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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 Revised 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 Its Amended Corporate Separation Plan.	)))	Case No. 08-1097-EL-UNC

COMMENTS OF OHIO PARTNERS FOR AFFORDABLE ENERGY ON THE DAYTON POWER AND LIGHT COMPANY'S REVISED BUSINESS CASES FOR AMI AND SMART GRID

Pursuant to the Entry of November 19, 2009, Ohio Partners for Affordable Energy ("OPAE") hereby submits its initial comments to the revised business cases for AMI and smart grid submitted by The Dayton Power and Light Company ("DPL" or "the Company") pursuant to the Stipulation entered into between the Company and various parties, including OPAE, on August 4, 2009.

Introduction

AMI and smart grid are all the rage in the national utility scene. The proponents of these technologies make a wide range of promises for customer benefits as a result of deployment. Customers are projected to see increased reliability; the ability to participate in and benefit from demand response programs; implementation of dynamic

pricing schemes that reward customers who control usage with lower bills; reduction in energy use; and, the ability to permit utilities to use the system to control appliances to save energy. Smart meters also have potential downsides for consumers: remote disconnection; use as service limiters; use as prepaid meters; and, the potential for significant invasions of privacy.[1] All agree that the cost of deploying smart grid will be expensive, raising residential consumers' bills by about $0.99 per month at the outset and rising to $3.05 per month in 2011 and $5.26 per month in 2019[2] as a result of deployment costs, lost revenue, and shared savings via the Infrastructure Investment Rider ("IIR"), as well as the increase in plant in service which will be reflected in base rates beginning in the next rate case.[3]

Ohio's legislators and regulators have apparently jumped on this bandwagon. The General Assembly included provisions on smart grid in the recently passed Am. Sub. SB 221. Congress has included language promoting smart grid in several pieces of legislation, most recently the American Reinvestment and Recovery Act which provides funding for grants to utilities to subsidize deployment of smart grid technologies.[4] The Public Utilities Commission of Ohio ("PUCO") has also encouraged deployment of smart grid in various decisions, including those related to implementation of Am. Sub. SB 221.

OPAE remains skeptical of this hype. Recent press reports have highlighted significant problems with smart meter deployment, including large increases in energy

[1] Analysis of the data generated by smart meters can provide significant information on the activities of residents of a home based on the use of various energy consuming devices in the home.
[2] Monthly increase for Residential customers: Schedule E-5 Page 1 of 12 for 2010, 2011, and 2019.
[3] The worksheets attached to the application characterize the rider receipts as a Construction Work in Progress ("CWIP"), an approach which provides a decided financial advantage to the Company.
[4] Our understanding is that the Company applied for but did not receive a grant.

use which results in large increases in bills.[5] Dynamic pricing schemes produce losers as well as winners. And, payment-troubled customers face the risk of eroding consumer protections and decreased access to utility services when smart meters are used as service limiters, to provide pre-paid service, and for remote disconnection. Projections of energy savings resulting from smart grid often exceed the level of savings tried and true energy efficiency measures can produce, casting doubt on the underlying assumptions and data relied upon by smart meter promoters as quantification of energy savings.

The Dayton Power and Light Company ("DPL" or "the Company") claims that its revised business case, which accelerates deployment of smart from 3 years to 6 years and full deployment from 10 years to 15 years, will enhance the benefits to customers. The Company projects net consumer benefits of $263 million over 18 years. Following are OPAE's comments regarding the application and the promised benefits.

Comments

Operational Benefits – The obvious benefit from smart meters is the elimination of meter reading jobs. The Company estimates this savings at $93 million, an increase because of the accelerated deployment. Application at 10. The Application does not indicate the impact of lost wages on the regional economy nor detail the number of personnel that will be fired. Only $9.3 million of these funds will be returned to customers based on the

[5] http://www.nytimes.com/2009/12/14/us/14meters.html?_r=1&scp=3&sq=%22smart%20meters%22&st=cse; http://www.nytimes.com/cwire/2009/11/19/19climatewire-as-smart-grid-expands-so-does-vulnerability-25941.html?scp=11&sq=%22smart%20meters%22&st=cse; http://greeninc.blogs.nytimes.com/2009/11/19/in-pursuit-of-a-smarter-grid/?scp=12&sq=%22smart%20meters%22&st=cse; http://www.physorg.com/news176703307.html

shared savings calculations; the Company and its shareholders receive 90% of the benefits. Schedule C-5.2 (Seger-Lawson).

