increase shareholder returns.

Q. But don't ratepayers always bear the burden of paying a return of, and a return on, additions to rate base?

A. It is true that ratepayers provide a return on, and of, capital invested in utility assets. While that traditional risk sharing mechanism is suitable in traditional circumstances, one in which a utility is required to make an investment on behalf of ratepayers in order to provide safe and adequate utility service, it is not suitable when the Company has brought forth a proposal for a purely optional investment opportunity that it hopes will provide economic advantages to both parties. And it is especially not suitable in a scenario in which rate base will be increased by 37% as a result of a single project. Given the benefits of the Wind Projects to utility shareholders, I believe it is reasonable to also require that the Company guarantee that ratepayers will in fact benefit if the Wind Projects are approved.

Q. Are there other risks that are not related to the risk of achieving the forecasted savings?

A. Yes, there are. The massive one-time investment in wind energy proposed by the Company will likely diminish Empire's ability to take advantage of emerging energy technology, including improvements in wind technology, in the next few years that might otherwise have proven to be even more attractive. It would seem that in such a rapidly changing industry, it makes little sense to make a one-time massive bet on current technology (based solely on the assumption that tax credits will not be available in the future), rather than pursue a strategy of judicious and ongoing project analysis and investment that smooths the plant investments into rate base over time, while allowing for an orderly review process.

Q. Given these risks to ratepayers, do you recommend that Empire's Customer Savings Plan be approved at this time?

A. No, I do not. The Customer Savings Plan, as proposed, does not result in an equitable allocation of risk between ratepayers and shareholders. Moreover, approval of <u>any</u> plan would be premature. The Commission is not being asked to approve a specific project in this filing – rather it is being asked to approve a conceptual proposal. At this time, the Company does not have an agreement to construct these facilities, it does not have an agreement to finance these facilities, and it does not have a specific location where such facilities would be built. I can't recall another proceeding where a utility sought regulatory approval for a project that had as many open issues as the Wind Projects proposed in this case. It would also be premature for the KCC to authorize depreciation rates at this time, since the KCC does not yet know the specific design, manufacturer, or location of the wind turbines.

In response to Office of Public Counsel Question 8014 in Missouri Case No. EO-2018-0092, the Company indicated that its Board of Directors had not yet approved the Wind Projects. Instead, Empire stated that "Once regulators approve the Customer Savings Plan or the Company enters into material contracts related to the CSP, Board of Directors approval to proceed will be sought." It seems ironic to me that the Company is seeking approval for the Wind Projects from its regulators prior to even receiving internal approval from its Board.

Q. What is the status of the solicitation process?

A. Empire issued a Request for Proposal in October 2017 to fourteen companies. The RFP requested responses in 100 MW blocks of power. Bids were received in mid-December. According to the response to Staff Data Request APSC-002 in the Arkansas proceeding (Docket No. 17-061-U), the Company received proposals for thirty facilities, although not all of the proposals conformed with the requirements of the RFP. A total of ten companies submitted bids. The responses included twelve bids, by six companies, on Empire-owned sites. At this point, Empire is still evaluating the bids and a final determination is not anticipated until March 31, 2018. One bid reflected a price that included tax equity, while several bidders provided letters of understanding and/or interest from tax equity investors.

Q. What do you recommend?

A. I recommend that the Commission defer any decision on the Wind Projects until the Company has completed its review of the responses to its RFP and has executed both construction and financing agreements. At that time, Empire should update its Generation Fleet Savings Analysis to reflect the actual costs and other provisions contained in the construction and financing agreements. The parties in this proceeding should then have the opportunity to properly evaluate the specific Wind Projects and financing arrangements being proposed, and to make appropriate recommendations to the KCC, instead of having to rely solely on the conceptual framework presented in the original Application.

In addition, the update should include all impacts of the Wind Projects, including the Company's request to retain 10% of the net revenues generated from out-of-state sales under certain conditions per K.S.A. 66-1245. It is my understanding that this provision was not incorporated in the Generation Fleet Savings Analysis filed with the original Application. The KCC should have full and complete information on which to base any findings in this case.

C. Recommended Ratepayer Protections

Q. If the actual construction projects and financing agreements indicate that there is a likelihood for customer savings, should the KCC still require additional ratepayer safeguards if the Wind Projects are approved?

