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BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of The Dayton Power and Light Company for Approval of Its Electric Security Plan.	)	Case No. 08-1094-EL-SSO
In the Matter of the Application of the Dayton Power and Light Company for Approval of Revised Tariffs.	)	Case No. 08-1095-EL-ATA
In the Matter of the Application of the Dayton Power and Light Company for Approval of Certain Accounting Authority Pursuant to Ohio Rev. Code § 4905.13.	)	Case No. 08-1096-EL-AAM
In the Matter of the Application of The Dayton Power and Light Company for Approval of Its Amended Corporate Separation Plan.	)	Case No. 08-1097-EL-UNC

COMMENTS
BY
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I. INTRODUCTION

The Office of the Ohio Consumers' Counsel ("OCC") submits the following comments of concern regarding the Dayton Power and Light Company's ("DP&L") Application to deploy and charge customers for an expensive Advanced Metering Infrastructure ("AMI") and Smart Grid at a time when the economic struggle for the residential community served by DP&L is well documented and DP&L's request for a federal grant to subsidize part of the Smart Grid proposal has been denied.[1] OCC urges the Commission to carefully weigh the concerns set forth in these comments so as to

[1] *See* http://www.daytondailynews.com/business/dpl-smart-grid-project-turned-down-for-federal-money-423033.html.

avoid prematurely or unwisely approving a complex and expensive program that DP&L has yet to adequately justify.

The PUCO-established a procedural schedule for this case allowing interested parties with the opportunity to provide comments on DP&L's revised filing. According to the revised procedural schedule, these comments are to be filed by Dec. 15, 2009.[2] OCC provides these comments with the request that the Commission order a hearing to ensure that a thorough examination of each facet of DP&L's proposals and the impact of these proposals on consumers has been conducted before approving such a massive program.

II. COMMENTS

A. The Commission should take into consideration the inability of DP&L's residential customers to absorb any rate increase in the midst of the current economic difficulties.

In examining DP&L's Revised Business cases, one critical consideration should be the current state of the economy, especially within the Dayton region. The impact of the current recession on the region has been severe. Additionally, the Dayton region recently lost both General Motors and NCR, impacting a large number of workers in the area.[3] According to recent reports by *Forbes* magazine, Dayton was ranked the 4th worst medium-sized city for jobs and was counted among the "America's Fastest-Dying

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[2] *See* Entry at 2 (Nov. 19,2009).

[3] *See* CNN.com, *GM's Plant Closing Like a Death Knell in Dayton* (Dec. 1, 2008), available at http://www.cnn.com/2008/US/11/19/ohio.plant.closing/index.html (last visited Dec. 8, 2009); Cleveland.com, *NCR to Move Headquarters from Dayton to Duluth, Georgia* (June 2, 2009), *available at* http://www.cleveland.com/business/index.ssf/2009/06/ncr_headquarters_move_from_to.html (last visited Dec. 8, 2009).

Cities."[4] In light of this dire economic situation, the Commission should be very careful in considering the costs associated with each of DP&L's proposed expenditures for Smart Grid and AMI, and the PUCO should protect consumers against a proposal that could aggravate their already serious plight.

B. The DP&L benefit-to-cost ratio for the AMI and Smart Grid programs is well below that of similar utility programs nationwide and must be improved.

Although the cost-benefit ratio has been adjusted in the Company's revised AMI and Smart Grid filing currently at issue, the total benefit to total cost ratio is still too low. A comparison of the present value of benefits to the present value of costs for the Company's revised Smart Grid proposal generates a ratio of 1.9:1.[5] A comparison of the present value of benefit to the present value of costs for the Company's revised AMI proposal generates a ratio of 1.49:1.[6] When the Smart Grid benefits and costs are combined with the AMI benefits and costs, the benefit to cost ratio is 1.66:1.[7] This ratio is well below the observed range in the industry today. Reports by the Electric Power Research Institute ("EPRI"), addressing the San Diego Smart Grid Study and the West

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[4] Forbes.com, *In-Depth: Worst Medium-Sized Cities for Jobs* (April 28, 2009), available at http://www.forbes.com/2009/04/27/worst-medium-cities-jobs-opinions-columnists-employment_slide_8.html?thisSpeed=15000 (last visited Dec. 8, 2009); Forbes.com, *In Pictures: America's Fastest Dying Cities* (Aug. 5, 2008), http://www.forbes.com/2008/08/04/economy-ohio-michigan-biz_cx_jz_0805dying_slide_6.html?thisSpeed=15000 (last visited Dec. 8, 2009).

