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Joel H. Peck, Clerk
State Corporation Commission
Document Control Center
P.O. Box 2118
Richmond, Virginia 23218

May 25, 2016

RE: PUE-2016-00022, Ex Parte: In the matter of receiving input for evaluating the establishment of protocols, a methodology, and a formula to measure the impact of energy efficiency measures

Dear Mr. Peck:

The Virginia Department of Mines, Minerals and Energy (DMME) respectfully submits the following Comments in regards to the Commission's March 30, 2016 Scheduling Order (Case No. PUE-2016-00022). These comments are organized into the following sections:

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Introduction and Overview:

DMME is an executive branch agency charged with advancing the Commonwealth of Virginia's energy objectives and energy policy in order to enhance the health, welfare, and safety of its residents.

Chapter 255 of the 2016 Acts of Assembly directs the State Corporation Commission to "evaluate the establishment of uniform protocols for measuring, verifying, validating, and reporting the impacts of energy efficiency measures implemented by investor-owned electric utilities providing retail electric utility service in the Commonwealth and the establishment of a methodology for estimating annual kilowatt savings and a formula to calculate the levelized cost of saved energy for such energy efficiency measures."[1] A provision of the Act stipulates that the SCC "shall receive input from interested parties and the Department of Mines, Minerals and Energy."[2] Accordingly, we are pleased to provide the following comments.

In 2007, the Virginia General Assembly passed the Virginia Electric Utility Restructuring Act and established a ten percent energy consumption reduction goal in the Commonwealth, to be achieved by 2022.[3] This goal was reflected in the 2007 Virginia Energy Plan[4] and accelerated by Governor McAuliffe in the 2014 Virginia Energy Plan, which set 2020 as the new target date for this ten percent reduction goal.[5]

The SCC has itself agreed that the goal is attainable within the prescribed timeframe.[6] It is clear, however, that it will be very difficult to reach this goal without significant involvement of utilities in energy efficiency programs.[7] So far, the projects currently planned by Virginia's two major utilities will only get the Commonwealth 24% of the way towards meeting this ten percent goal.

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[1] 2016 Va. Acts, Ch. 255. *Available at* https://lis.virginia.gov/cgi-bin/legp604.exe?161+ful+CHAP0255+pdf.

[2] See *id*.

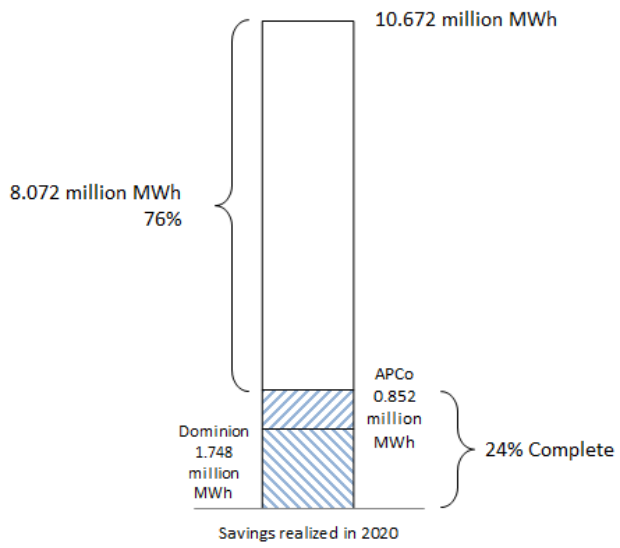
[3] 2007 Va. Acts 2614, 2636 (codified as amended at VA. CODE ANN. §§ 56-576 to -594 (Repl. Vol. 2012 & Cum. Supp. 2014)).

[4] *See* 2007 VIRGINIA ENERGY PLAN, Chapter 7, Recommendation 7.1: Energy Efficiency and Conservation [hereinafter 2007 VEP], *available at* http://dls.virginia.gov/groups/energy/VEP.pdf.