A. Yes, it should. If, after review and analysis of the actual construction contracts and financing agreements, the KCC determines that the Wind Projects have the potential to provide savings to ratepayers, it should condition its approval on certain performance guarantees, including:

- A cap on construction costs, consistent with the final construction agreement(s) entered into by Empire;
- A capacity factor guarantee, reflecting the capacity factors contained in the updated Generation Fleet Savings Analysis;
- A hold harmless provision in the event that some or all of the turbines fail to qualify for PTCs.

Given the significant increase in rate base that is likely to result from the Wind Projects, and the discretionary nature of these investments, it is imperative that ratepayers are not forced to bear a disproportionate amount of the project risk.

Q. Why do you recommend that the capital costs included in rate base be capped at the amounts estimated in the updated Generation Fleet Savings Analysis?

A. Since the Wind Projects are being undertaken for economic reasons, rather than because of the need for additional energy resources, it is important that the Commission place the responsibility for cost overruns on Empire or its contractors, and not on Kansas ratepayers. If the risk of cost overruns is borne by utility ratepayers, then the resulting benefits to utility customers will be reduced, or may not be realized at all. Ratepayers, and the Commission, have the right to rely upon the estimates that are ultimately provided by Empire in support of the Wind Projects, once the specific terms of the construction and financing agreements are known. Accordingly, the Company and its shareholders should be responsible for any cost overruns.

Q. If a construction cost cap is not imposed, does Empire have an incentive to minimize its construction costs?

A. No, in fact, just the opposite is true. As rate base increases, the dollar amount of the Company's return on investment also increases, resulting in higher earnings per share for shareholders. Earnings per share is a primary metric used by the financial community to evaluate the attractiveness of utility stocks. Therefore, Empire will have an incentive to maximize rate base unless a cap on construction costs is imposed. The imposition of a cap will provide an incentive for Empire to construct the Wind Projects within the capital budgets reflected in its updated Generation Fleet Savings Analysis and will protect ratepayers from cost overruns that would otherwise reduce the projected savings to customers.

Q. What capacity factors did the Company reflect in its Application?

A. The cost savings projections on which the Application is based assume net capacity factors of 54% for the low LCOE scenario and of 46% for the mid LCOE scenario. Since the Company has not yet finalized the type or location of wind facilities, we do not yet know what capacity factors may ultimately be anticipated by Empire once the final details of the project are known. Capacity factors of the Wind Projects are important for two reasons. First, the capacity factors determine the amount of energy that will be produced and therefore that will qualify for the PTCs. Second, the capacity factors determine the amount of energy that will displace higher-cost energy generated by fossil fuels. If fewer-than-projected kilowatt hours of energy are produced, then other units will need to produce more energy, and at a higher cost. In addition, energy from these alternative generating facilities will not qualify for PTCs. Accordingly, the assumption regarding capacity factors of the two generating units is critical to the determination of ratepayer savings.

Q. What minimum capacity factors do you recommend that the KCC adopt if the Wind Projects are approved?

A. If the Wind Projects are approved, I recommend that the KCC require Empire to guarantee the projected capacity factors on which the economics of the Wind Projects are ultimately based, as reflected in an updated Generation Fleet Savings Analysis. The Company is promoting these Wind Projects on the basis of expected savings to Kansas ratepayers. The capacity factors of the wind farms will have a major impact on customer savings. This is because the actual capacity factors will affect the PTCs that are generated by the projects, the fuel savings, and market prices. If the capacity factors of these wind projects are lower than projected, then some or all of the expected savings will not materialize. Kansas ratepayers should not be put in the position of paying for wind facilities that do not produce the expected energy and cost savings. Accordingly, if the projects are approved, the KCC should require a capacity factor guarantee that would hold ratepayers harmless in the event that the projected capacity factors are not met.