[5] *See* Revised Business Case at 6-7 (DP&L claims the benefits of Smart Grid total $310 million and the cost of Smart Grid technology is $163 million).

[6] *See* Revised Business Case at 4-5 (DP&L claims the benefits of AMI total $354 million and the costs are $237 million).

[7] *See* Revised Business Case at 4-7 (DP&L claims $664 million in total benefits and $400 million in total costs).

Virginia Smart Grid Implementation Plan have shown that the typical benefits to cost ratio within the industry falls within a range of 4:1 to 6:1.[8]

Concern for the cost-effectiveness of DP&L's AMI and Smart Grid programs is nothing new. Both OCC and the PUCO Staff questioned the sufficiency of DP&L's cost-benefit analysis in the Company's original filing. OCC Witness Steven Pullins expressed concern in response to DP&L's original filing that the Company underestimated the benefits of the AMI and Smart Grid programs. In addition, PUCO Staff Witness Gregory Scheck also concluded that he would not recommend that the Commission approve the Company's proposed AMI and Smart Grid programs due to the high likelihood of the programs not being cost-effective.[9] Mr. Scheck testified that he was concerned that the realized benefits associated directly with reducing the Company's costs were quite small relative to the magnitude of the investments. Further, he stated that, "in order for such deployment to be considered cost beneficial, a large part of the remaining costs would have to be dependent upon customers greatly increasing their demand response and/or by their greatly increasing the value of improved reliability from this deployment."[10] It should be noted that the effect of underestimating some benefits (especially on the operational side) would allow the utility to charge customers more for the programs, due to the net-of-benefits rider.

In its Revised Business cases for AMI and Smart Grid, DP&L admittedly cited additional benefits that may be gained through these programs, producing a positive

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[8]For example, a recently issued Smart Grid Plan for West Virginia is expected to result in a 6.7 benefit-cost ratio. See "West Virginia Smart Grid Implementation Plan," National Energy Technology Laboratory, August 20, 2009, page 8.

[9] *See* Scheck Testimony at 6-7. (February 3, 2009).

[10] *See* Scheck Testimony at 6. (February 3, 2009.)

benefit-cost ratio, but even those cited benefits are somewhat speculative. In particular, the number of customers that will greatly increase their demand response as a result of the approval of AMI and Smart Grid is still highly uncertain. Thus, although the cost-benefit ratio has been adjusted in the Company's revised AMI and Smart Grid filing currently at issue, the total benefit to total cost ratio is too low when compared to similar utilities. In particular, projected operational benefits are too low.

C. DP&L's revised AMI and Smart Grid proposals underestimate the operational benefits that would offset the costs of the programs for residential consumers.

As stated above, DP&L's revised proposals for AMI and Smart Grid underestimate the operational benefits of its AMI and Smart Grid programs. Further, DP&L's proposals as filed do not demonstrate enough operational benefits to justify the huge price tag residential consumers will have to pay. Operational benefits save the Company money. When the savings from these operational benefits are realized, DP&L must use the savings to offset the costs of the programs consumers are being asked to bear[11] -- and to the extent operational benefits have been recognized the Company does reflect this fact in its workpapers.[12]

Thus, identifying additional operational benefits and/or increasing the ones identified in DP&L's workpapers that will result from the Revised Plan is crucial to the Commission's review of DP&L's proposals. OCC recommends the Commission consider evaluating the DP&L proposal for additional benefits that are listed below,

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[11] *See In the Matter of the Application of the Dayton Power and Light Company for Approval of its Electric Secrutiy Plan, Case No. 08-1094-EL-SSO,* Stipulation and Recommendation at paragraph 4(c) (February 24, 2009). ("Stipulation")

[12] *See* Revised Business Case atWPH-1.7 for AMI Meter Benefits, WPI-1.5 Distribution Automation Benefits, WPI-1.6 Substation Automation Benefits, WPI-1.8 Smart Grid Communications Benefits, and WPH-1.9 Societal Benefits.