The Application also assumes a cumulative reduction in energy theft but provide no data in current levels of energy theft. The savings is unadjusted for changes in load projected to occur over the 18 year period covered by the cost-benefit calculation, yet elsewhere the Company projects reduced sales as a result of DSM activities. The Application also assumes $4.312 million in cumulative savings from reductions in the level of uncollected accounts, but provides no justification for the reduction. Because the Application does not propose using the meters as service limiters, for pre-payment programs, or for remote disconnection, it is unclear how this savings will be generated. WPH-1.7.

The Company also assumes additional operational savings that are not supported in the Application. It projects that smart meters will be more accurate, resulting in an increase in revenues of $35.775 million over the period of the analysis. If meters are under-reporting consumption to this degree one would presume that the Company would have checked all of its meters to ensure proper measurement. The alternative is that DPL assumes the meters will measure in a manner consistent with the California program discussed above. Higher bills are not inherently more accurate. Assumptions of reductions in call Center costs, $3.236 million, and billing processing, $1.360 million, are at best speculative given the California example. WPH-1.7.

AMI Enabled DSM – The benefits of AMI Enabled DSM ("AMI DSM") are classified as Customer Energy/Demand Savings, AMI Enabled Customer Feedback Energy Benefits

– presumably from the HED/E-Portal discussed below – and Customer Energy/Demand Savings and total $434.279 million over 18 years. Savings from AMI Enabled Societal Benefits ("Societal Benefits") including Reliability Improvements and Emissions Reductions tally $144.674 million. WPHI-1.

The Electric Power Research Institute ("EPRI")[6] defines 'societal benefits' as follows:

> **Societal benefits** accrue to consumers in the form of lower bills, and enhanced electric services, and sector adjustments that accrue directly to some consumers and indirectly to others. EPRI Study at 1-3.

It is difficult to see significant customer benefits in the DPL Application because 90% of the shared savings accrue to the Company. In fact, customer bills will actually increase as a result of the AMI deployment as noted above. Societal benefits under the EPRI definition are customer bill savings and there are no savings in this Application.

The EPRI study on which DPL relies is based on an analysis of a ComEd program which is described as 'mature', which is not surprising given that PJM has traditionally been a tight pool. Ninety-five percent of the savings come from avoided capacity costs. EPRI estimates those costs at $104/kW-year, the cost of a new generation entry adjusted for inflation (3.8% per year). EPRI Study at 3.3.9. Both these assumptions are flawed. Currently there is excess capacity in PJM; several plants have recently been cancelled because of the lack of demand. The cost of a new generator is difficult to accurately predict given recent fluctuations in prices.

Price responsiveness in the EPRI study is based on "the elasticity of substitution and daily price elasticities from California's Statewide Pricing Pilot." EPRI Study at

[6] All citations are to *Characterizing and Quantifying the Societal Benefits Attributable to Smart Metering Investments*, Electric Power Research Institute, 1017006, Topical Report, July 2008. ("EPRI Report")

3.3.8. Unless those assumptions have been adjusted to reflect differences in climate and air conditioning usage, the numbers cannot be representative of Ohio customers of DPL; after all, California is different in many, many ways.

The EPRI study bases its projections of the value of customer feedback activities on a meta study conducted by Sarah Darby published by the Italian Association of Energy Economists in 2000. EPRI Studya at 5-2. EPRI also factors data from three Canadian studies, two in Ontario and a third in Newfoundland and Vancouver; the California State Pricing Pilot; and the Salt River Project Prepaid Metering report. EPRI Study at 5-3. The Milton Ontario Study showed no discernable change in usage, while the Salt River study had the prepayment component which would increase pressure on the customer to manage use because electricity would cut off if they overspent. Id. None of these studies are representative of the DPL service territory. The assumed savings are not supported and should be discounted.