[5] *See* 2014 VIRGINIA ENERGY PLAN, Section 12, Recommendation 2A [hereinafter 2014 VEP], *available at* https://www.dmme.virginia.gov/DE/LinkDocuments/2014_VirginiaEnergyPlan/18Recommendations.pdf.

[6] VA. STATE CORP. COMM'N, STAFF'S REPORT TO THE STATE CORPORATION COMMISSION IN PREPARATION FOR THE COMMISSION'S REPORT TO THE GOVERNOR AND THE GENERAL ASSEMBLY 10 (2007), available at http://www.scc.virginia.gov/pue/conserve/staff/ staf_rept111607.pdf

[7] *See* 2007 VEP, *supra* note 4 ("Analysis completed for this Plan shows that Virginia electric utilities would have to invest in the range of $100 to $120 million per year between 2008 and 2022 to meet the 10 percent electric savings goal.").



Recommendations:

1. **Performance Incentives:** DMME considers it critical to develop performance incentives for utility investments in demand-side energy efficiency measures (DSM) that are (a) fair to both the ratepayers and the regulated utilities; (b) reasonable to administer; and (c) effective in their measureable impact. We submit two recommendations regarding performance incentives whose impacts can be measured, verified, validated, and reported unambiguously:

   A) Authorization of investor-owned electric utilities to recover, as a part of cost recovery permitted for energy efficiency programs, a performance incentive. This performance incentive would replace a provision authorized by the SCC to allow an electric utility to recover revenue reductions related to energy efficiency programs to the extent that the SCC determines such revenue has not been recovered through margins from incremental off-system sales directly attributable to energy efficiency programs.

   B) To ensure that performance incentives work in practice, the resulting "performance" must be evaluated, measured and verified with respect to its impact, its relationship to the incentives, and its cost-effectiveness. Therefore DMME considers a review of best practices on performance incentives to be relevant to the Order.

   In February of this year, DMME commissioned Synapse Energy Economics, Inc. ("Synapse") to draft a brief memorandum on performance incentives that have successfully promoted the scale and cost-effectiveness of energy efficiency programs designed and managed by investor-owned utilities.[8] From these findings, DMME considers the following recommendations relevant to these Comments:

[8] *See* Attachment A: Alice Napoleon and Tim Woolf, *Policies to Provide Performance Incentives for Energy Efficiency Programs*, February 25, 2016 [hereinafter Synapse Memo].

1. Many states have found it appropriate to allow utilities a reasonable amount of performance incentives for aggressive, well-designed EE programs.[9] The primary rationale for the incentive is to encourage utility upper management to provide the institutional support necessary for proposing and implementing aggressive efficiency programs, to the extent they achieve regulatory approval.

2. The following principles should be applied in designing any performance incentive policy:

    a. Design incentives to encourage energy efficiency programs that will best achieve the state's energy goals.

    b. Base incentives on desired outcomes (e.g., energy savings), not just expenditures.

    c. Provide incentives only for activities where the utility company plays a distinct, clear, and necessary role in bringing about the desired outcome.

    d. Base incentives on clearly defined outcomes that can be sufficiently monitored, quantified, and verified.

    e. Cap incentives at a predetermined not-to-exceed portion of program budgets.

    f. Provide incentives only for programs that have been subject to proper monitoring and evaluation studies, and base the incentive amount on post-evaluation estimates of actual efficiency measure installations.

    g. Avoid creating perverse incentives, such as the incentive to increase costs without comparable increases in savings, or the incentive to cream-skim (i.e., targeting the least expensive efficiency resources, while leaving other viable and cost-effective opportunities behind).

    We recommend that the Virginia utilities be provided with comprehensive, thoughtful energy efficiency performance incentives. The American Council for an Energy-Efficient Economy (ACEEE) found increasing evidence of a relationship between performance incentives and achievement of efficiency savings goals. ACEEE also reported that states with energy efficiency performance incentives averaged higher levels of energy efficiency savings and higher levels of energy efficiency spending as a portion of utility revenue, relative to states without energy efficiency performance incentives.