based on industry standards:

- The theft reduction benefit should be 2 percent rather than the 1 percent modeled by the Company (an additional $22 million savings over 10 years)[13];;
- The additional revenue due to the elimination of electro-mechanical meters should be one percent rather than the .4 percent modeled by the Company (an additional $27 million savings over 10 years)[14];
- DP&L includes a small amount for savings in billing exception processing. No savings for a reduction in billing errors or inaccurate bills has been included;
- Reduction in PUCO complaints or associated legal fees; and
- Many of the reduced costs used in calculating an explicit savings benefits in the workpapers are not escalated for inflation over the ten year period.

The items listed above are not exhaustive, but provides a good start. OCC also recommends that the Commission notice a full-day workshop for all Ohio electric investor-owned utilities and stakeholders to discuss the quantification of operational, demand response, and reliability benefits, both on the cost-savings and the revenue enhancement side. [15]

D. DP&L's proposed Infrastructure Investment Rider unfairly shifts more of the burden of paying the costs of AMI and Smart Grid to customers using relatively lower amounts of energy. To offset the regressive nature of a fixed customer charge on low use/low-income customers, OCC proposes a fully volumetric kWh rider.

DP&L's currently proposed Infrastructure Investment Rider ("IIR") results in a higher percentage rate increase for lower energy usage customers when compared to higher energy usage customers. The proposed IIR incorporates 1) monthly costs assigned per customer; and 2) monthly energy costs assigned per kWh consumer.

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[13] Estimates of theft of electric service range from one to three percent, therefore DPL's estimate is too conservative. See http://www.electricenergyonline.com/?page=show_article&mag=60&article=456.
[14] OCC consultant estimate based on industry standards.
[15] This could be noticed under Case No. 07-646-EL-UNC, *In the Matter of the Commission-Ordered Workshop regarding Smart Metering Deployment.*

As demonstrated by Schedule E-5 in the Revised Business cases, the fixed costs in the new IIR rate design put more of a bill burden for paying the total cost of AMI and Smart Grid on low-income residents who are typically associated with using less electricity per month.

The current IIR rate design results in a rate increase for lower energy users – typically low-income customers. For example, a low energy user who uses 200 kWh/month will see a 13.5% increase in their bill over the next decade, while a high energy user who uses 3000 kWh/month will see a 3.45% increase in their bill over the next decade. In light of the current economic climate and public policy considerations, OCC suggests an approach that would be more sensitive to lower energy users, particularly low-income residents. That appropriate approach is a fully volumetric kWh rider. The periodic audit and true up will handle any over or under collection of revenue.

E. The PUCO should protect consumers by rejecting DP&L's proposal for a 10-percent shared savings incentive since DP&L investments will already be earning a return.

DP&L seeks to collect an incentive payment from customers of 10% of its projected Smart Grid operation & maintenance savings, line loss savings, and depreciation savings through a shared-savings mechanism.[16] This amounts to a proposal to collect $147 million from customers over ten years.[17]

OCC recommends that the Commission protect consumers and not approve DP&L's Smart Grid shared-savings proposal for the following reasons. First, the operational savings of the Company's proposed Smart Grid initiative is one of the major benefits that accrue to DP&L's customers who are footing the hefty bill of the

[16] In their original filing they had proposed a 50 percent shared savings, Seger-Lawson, Book II, page 6.

[17] *See* Schedule C-5.

infrastructure modernization and thus that significant benefit should not be diluted. Second, the Company will already be receiving a return on its prudently incurred Smart Grid capital expenses, so an additional incentive is not warranted. Third, DPL will be collecting the Smart Grid cost from customers through a rider, rather than a traditional rate case, reducing the Company's regulatory lag risk for its Smart Grid spending (without a corresponding reduction in DPL's rate of return). Fourth, no other Ohio utility with a Smart Grid proposal has been allowed to make customers pay for this additional incentive.

Therefore, OCC recommends that the Commission deny DP&L's request to collect from customers 10% of the Company's projected Smart Grid operation & maintenance savings, line loss savings, and depreciation savings through a shared savings mechanism.