Societal benefits are valued in the EPRI study by establishing monetary values for reduced outages and avoided air emissions. The value of reduced outages is difficult to quantify. The most reasonable approach would be to estimate the value of watching television for an additional hour, the value of spoiled food, and reductions in revenues to businesses – generally referred to as out-of-pocket and opportunity costs associated with interruptions in service. EPRI cites three critical steps in such an analysis: (1) demonstrating the linkage between the existence of the metering infrastructure and the improvement in reliability; (2) providing a credible estimate of the change in frequency of occurrence and duration of outages as a result of the new metering technology, and, (3) converting the change in reliability measures to the value

added to the customers. EPRI Study at 7-6. EPRI calculates the generic marginal cost per CAIDI minute as $0.01 for a residential customer. Id. DPL projects a 5% improvement in outage times yet projects benefits based only on the reduction in service personnel. The estimates do not correlate and do not calculate the societal costs of lost employment and wages.

The Societal Benefits associated with emissions reductions are again valued based on estimates of the market value of avoided emissions. EPRI Study at 9-2. It does not look at the costs avoided by DPL for environmental measures to comply with emissions rules which customers do not have to pay, nor does it look at the value of allowances for carbon which have been widely estimated as a part of the debate over climate change legislation.[7] Why EPRI values are superior to projected market values for allowances is not explained. Again, this calls into question the validity of the savings in the Application.

HED/E-Portal – The Company projections of savings from the HED/E-Portal are excessive. DPL relies on a report by the American Council for an Energy Efficiency Economy ("ACEEE") Emerging Technologies Report on In-Home Energy Use Displays, July 2007. DPL assumes a 10% savings associated with the technology. A review of the ACEEE Report indicates a percentage savings of 5%.[8] (ACEEE Report at 1.) Moreover, the ACEEE Report relies on analyses of programs implemented by the Salt River Project in Arizona, and utilities in California, Australia, New Zealand, and Canada. The Application does not demonstrate that any of these utilities have climate zone or

[7] The EPRI Study acknowledges that various estimates have a 'wide range of values'. EPRI Study at 9-2.
[8] The Report assumes a 10% market penetration, roughly comparable to the DPL assumption.

fuel mixes (electric vs. natural gas heat) comparable to the DPL service territory. In fact, all of these areas use little natural gas; residential energy use in Arizona, California, Australia, and New Zealand is primarily for cooling, and in Canada the bulk of electric use is for space heating. The ability to reduce baseload usage, the dominant use in Ohio, is far less than heating and cooling loads. In addition, baseload energy efficiency programs in Ohio, which are not dependent on customer actions which drive the savings from HED/E-Portal show reductions of 10.80% and 12.20% for moderate and high use customers, respectively. As ACEEE notes in the Report, persistence of savings is a concern with HED technologies because customer interest in monitoring and taking actions in response to the data tends to lag over time just as customer education programs tend to see a fall off in savings after 3 years.

Shared Savings

EPRI defines benefits as reductions in bills. DPL proposes to recapture 90% of the savings produced by smart meters. This results in an increase in customer bills. It is difficult to understand how customers benefit by bill increases.

Conclusion

Smart grid and particularly smart meters, are projected to shower customers with a multitude of benefits. Unfortunately, this Application does not benefit customers through reductions in bills; bills will actually increase over the 18 year period. The revised business case shows benefits on paper, but real benefits for consumers are lacking.

Accelerating the roll-out makes matters worse. The California examples indicate a wide variety of problems with deployment including unexplained increases in bills. The DPL Application assumes increase in billing revenues from the deployment, presuming that deployment will increase customer bills. That is hardly an advantage. Few customers are interested in paying the price of smart meters that will increase their bills, both for the meters and by reading increases in consumption. A hurried roll-out without any type of pilot program to validate the projected savings hardly constitutes evidence of customer benefits.

The Public Utilities Commission of Ohio should reject the Application and order the Company to prepare a more measured approach to deployment that can permit the calculation of actual benefits in the form of lower bills and losses in the form of higher bills that will accrue to customers. That will permit development of a business case that can serve as the basis for a real debate over the efficacy of AMI and smart grid technologies.

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Comments of Ohio Partners for Affordable Energy was served electronically upon the parties of record identified below in this case on this 15th day of December, 2009.

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