[9] Nowak, S., B. Baatz, A. Gilleo, M. Kushler, M. Molina & D. York. 2015. *Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency*. American Council for an Energy-Efficient Economy

We recommend a mechanism that specifies the potential incentive based upon a portion of efficiency program budgets, and the earned incentive based upon a combination of energy savings, capacity savings, and net benefits. For example, the threshold could start at 80 percent of the targets, and the cap could be at 140 percent of the targets. A sliding scale could be used to determine the earned incentive between these two points.

2. **EM&V Protocols:** Energy conservation and efficiency improvements constitute an important resource, as acknowledged by all parties. Means must be established for the evaluation, measurement, and verification (EM&V) of its impacts to the satisfaction of those charged with regulation in the public interest. The EM&V must ensure the savings are real, so that comparisons and weighing of costs and benefits of supply side and demand side resources are reliable, transparent, and data-driven. We offer several recommendations to that end:

A. **Technical Resource Manual:** A Virginia-based Technical Resource Manual (TRM) should be developed and periodically updated through a formal, broad-based stakeholder process. The purpose of a TRM is to provide stakeholders and program administrators with a single, transparent source of deemed savings values, source data, and other relevant materials to support the calculation of measure and program savings. DMME recommends that an independent organization manage TRM development, upgrading, and application. This organization should ensure that deemed savings data in the TRM are based on reliable, transparent, and documented sources of information and that assumptions are applicable to the situation being evaluated. This organization should also identify the need for modifications to the TRM, propose updates, lead the stakeholder feedback process, and assist in the development of final recommendations to the regulators. Coordination with the Mid-Atlantic TRM efforts would bring in experience from peer states and agencies.

B. **Consistent Protocols:** For programs that call for large-scale consumption analysis and project-specific M&V, the Commission should provide guidelines consistent with the best practices described in the 2012 State and Local Energy Efficiency (SEE) Action Network report, *Energy Efficiency Program Impact Evaluation Guide.*[10] Where applicable, the Commission should adopt DOE's Uniform Methods Project (UMP) protocols, which aims to establish protocols based on commonly accepted engineering and statistical methods (e.g. the International Performance Measurement and Verification Protocol) for determining gross savings for a core set of commonly deployed energy efficiency measures

C. **Independent Oversight and Documentation:** The Commission should establish procedures for independent oversight of EM&V protocols and require its electric utilities to document their EM&V processes. Further, the SCC should develop guidance on the timing of EM&V studies. An inclusive collaborative process should be established.

[10] State and Local Energy Efficiency Action Network, *Energy Efficiency Program Impact Evaluation Guide* (2012), *available at* https://www4.eere.energy.gov/seeaction/system/files/documents/emv_ee_program_impact_guide_0.pdf

Membership should include a range of stakeholders, including representation by the SCC; DMME; the Virginia Energy Efficiency Council; program administrators, including investor-owned utilities and cooperatives; and EM&V technical consultants. Invitations could be extended to the Attorney General's Office, environmental stakeholders in the energy efficiency proceedings (e.g., Chesapeake Climate Action Network and Appalachian Voices) and consumer groups (e.g. the Virginia Committee for Fair Utility Rates).

D. **Transparent Reporting:** The Commission should adopt a transparent reporting framework and require EM&V contractors to use them. The Northeast Energy Efficiency Partnership (NEEP) standardized reporting forms developed by the Cadmus Group in consultation with the representatives of the states of Connecticut, Delaware, Massachusetts, Maryland, New Hampshire, New York, Rhode Island, and Vermont, as well as DOE and the U.S. Environmental Protection Agency (EPA) are one such example.[11] While some modifications to the current version NEEP EM&V reporting forms are needed to fully align them with EPA's proposed EM&V reporting requirements, new versions of the forms are anticipated in 2016.[12] The NEEP forms have the advantage of being supported by a number of Virginia's neighboring states. Furthermore, the NEEP forms will likely be incorporated into or consistent with the National Energy Efficiency Registry (NEER), a U.S. DOE sponsored project led by the state of Tennessee to advance the reporting, crediting, and potential sale and trading of energy savings achieved through efficiency programs.