F. OCC opposes any additional collection of lost revenues from customers by the Company because that collection was capped in the ESP settlement.

In DP&L's original filing in Case No. 08-1094-EL-SSO, it proposed to collect from customers $190 million in lost revenues over seven years (including the lost revenues from its proposed Smart Grid programs). The Stipulation agreed to by the Parties and approved by the Commission caps DP&L's lost revenue recovery from energy efficiency and peak demand reduction programs to "$72 million over the seven-year period ending December 31, 2015, or when new distribution rates go into effect, whichever is earlier." [18] The $72 million cap stipulated by the parties corresponds to a three vintage year lost revenue recovery on their total energy efficiency portfolio (including the Smart Grid enabled programs). The three vintage year DSM program

[18] *Stipulation at 6.*

induced lost revenues recovery concept[19] has been embraced by both Duke Energy in their ESP case and by American Electric Power in their recent energy efficiency and peak demand reduction filings.[20]

In its Smart Grid application, DP&L requests an additional $45 million in lost revenue collection, in contradiction to the Commission-approved Settlement.[21] If approved, the total lost revenues collected from customers by DP&L would approximate $117 million ($45 million + $72 million) or a 63 percent increase over the current cap. Therefore, the Commission should not allow DP&L a second opportunity to collect lost revenue from customers and deny the Company's attempt to bypass the agreed upon Settlement cap.

G. If the PUCO were to approve all or a portion of DPL's proposal, the PUCO should adopt a detailed program review process to insure that customers are protected and will receive the promised value of the companies' AMI and Smart Grid proposals.

In order to insure that residential customers attain the future value of the Company's AMI and Smart Grid proposal, should the Commission approve the filing, OCC proposes the following dynamic pricing implementation schedule and long-term program review process. If approved, the PUCO should order DP&L to:

1 Develop and implement by January 2012, voluntary dynamic pricing program designs for all technology-enabled customers; a critical peak pricing program with no less than three time periods and an additional critical peak period for residential customers and the Company's proposed Peak Load Rebate program which are part of the Commission filing;

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[19] The three vintage year concept allows the Company to count the savings from each measure installed for three years.

[20] *See* Duke Case No. 08-920-EL-SSO and AEP Case No's 09-1089-EL-POR and 09-1090-EL-POR.

[21] *See* Book II, Schedule A-3. (see attached exhibit 1)

2. Produce a revised detailed implementation plan for each of the years of the AMI/Smart Grid program including revised design requirements, performance goals, metrics, and milestones, and quantified benefits. This plan should be filed in the docket, and served on OCC and any other Party that is interested;

3. Prepare a summary report outlining deployment progress versus milestones, system performance levels and customer benefits versus the plan, at the end of one full-year of deployment. This report should be filed in the docket and served on OCC and all other interested Parties. This requirement will be repeated at the end of every year of deployment; and

4. File with the Commission and serve on OCC and Parties, in the second quarter of the third year of deployment, a comprehensive summary and review of its AMI/Smart Grid program results to date. In addition to Sections 1, 2, and 3 above, the Company shall address deployment lessons learned and the desirability of expanding the Smart Grid program to the rest of its service territory.

H. If the PUCO were to approve all or a portion of DPL's proposal, DPL should have to make a commitment to improve its distribution system reliability resulting from the AMI/Smart Grid investment by setting detailed reliability targets.

It is OCC's expectation that system reliability will be enhanced commensurate with the deployment of AMI/SmartGrid. In fact, the Company estimates $207 million in reliability benefits to its customers.[22] DP&L has further indicated that they "anticipate a 20% reduction in the system-wide number of Customer Minutes Interrupted ("CMI") and a 32% reduction in the number of customers that experience sustained outages (greater than 5 minutes).[23]

[22] *See* Revised Business Case at 2.

[23] Revised Business Case at 7-8.

Based on the deployment schedule, DP&L should also agree to improve its targeted system average interruption frequency index ("SAIFI"), system average interruption duration index ("SAIDI"), and customer average interruption duration index ("CAIDI") as set forth in Ohio Adm. Code 4901:1-10-10. If DP&L meets its deployment commitments, and the expected SAIFI, SAIDI and CAIDI target improvements are met, customers will see actual, everyday examples that they are benefiting from the Smart Grid-created reliability benefits.