Q. Please discuss your recommendation regarding qualifying for the PTCs.

A. The economics of the Wind Projects are being driven by the expectation regarding tax benefits created by PTCs. In order to qualify for 100% of the PTCs, projects must be completed and in-service by December 31, 2020. Since we do not yet have final construction and/or financing agreements, we do not know which party will be responsible in the event that some or all of the turbines fail to qualify for PTCs. However, any project ultimately approved by the KCC should hold ratepayers harmless in the event that construction delays or other factors result in the loss of eligibility for PTCs. The Wind Projects will be included in rate base for many years, and are predicated on the expectation of savings relating to the PTCs. In no event should ratepayers be responsible for increased costs associated with the failure of projects to qualify for these PTCs, since ratepayers will not have been responsible for any actions that resulted in the loss of these tax benefits.

Q. Would your recommended ratepayer protections eliminate all ratepayer risks?

A. No, these protections will not eliminate all ratepayer risks. The avoided cost of fuel is a crucial determinant in the savings calculation and ratepayers will still be exposed to this very significant risk. In addition, there is a risk that new technology will make this investment obsolete long before the end of its useful life. Ratepayers will also bear the risk that other assumptions used in the Generation Fleet Savings Analysis will deviate from current projections, resulting in the loss of some or all of the projected ratepayer savings.

Q. Please summarize your recommendations regarding the Wind Projects that are proposed by Empire in this case.

A. Given the fact that Empire does not yet have either construction or financing agreements, it would be premature for the KCC to approve Empire's Customer Savings Plan at this time. Once the Company has evaluated responses to its RFP and has entered into contractual agreements for the construction and financing of the Wind Projects, it should update its Generation Fleet Savings Analysis. At that time, the parties should have the opportunity to evaluate the Wind Projects based on actual contractual agreements.

If the KCC ultimately approves the Wind Projects, it should condition its approval on performance guarantees with regard to capital costs and capacity factors, and it should hold ratepayers harmless in the event that the Wind Projects fail to qualify for some or all of the PTCs. These conditions will provide a more equitable allocation of the risks associated with the Wind Projects. A more balanced approach is especially important in this case, given the fact that these projects are being promoted purely for economic reasons and are based on numerous long-term assumptions.

D. <u>Retirement of the Asbury Generating Facility</u>

Q. If the Asbury generating facility is retired by Empire as part of a Customer Savings Plan, should ratepayers be responsible for any unrecovered investment?

A. No, they should not. In the event that Asbury is retired, I recommend that the Commission deny Empire's request to establish a regulatory asset for its unrecovered investment. While the Company is not seeking approval of a specific ratemaking treatment for the regulatory asset in this case, it has clearly stated its intent to seek recovery of any regulatory asset over thirty years and to earn a return at its authorized WACC during that period.

Utility rates should reflect only those costs that are necessary for the provision of safe and reliable utility service. It is a basic tenet of utility regulation that investment included in rate base should be used and useful in providing utility service. Clearly, once Asbury is retired, that generating facility will no longer be used and useful and should therefore not be included in the Company's rate base.

Second, the Company's proposal to recover a return of, as well as return on, the Asbury facility is an attempt to shift risk from shareholders to ratepayers. Shareholders are never guaranteed recovery of the underlying cost of their investment. Nor are they guaranteed recovery of a return on their investment. If recovery of all investment was assured, shareholders would not be incurring any risk and therefore there would be no reason to set rates using an equity return that includes a risk premium. Instead, shareholder returns would more closely match the return on a risk-free investment.

Third, much of the stranded cost relates to investment in Asbury undertaken over the past few years. As discussed on page 13 of Mr. Mertens' testimony, in 2014, Asbury was retrofitted with "…an Air Quality Control System ("AQCS") that included the addition of a circulating dry scrubber to reduce sulfur dioxide emissions, a pulsejet fabric filter to reduce particulate emissions, powder activated carbon injection to control mercury emissions, conversion from forced draft to balanced draft, a new stack, and the upgrade of the steam turbine to increase efficiency." Empire has been recovering costs associated with the environmental upgrades at Asbury though the Asbury Environmental Cost Recovery ("AECR") rider, which was authorized by the KCC effective June 1, 2015.