E. **Advanced EM&V Practices:** The Commission should also consider developing approaches to "EM&V 2.0," which relies on the increasing capacity of technology to perform EM&V functions. Virginia utilities should work together to pilot "automated M&V" projects for the residential and commercial sector. Virginia agencies and utilities should also collaborate with surrounding states and regional organizations such as the Southeast Energy Efficiency Alliance and the Northeast Energy Efficiency Partnership to exchange knowledge and experience on automated M&V projects and programs.

F. Lastly, The SCC should consider whether adherence to common EM&V protocols should be a condition of large general service customer's[13] exemption from energy efficiency charges under § 56-585.1(A)(5)(c) of the Code of Virginia.[14]

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[11] National Energy Efficiency Partnership, *Model EM&V Methods Standardized Reporting Forms* (2014), http://www.neep.org/initiatives/emv-forum/model-emv-methods-standardized-reporting-forms

[12] *See id.*

[13] Code of Virginia § 56-585.1(A)(5)(c) (defining a large general service customer as a "customer that has a verifiable history of having used more than 500 kilowatts of demand from a single meter of delivery"), *available at* http://law.lis.virginia.gov/vacode/title56/chapter23/section56-585.1.

[14] *See id*. (stipulating that "[n]on-participation in energy efficiency programs shall be allowed by the Commission if the large general service customer has, at the customer's own expense, implemented energy efficiency programs that have produced or will produce measured and verifiable results consistent with industry standards and other regulatory criteria stated in this section).

3. **Levelized Cost of Energy Savings (LCOSE)**: The Commission seeks specific input on "Appropriate formulae for developing the cost of saved energy resulting from energy efficiency programs and appropriate inputs for such formulae." The following discussion and recommendations are excerpted from the Synapse Memo commissioned by DMME. [15]

Arriving at a levelized cost requires much standardization of some key variables such as discount rate and energy savings types (e.g., gross vs. net, line loss included or not) to ensure that comparisons are valid. Whenever possible, all program administrators within a single state should use common definitions and practices to enable comparisons of energy efficiency programs. Program comparisons can enable a better understanding of the range of costs of certain program categories and the drivers of cost differences, identify best practices that deliver robust services at a relatively low cost, and inform program design improvements. [16]

The following are some common standardization problems, as well as recommendations for standards that states should use for the data inputs into the levelized cost of saved energy calculation. The standards should be consistent across program administrators, and over time. Thus, it is important that the Commission provide guidance on how this metric should be presented.

A. **Consistent definitions of savings:** Annual and lifetime energy savings can be gross, rather than net, and claimed, rather than evaluated. While net, evaluated savings are more accurate, gross, claimed savings are more frequently and consistently reported by program administrators. Program administrators should work towards a more consistent definition, and reporting, of net savings. When greater consistency is achieved, net savings should be used instead of gross savings.

Annual and lifetime energy savings should represent savings at the end-use or site instead of at the busbar or power plant level (i.e., accounting for transmission and distribution losses), as this is what most program administrators report.

B. **Consistent definitions of costs**: Program administrator costs should explicitly include all of the costs required to implement the programs . . . When calculating the LCOSE for individual energy efficiency programs, the program administrator costs should not include any utility performance incentives. However, when calculating the LCOSE for an entire portfolio of energy efficiency resources, any utility shareholder incentives should be included in the program administrator costs.

C. **Consistent units**: To be consistent with data previously collected and reported by the Lawrence Berkeley National Laboratory (LBNL 2014), the levelized cost of saved energy should be reported in dollars per kWh of energy saved.

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[15] *See generally* Synapse Memo, *supra* note 8.

[16] Further, PJM Interconnection, ISO-New England, and New York ISO require consistent, rigorous reporting of the values used as inputs to the LCOSE in order to account for demand-side resources, including energy efficiency, in load forecasting.