I. Any AMI/Smart Grid-enabled energy efficiency savings and peak demand reduction should be determined by independent measurement and verification and be consistent with the findings of the Technical Reference Manual that were developed in Case No. 09-512-GE-UNC.

DPL has projected kWh and kW savings amounting to $141 million in its AMI business case.[24] The Company is also counting on reducing "the energy distributed through the network by 1.5% and reduce the associated demand by 2%" due to its Integrated Volt-Var Control technology in its Smart Grid business case.[25] OCC recommends that any AMI/Smart Grid-enabled energy efficiency savings and peak demand reduction used to meet the state benchmarks should be determined by independent measurement and verification and should be consistent with the findings of the Technical Reference Manual that was developed as part of Case No. 09-512-GE-UNC (*In the Matter of Protocols for the Measurement and Verification of Energy Efficiency and Peak Demand Reduction Measures*).

[24] Revised Business Case at 5.

[25] Revised Business Case at 7.

J. The Commission should ensure that any implementation of a Smart Grid or AMI plan is secure, up to date, and that customers have sufficient education about the programs.

OCC has additional concerns and suggestions for the Smart Grid and AMI proposals that should be addressed and satisfactorily resolved before the Revised Business Cases can be approved. For instance, the Smart Grid design should prioritize a secure communications network with appropriate safeguards to prevent security breaches and reliability deficiencies that could harm customers. Additionally, any implementation of a Smart Grid project or advanced meters should meet federal and state requirements for cyber security and protect the privacy of customers' usage information. Further, DP&L should be required to have a participant on the National Institute of Standards and Technology Interoperability panel to ensure that DP&L's equipment meets NIST security standards.

Also, DP&L must ensure that the advanced meters selected as part of DP&L's AMI program do not become obsolete as the smart grid infrastructure is introduced. Further, both the AMI and Smart Grid programs should be accompanied by a vigorous education and outreach effort to ensure, at a minimum, that participating and non-participating customers are aware of the projected goals and impacts of the program, and that participating customers understand how to utilize equipment provided by the utility, how the deployment would affect them, and how to address concerns about the privacy of customer usage information.

Therefore, there are a number of pressing concerns to be considered and resolved before the Commission can approve DP&L's proposals for AMI and Smart Grid.

III. CONCLUSION

OCC recommends that the PUCO order a hearing to investigate the issues raised by OCC's comments. DP&L's proposed $600 million deployment in a depressed economic region requires no less. The Company's Smart Grid proposal does not contain sufficient tangible operational benefits ($12 million net present value) considering the $163 million dollar price tag for customers. However, DP&L's Advanced Metering Infrastructure filing contains a better balance between benefits and costs, and with OCC's recommendations identified above, could provide additional consumer benefits. Finally, the Company should be required to apply for any future federal funding specific to smart grid to help defray customer costs.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing Comments by the Office of the Ohio Consumers' Counsel has been served upon the below-stated parties, via electronic transmission this 15th day of December, 2009.

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DPL Comparison of Lost Revenue in ESP Case 08-1094-EL-SSO and Revised Smart Grid Filing

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total	
DPL Lost Revenues Total (From original filing)*	$ 3,357,253	$ 9,090,902	$16,257,155	$ 24,873,784	$ 34,852,328	$45,811,168	$ 55,363,067					**$ 189,605,657**	Total in Filing
3 Vintage Year Lost RevenueTotals				$ 21,516,531	$ 22,404,173							**$ 72,626,014**	3 yr Vintage Total
												$ 72,000,000	LR Cap in *Stipulation*
												Additional LR	
Revised Smart Grid Case Lost Revenues**			$ 506,004	$ 2,681,410	$ 4,283,359	$ 5,533,176	$ 5,820,739	$ 6,102,383	$ 6,397,835	$ 6,703,563	$ 7,007,909	**$ 45,036,378**	

* Original Filing Book II- Customer Conservation and Energy Management Energy Efficiency Rider Revenue Requirements Schedule A-3, includes AMI enabled rate design lost revenues.
** Revised Filing Book II- Customer Conservation and Energy Management Energy Efficiency Rider Revenue Requirements Schedule A-3.