According to the response to CURB 1-16, over the past five years the Company has incurred approximately $126 million of upgrades at the Asbury facility. In fact, in a Press

Release announcing for the base rate case filed in September 2016, Empire stated that "…the $112 million Air Quality Control System (AQCS) at the Asbury Power Plant" was one of the principal drivers of the proposed rate increase.[8] Moreover, in that Press Release, the Company stated that "The largest of these investments were the Asbury AQCS and the Riverton Combined Cycle Unit. These projects were the most economic options for Empire to comply with environmental mandates related to SO2, mercury and particulate matter. They also ensure that plants remain in operation, providing locally sourced energy, jobs and other economic benefits to the region while lowering emissions and protecting the environment." Shortly thereafter, Liberty Utilities and then Algonquin acquired Empire and the search was on for new revenue sources that could increase shareholders earnings. Now, less than two years later, the Company is proposing to retire this facility but to continue to collect these costs from Kansas ratepayers.

Q. If the KCC denies the Company's request for a regulatory asset, won't Empire have an incentive to keep Asbury open even if the generating facility is no longer economic?

A. Yes, Empire may be motivated to keep Asbury open if its request for a regulatory asset is denied. However, if the Wind Projects are approved by the KCC, the Commission should examine the Company's generation portfolio in its next base rate case to ensure that all components of rate base are used and useful in the provision of safe and reliable utility service to Kansas ratepayers. This analysis should be conducted regardless of whether the Asbury facility is retired. The addition of 800 MW of generation could have a significant

[8] The base rate increase request was later withdrawn as a condition of the acquisition of Empire by Liberty on January 1, 2017.

impact on the Company's optimal resource mix, even though the wind generation will only be eligible for a relatively small capacity accreditation. Therefore, these additional wind resources should necessitate a full review in future rate cases to ensure that Empire is not continuing to charge customers for generating facilities that are no longer appropriate for inclusion in regulated utility rates.

Q. Will shareholders benefit from the new Wind Projects that are being used to justify the retirement of Asbury?

A. Yes, they will. With the Wind Projects, Empire is significantly increasing the investment on which shareholders will be able to earn a return. In addition, by increasing investment and therefore depreciation expense, the Company is also able to increase its cash flow. It would be unreasonable to ask ratepayers to continue to pay both a return on, and a return of, investment that is no longer providing them with utility service while at the same time requiring ratepayers to pay a return on, and of, Wind Projects that are being undertaken purely for financial benefit, and which will increase shareholder returns by $358 million over the next twenty years. Accordingly, if the Commission authorizes the Company to retire Asbury as part of the Wind Projects, I am recommending that the KCC deny recovery of these stranded costs from ratepayers.

Q. Does this conclude your testimony?

A. Yes, it does.

<u>VERIFICATION</u>

STATE OF FLORIDA)

COUNTY OF BROWARD) ss:

Andrea C. Crane, being duly sworn upon her oath, deposes and states that she is a consultant for the Citizens' Utility Ratepayer Board, that she has read and is familiar with the foregoing Direct Testimony, and that the statements made therein are true to the best of her knowledge, information and belief

Andrea C. Crane

Andrea C. Crane

Subscribed and sworn before me this 26 day of FEBRUARY, 2018.

TIMOTHY LADD HAAK
MY COMMISSION #FF133102
EXPIRES August 23, 2018
(407) 398-0153 FloridaNotaryService.com