D. **Consistent discount rates:** All program administrators should use the same discount rate or the same guidance for developing an assumed discount rate. As mentioned above, the discount rate can have a substantial impact on the calculated levelized cost of saved energy. It is also noteworthy that the discount rate is the only input that is assumed and not calculated directly from program administrator data. As a result, the approach for developing an assumed discount rate is of particular importance. A 2014 NEEP report entitled *Cost-Effectiveness Screening Principles and Guidelines: For Alignment with Policy Goals, Non-Energy Impacts, Discount Rates and Environmental Compliance Costs*, is a good reference for guidance on discount rate assumption. [17]

The following are some improvements to reporting transparency that Virginia can put into practice immediately:

- Report the calculation of LCOSE, all inputs used in calculating the LCOSE for each program and sector, and the source of inputs in reporting.

- Report program cost and savings data using common definitions and terminology for key inputs into the calculation of the levelized cost of saved energy. Please see LBNL's 2013 report.[18] This memo provides common definitions and terminology for these key inputs. LBNL also released a policy brief and reporting template to assist jurisdictions in further improving reporting consistency.[19]

- Categorize and report using common naming conventions for program sectors and categories.[20,21] This may require program administrators to add new fields to their reporting databases. Common program sectors and categories can be used to group programs and enable optimization of the LCOSE for programs in the same sector or category.

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[17] Regional Evaluation, Measurement and Verification Forum, *Cost-Effectiveness Screening Principles and Guidelines: For Alignment with Policy Goals, Non-Energy Impacts, Discount Rates and Environmental Compliance Costs*, *available at* http://www.synapse-energy.com/sites/default/files/CostEffectiveness%20Screening%20Principles%20and%20Guidelines%2014-059.pdf.

[18] Hoffman, I.M., M.A. Billingsley, S.R. Schiller, C.A. Goldman and E. Stuart, *Energy Efficiency Program Typology and Data Metrics: Enabling Multi-State Analyses Through the Use of Common Terminology*, LBNL-6370E (2013), *available at* https://emp.lbl.gov/sites/all/files/lbnl-6370e.pdf.

[19] Rybka, G.M., I.M. Hoffman, C.A. Goldman & L.C. Schwartz, *Flexible and Consistent Reporting for Energy Efficiency Programs: Introducing a New Tool for Reporting Spending and Savings for Programs Funded by Utility Customers,* LBNL-1003879 (2015), *available at*: https://emp.lbl.gov/publications/flexible-and-consistent-reporting

[20] Megan A. Billingsley, Ian M. Hoffman, Elizabeth Stuart, Steven R. Schiller, Charles A. Goldman & Kristina LaCommare, *The Program Administrator Cost of Saved Energy for Utility Customer-Funded Energy Efficiency Programs*, LBNL-6595E (2014), *available at* https://emp.lbl.gov/sites/all/files/lbnl-6595e.pdf

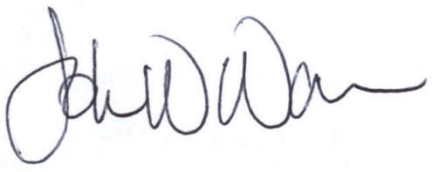
[21] Barbose, G. L., C.A. Goldman, I. M. Hoffman & M. A. Billingsley. 2013. *The Future of Utility Customer-Funded Energy Efficiency Programs in the United States: Projected Spending and Savings to 2025*. LBNL-5803E*, available at* https://emp.lbl.gov/sites/all/files/lbnl-5803e.pdf

Legislative Impediments:

There are challenges to the control and monitoring of the costs of electricity conservation programs that are beyond the purview of EM&V practices, and which might not be within the sole authority of the SCC to address. In its Final Order in Dominion's 2015 Biennial Review rate case, a 2-1 majority of the Commission applied Senate Bill 1349's amendments to the Virginia Electric Utility Regulation Act for the first time and declined to adjust Dominion's base rates or set a new rate of return on equity for the company. In a partial dissent one Commissioner wrote about Senate Bill 1349: "Under this law, major categories of rising costs can be passed along to customers, but lower costs or savings cannot. That is, for virtually any significant infrastructure or related costs (such as new power plants, demand-side management investment, or transmission lines), separate rate increases are mandated through rider provisions in Code § 56-585.1, which effectively guarantee recovery of those costs to the utility, plus a profit and, in some cases, a rate of return bonus. Conversely, Senate Bill 1349 fixes base rates (and any excess revenues currently built therein) at existing levels; base rates cannot be lowered by the Commission." [22]

It is hard not to surmise reluctance by the SCC to approve large investments in demand side management programs when commissioners might be unable to act over the next few years to recover for the ratepayers any excess revenues that utilities may have earned or will earn from base rates. DMME believes that this might be a significant impediment to the advancement of utility energy efficiency programs in Virginia. It is important that the SCC be confident that it has the tools to monitor and evaluate DMS programs, control costs, ensure that ratepayers are served and that utility earnings are regulated and transparent. Refining the rate freeze legislation may be the most appropriate mechanism to correct the unintended consequence and ensure the SCC has the necessary tools to implement meaningful energy efficiency programs. Revisiting some of the provisions of this law also might be justified by recent changes in the federal regulatory environment, including the Supreme Court stay of enforcement of the Environmental Protection Agency's Clean Power Plan.

Signed:



John Warren, Director
Department of Mines, Minerals and Energy
Commonwealth of Virginia

[22] SCC Final Order, Dominion 2015 Biennial Review rate case, SCC Case No. PUE-2015-00027. Pages 29-30 *available at* http://www.scc.virginia.gov/newsrel/e_dvpbien_15.pdf

Attachment A:

Synapse Energy Economics Memorandum
"Policies to Provide Performance Incentives for Energy Efficiency Programs"
Prepared by Alice Napoleon & Tim Woolf

Memorandum

TO: DAVE DAYTON

FROM: ALICE NAPOLEON, TIM WOOLF

DATE: FEBRUARY 25, 2016

RE: POLICIES TO PROVIDE PERFORMANCE INCENTIVES FOR ENERGY EFFICIENCY PROGRAMS

Introduction and Purpose

Many states have adopted performance or shareholder incentive policies to provide rewards for investing in and successfully implementing energy efficiency programs. In the sections that follow, we describe these policies and make recommendations for using them to increase utility implementation of energy efficiency in the Commonwealth of Virginia.

Rationale and Principles

Utilities frequently seek some form of performance incentive to help offset the financial disincentives associated with efficiency programs, arguing that they should be able to earn as much profit from efficiency as they do from investments in supply-side facilities.

If efficiency programs are implemented by a third-party administrator, there is no need to provide the program administrator or the local utilities with performance incentives. Nevertheless, it may be effective to provide some form of performance incentive to the third-party administrator in order to encourage them to implement successful efficiency programs.

If the efficiency programs are implemented by a utility, it may be appropriate to allow utilities a reasonable amount of performance incentives for aggressive, well-designed programs. The primary rationale for the incentive is to encourage utility upper management to provide the institutional support necessary for aggressive efficiency programs.

Performance incentives should only be provided for well-designed and well-executed efficiency programs. It is important that performance incentives be properly designed, because the specific designs can have significant implications regarding utility energy efficiency activities and achievements. The following principles should be applied in designing any performance incentive policy:

- Design incentives to encourage energy efficiency programs that will best achieve the state's energy goals.
- Base incentives on desired outcomes (e.g., energy savings), not just expenditures.

- Provide incentives only for activities where the utility company plays a distinct, clear, and necessary role in bringing about the desired outcome.
- Base incentives on clearly defined outcomes that can be sufficiently monitored, quantified, and verified.
- Minimize the magnitude of performance incentives, in order to avoid unnecessary increases in electric and gas customer costs.
- Cap incentives at a predetermined not-to-exceed portion of program budgets.
- Provide incentives only for programs that have been subject to proper monitoring and evaluation studies, and base the incentive amount on post-evaluation estimates of actual efficiency measure installations.
- Provide incentives only for utility programs that receive sufficient regulatory oversight and stakeholder input.
- Avoid creating perverse incentives, such as the incentive to increase costs without comparable increases in savings, or the incentive to cream-skim (i.e., targeting the least expensive efficiency resources, while leaving other viable and cost-effective opportunities behind).