Notary Public

My Commission Expires: AUGUST 23, 2018

The Columbia Group, Inc., Testimonies of Andrea C. Crane

Company	Utility	State	Docket	Date	Topic	On Behalf Of
Empire District Electric Company	E	Kansas	18-EPDE-184-PRE	3/18	Approval of Wind Generation Facilities	Citizens' Utility Ratepayer Board
GPE/ Kansas City Power & Light Co., Westar Energy, Inc.	E	Kansas	18-KCPE-095-MER	1/18	Proposed Merger	Citizens' Utility Ratepayer Board
Public Service Electric and Gas Co.	E	New Jersey	GR17070776	1/18	Gas System Modernization Program	Division of Rate Counsel
Southwestern Public Service Company	E	New Mexico	17-00044-UT	10/17	Approval of Wind Generation Facilities	Office of Attorney General
Kansas Gas Service	G	Kansas	17-KGSG-455-ACT	9/17	MGP Remediation Costs	Citizens' Utility Ratepayer Board
Atlantic City Electric Company	E	New Jersey	ER17030308	8/17	Base Rate Case	Division of Rate Counsel
Public Service Company of New Mexico	E	New Mexico	16-00276-UT	6/17	Testimony in Support of Stipulation	Office of Attorney General
Westar Energy, Inc.	E	Kansas	17-WSEE-147-RTS	5/17	Abbreviated Rate Case	Citizens' Utility Ratepayer Board
Kansas City Power and Light Company	E	Kansas	17-KCPE-201-RTS	4/17	Abbreviated Rate Case	Citizens' Utility Ratepayer Board
GPE/ Kansas City Power & Light Co., Westar Energy, Inc.	E	Kansas	16-KCPE-593-ACQ	12/16	Proposed Merger	Citizens' Utility Ratepayer Board
Kansas Gas Service	G	Kansas	16-KGSG-491-RTS	9/16	Revenue Requirements	Citizens' Utility Ratepayer Board
Public Service Company of New Mexico	E	New Mexico	15-00312-UT	7/16	Automated Metering Infrastructure	Office of Attorney General
Kansas City Power and Light Company	E	Kansas	16-KCPE-160-MIS	6/16	Clean Charge Network	Citizens' Utility Ratepayer Board
Kentucky American Water Company	W	Kentucky	2016-00418	5/16	Revenue Requirements	Attorney General/LFUCG
Black Hills/Kansas Gas Utility Company	G	Kansas	16-BHCG-171-TAR	3/16	Long-Term Hedge Contract	Citizens' Utility Ratepayer Board
General Investigation Regarding Accelerated Pipeline Replacement	G	Kansas	15-GIMG-343-GIG	1/16	Cost Recovery Issues	Citizens' Utility Ratepayer Board
Public Service Company of New Mexico	E	New Mexico	15-00261-UT	1/16	Revenue Requirements	Office of Attorney General
Atmos Energy Company	G	Kansas	16-ATMG-079-RTS	12/15	Revenue Requirements	Citizens' Utility Ratepayer Board
El Paso Electric Company	E	New Mexico	15-00109-UT	12/15	Sale of Generating Facility	Office of Attorney General
El Paso Electric Company	E	New Mexico	15-00127-UT	9/15	Revenue Requirements	Office of Attorney General
Rockland Electric Company	E	New Jersey	ER14030250	9/15	Storm Hardening Surcharge	Division of Rate Counsel
El Paso Electric Company	E	New Mexico	15-00099-UT	8/15	Certificate of Public Convenience - Ft. Bliss	Office of Attorney General
Southwestern Public Service Company	E	New Mexico	15-00083-UT	7/15	Approval of Purchased Power Agreements	Office of Attorney General
Westar Energy, Inc.	E	Kansas	15-WSEE-115-RTS	7/15	Revenue Requirements	Citizens' Utility Ratepayer Board
Kansas City Power and Light Company	E	Kansas	15-KCPE-116-RTS	5/15	Revenue Requirements	Citizens' Utility Ratepayer Board

Company	Utility	State	Docket	Date	Topic	On Behalf Of
Comcast Cable Communications	C	New Jersey	CR14101099-1120	4/15	Cable Rates (Form 1240)	Division of Rate Counsel
Liberty Utilities (Pine Buff Water)	W	Arkansas	14-020-U	1/15	Revenue Requirements	Office of Attorney General
Public Service Electric and Gas Co.	E/G	New Jersey	EO14080897	11/14	Energy Efficiency Program Extension II	Division of Rate Counsel
Exelon and Pepco Holdings, Inc.	E	New Jersey	EM14060581	11/14	Synergy Savings, Customer Investment Fund, CTA	Division of Rate Counsel
Black Hills/Kansas Gas Utility Company	G	Kansas	14-BHCG-502-RTS	9/14	Revenue Requirements	Citizens' Utility Ratepayer Board
Public Service Company of New Mexico	E	New Mexico	14-00158-UT	9/14	Renewable Energy Rider	Office of Attorney General
Public Service Company of New Mexico	E	New Mexico	13-00390-UT	8/14	Abandonment of San Juan Units 2 and 3	Office of Attorney General
Atmos Energy Company	G	Kansas	14-ATMG-320-RTS	5/14	Revenue Requirements	Citizens' Utility Ratepayer Board
Rockland Electric Company	E	New Jersey	ER13111135	5/14	Revenue Requirements	Division of Rate Counsel
Kansas City Power and Light Company	E	Kansas	14-KCPE-272-RTS	4/14	Abbreviated Rate Filing	Citizens' Utility Ratepayer Board
Comcast Cable Communications	C	New Jersey	CR13100885-906	3/14	Cable Rates	Division of Rate Counsel
New Mexico Gas Company	G	New Mexico	13-00231-UT	2/14	Merger Policy	Office of Attorney General
Water Service Corporation (Kentucky)	W	Kentucky	2013-00237	2/14	Revenue Requirements	Office of Attorney General
Oneok, Inc. and Kansas Gas Service	G	Kansas	14-KGSG-100-MIS	12/13	Plan of Reorganization	Citizens' Utility Ratepayer Board
Public Service Electric & Gas Company	E/G	New Jersey	EO13020155 GO13020156	10/13	Energy Strong Program	Division of Rate Counsel
Southwestern Public Service Company	E	New Mexico	12-00350-UT	8/13	Cost of Capital, RPS Rider, Gain on Sale, Allocations	New Mexico Office of Attorney General
Westar Energy, Inc.	E	Kansas	13-WSEE-629-RTS	8/13	Abbreviated Rate Filing	Citizens' Utility Ratepayer Board
Delmarva Power and Light Company	E	Delaware	13-115	8/13	Revenue Requirements	Division of the Public Advocate
Mid-Kansas Electric Company (Southern Pioneer)	E	Kansas	13-MKEE-447-MIS	8/13	Abbreviated Rate Filing	Citizens' Utility Ratepayer Board
Jersey Central Power & Light Company	E	New Jersey	ER12111052	6/13	Reliability Cost Recovery Consolidated Income Taxes	Division of Rate Counsel
Mid-Kansas Electric Company	E	Kansas	13-MKEE-447-MIS	5/13	Transfer of Certificate Regulatory Policy	Citizens' Utility Ratepayer Board
Mid-Kansas Electric Company (Southern Pioneer)	E	Kansas	13-MKEE-452-MIS	5/13	Formula Rates	Citizens' Utility Ratepayer Board
Chesapeake Utilities Corporation	G	Delaware	12-450F	3/13	Gas Sales Rates	Attorney General
Public Service Electric and Gas Co.	E	New Jersey	EO12080721	1/13	Solar 4 All - Extension Program	Division of Rate Counsel
Public Service Electric and Gas Co.	E	New Jersey	EO12080726	1/13	Solar Loan III Program	Division of Rate Counsel
Lane Scott Electric Cooperative	E	Kansas	12-MKEE-410-RTS	11/12	Acquisition Premium,	Citizens' Utility

Company	Utility	State	Docket	Date	Topic	On Behalf Of
					Policy Issues	Ratepayer Board
Kansas Gas Service	G	Kansas	12-KGSG-835-RTS	9/12	Revenue Requirements	Citizens' Utility Ratepayer Board
Kansas City Power and Light Company	E	Kansas	12-KCPE-764-RTS	8/12	Revenue Requirements	Citizens' Utility Ratepayer Board
Woonsocket Water Division	W	Rhode Island	4320	7/12	Revenue Requirements	Division of Public Utilities and Carriers
Atmos Energy Company	G	Kansas	12-ATMG-564-RTS	6/12	Revenue Requirements	Citizens' Utility Ratepayer Board
Delmarva Power and Light Company	E	Delaware	110258	5/12	Cost of Capital	Division of the Public Advocate
Mid-Kansas Electric Company (Western)	E	Kansas	12-MKEE-491-RTS	5/12	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board
Atlantic City Electric Company	E	New Jersey	ER11080469	4/12	Revenue Requirements	Division of Rate Counsel
Mid-Kansas Electric Company (Southern Pioneer)	E	Kansas	12-MKEE-380-RTS	4/12	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board
Delmarva Power and Light Company	G	Delaware	11-381F	2/12	Gas Cost Rates	Division of the Public Advocate
Atlantic City Electric Company	E	New Jersey	EO11110650	2/12	Infrastructure Investment Program (IIP-2)	Division of Rate Counsel
Chesapeake Utilities Corporation	G	Delaware	11-384F	2/12	Gas Service Rates	Division of the Public Advocate
New Jersey American Water Co.	W/WW	New Jersey	WR11070460	1/12	Consolidated Income Taxes Cash Working Capital	Division of Rate Counsel
Westar Energy, Inc.	E	Kansas	12-WSEE-112-RTS	1/12	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board
Puget Sound Energy, Inc.	E/G	Washington	UE-111048 UG-111049	12/11	Conservation Incentive Program and Others	Public Counsel
Puget Sound Energy, Inc.	G	Washington	UG-110723	10/11	Pipeline Replacement Tracker	Public Counsel
Empire District Electric Company	E	Kansas	11-EPDE-856-RTS	10/11	Revenue Requirements	Citizens' Utility Ratepayer Board
Comcast Cable	C	New Jersey	CR11030116-117	9/11	Forms 1240 and 1205	Division of Rate Counsel
Artesian Water Company	W	Delaware	11-207	9/11	Revenue Requirements Cost of Capital	Division of the Public Advocate
Kansas City Power & Light Company	E	Kansas	10-KCPE-415-RTS (Remand)	7/11	Rate Case Costs	Citizens' Utility Ratepayer Board
Midwest Energy, Inc.	G	Kansas	11-MDWE-609-RTS	7/11	Revenue Requirements	Citizens' Utility Ratepayer Board
Kansas City Power & Light Company	E	Kansas	11-KCPE-581-PRE	6/11	Pre-Determination of Ratemaking Principles	Citizens' Utility Ratepayer Board
United Water Delaware, Inc.	W	Delaware	10-421	5/11	Revenue Requirements Cost of Capital	Division of the Public Advocate
Mid-Kansas Electric Company	E	Kansas	11-MKEE-439-RTS	4/11	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board

Company	Utility	State	Docket	Date	Topic	On Behalf Of
South Jersey Gas Company	G	New Jersey	GR10060378-79	3/11	BGSS / CIP	Division of Rate Counsel
Chesapeake Utilities Corporation	G	Delaware	10-296F	3/11	Gas Service Rates	Division of the Public Advocate
Westar Energy, Inc.	E	Kansas	11-WSEE-377-PRE	2/11	Pre-Determination of Wind Investment	Citizens' Utility Ratepayer Board
Delmarva Power and Light Company	G	Delaware	10-295F	2/11	Gas Cost Rates	Attorney General
Delmarva Power and Light Company	G	Delaware	10-237	10/10	Revenue Requirements Cost of Capital	Division of the Public Advocate
Pawtucket Water Supply Board	W	Rhode Island	4171	7/10	Revenue Requirements	Division of Public Utilities and Carriers
New Jersey Natural Gas Company	G	New Jersey	GR10030225	7/10	RGGI Programs and Cost Recovery	Division of Rate Counsel
Kansas City Power & Light Company	E	Kansas	10-KCPE-415-RTS	6/10	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board
Atmos Energy Corp.	G	Kansas	10-ATMG-495-RTS	6/10	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board
Empire District Electric Company	E	Kansas	10-EPDE-314-RTS	3/10	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board
Delmarva Power and Light Company	E	Delaware	09-414 and 09-276T	2/10	Cost of Capital Rate Design Policy Issues	Division of the Public Advocate
Delmarva Power and Light Company	G	Delaware	09-385F	2/10	Gas Cost Rates	Division of the Public Advocate
Chesapeake Utilities Corporation	G	Delaware	09-398F	1/10	Gas Service Rates	Division of the Public Advocate
Public Service Electric and Gas Company	E	New Jersey	ER09020113	11/09	Societal Benefit Charge Non-Utility Generation Charge	Division of Rate Counsel
Delmarva Power and Light Company	G	Delaware	09-277T	11/09	Rate Design	Division of the Public Advocate
Public Service Electric and Gas Company	E/G	New Jersey	GR09050422	11/09	Revenue Requirements	Division of Rate Counsel
Mid-Kansas Electric Company	E	Kansas	09-MKEE-969-RTS	10/09	Revenue Requirements	Citizens' Utility Ratepayer Board
Westar Energy, Inc.	E	Kansas	09-WSEE-925-RTS	9/09	Revenue Requirements	Citizens' Utility Ratepayer Board
Jersey Central Power and Light Co.	E	New Jersey	EO08050326 EO08080542	8/09	Demand Response Programs	Division of Rate Counsel
Public Service Electric and Gas Company	E	New Jersey	EO09030249	7/09	Solar Loan II Program	Division of Rate Counsel
Midwest Energy, Inc.	E	Kansas	09-MDWE-792-RTS	7/09	Revenue Requirements	Citizens' Utility Ratepayer Board
Westar Energy and KG&E	E	Kansas	09-WSEE-641-GIE	6/09	Rate Consolidation	Citizens' Utility Ratepayer Board
United Water Delaware, Inc.	W	Delaware	09-60	6/09	Cost of Capital	Division of the Public Advocate

The Columbia Group, Inc., Testimonies of Andrea C. Crane

Company	Utility	State	Docket	Date	Topic	On Behalf Of
Rockland Electric Company	E	New Jersey	GO09020097	6/09	SREC-Based Financing Program	Division of Rate Counsel
Tidewater Utilities, Inc.	W	Delaware	09-29	6/09	Revenue Requirements Cost of Capital	Division of the Public Advocate
Chesapeake Utilities Corporation	G	Delaware	08-269F	3/09	Gas Service Rates	Division of the Public Advocate
Delmarva Power and Light Company	G	Delaware	08-266F	2/09	Gas Cost Rates	Division of the Public Advocate
Kansas City Power & Light Company	E	Kansas	09-KCPE-246-RTS	2/09	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board
Jersey Central Power and Light Co.	E	New Jersey	EO08090840	1/09	Solar Financing Program	Division of Rate Counsel
Atlantic City Electric Company	E	New Jersey	EO06100744 EO08100875	1/09	Solar Financing Program	Division of Rate Counsel
West Virginia-American Water Company	W	West Virginia	08-0900-W-42T	11/08	Revenue Requirements	The Consumer Advocate Division of the PSC
Westar Energy, Inc.	E	Kansas	08-WSEE-1041-RTS	9/08	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board
Artesian Water Company	W	Delaware	08-96	9/08	Cost of Capital, Revenue, New Headquarters	Division of the Public Advocate
Comcast Cable	C	New Jersey	CR08020113	9/08	Form 1205 Equipment & Installation Rates	Division of Rate Counsel
Pawtucket Water Supply Board	W	Rhode Island	3945	7/08	Revenue Requirements	Division of Public Utilities and Carriers
New Jersey American Water Co.	W/WW	New Jersey	WR08010020	7/08	Consolidated Income Taxes	Division of Rate Counsel
New Jersey Natural Gas Company	G	New Jersey	GR07110889	5/08	Revenue Requirements	Division of Rate Counsel
Kansas Electric Power Cooperative, Inc.	E	Kansas	08-KEPE-597-RTS	5/08	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board
Public Service Electric and Gas Company	E	New Jersey	EX02060363 EA02060366	5/08	Deferred Balances Audit	Division of Rate Counsel
Cablevision Systems Corporation	C	New Jersey	CR07110894, et al..	5/08	Forms 1240 and 1205	Division of Rate Counsel
Midwest Energy, Inc.	E	Kansas	08-MDWE-594-RTS	5/08	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board
Chesapeake Utilities Corporation	G	Delaware	07-246F	4/08	Gas Service Rates	Division of the Public Advocate
Comcast Cable	C	New Jersey	CR07100717-946	3/08	Form 1240	Division of Rate Counsel
Generic Commission Investigation	G	New Mexico	07-00340-UT	3/08	Weather Normalization	New Mexico Office of Attorney General
Southwestern Public Service Company	E	New Mexico	07-00319-UT	3/08	Revenue Requirements Cost of Capital	New Mexico Office of Attorney General
Delmarva Power and Light Company	G	Delaware	07-239F	2/08	Gas Cost Rates	Division of the Public Advocate
Atmos Energy Corp.	G	Kansas	08-ATMG-280-RTS	1/08	Revenue Requirements Cost of Capital	Citizens' Utility Ratepayer Board

CERTIFICATE OF SERVICE

18-EPDE-184-PRE

I, the undersigned, hereby certify that a true and correct copy of the above and foregoing document was served by electronic service on this 1st day of March, 2018, to the following:

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