Design of Performance Incentive Mechanism

Overall Structure

Energy efficiency performance incentives are relatively common in the United States.[23] Often, these structures are defined in terms of a threshold requirement, a target, and a cap.

- The "threshold" level of performance is the point below which no incentives are earned. If utilities cannot meet this threshold level, they do not earn any reward.
- The "target" level of performance is based on the achievement of efficiency program goals (e.g., megawatt-hour [MWh] savings or net benefits) in the most recent energy efficiency plan approved by the public service commission.
- Incentives are provided up to a "cap," which limits rate impacts associated with the performance incentive, and may act as a check against utilities understating savings opportunities in order to reap large incentives later.

The amount of money made available for performance incentives can be determined in several ways. The most common ways include: as a percentage of program costs, as a share of total net benefits, or as a rate of return on efficiency expenditures. These options are discussed briefly below.

[23] Nowak, S., B. Baatz, A. Gilleo, M. Kushler, M. Molina, and D. York. 2015. *Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency*. American Council for an Energy-Efficient Economy.

Incentives Based on Efficiency Program Cost

Several states base performance incentives on program spending, coupled with achievement of energy or capacity savings targets.[24] For example, Connecticut has a sliding scale incentive starting at 2 percent of spending, when savings exceed 75 percent of the target. The maximum incentive is set at 8 percent of program spending, when savings reach 135 percent of the goal.[25] Where program spending is the basis of the incentive, it is explicitly tied to attainment of established energy savings targets; without this link, incentives may encourage spending without a corresponding increase in savings.

The magnitude of the performance incentives should be large enough to capture utility management attention but small enough to ensure that customers do not pay more than necessary for successful efficiency programs. In our view, a target shareholder incentive of roughly 5 percent of demand-side management program budgets should provide a reasonable balance between utility management incentives and customer protection. Performance incentive caps that exceed 10 percent are likely to be unnecessarily high.

Incentives Based on Share of Net Benefits

Performance incentives are often based on shared net benefits, where the utility is allowed to keep a portion of the difference between program benefits and program costs.[26] This approach is appealing to many because it provides the utility with an incentive to both reduce program costs and increase program benefits.

However, this approach suffers from a significant problem. The efficiency program benefits are based on avoided costs—typically avoided energy, capacity, transmission, and distribution costs. These avoided costs can swing significantly over time, especially the avoided energy costs that are often driven by fossil fuel prices. When avoided costs increase dramatically, then the utility will earn significantly higher incentives, and vice versa. This can be a problem because (a) the utility incentive is driven by an external event that the utility has no control over, and (b) the utility incentive can ultimately be way too high or too low.

For this reason we do not recommend performance incentives that are based on a share of net benefits alone.

Incentives Based on Rate of Return

Another frequently considered approach is to allow utilities to earn a rate of return on some or all of the efficiency expenditures, either by placing the efficiency expenditures in the utility's rate base or by making a comparable calculation to determine the size of the shareholder incentive. This approach is appealing to many because it creates an incentive for energy efficiency investments that is comparable to, or equal to, the incentive for investments in supply-side alternatives. It is also appealing because it is based on the investment/return model that is familiar to utility management and shareholders.

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[24] Nowak et al., 2015, p. 7.

[25] Ibid., p. 12.

[26] Ibid., p. 7.

Unfortunately, this approach also suffers from significant problems. First, it rewards the utility for simply spending energy efficiency funds, without necessarily implementing successful programs or achieving significant efficiency savings. Second, it is inconsistent with general ratemaking practices to allow a return on expenses that are recovered immediately from customers. Third, placing a cost into rate base without a corresponding asset that can act as collateral can cause the utility problems with regard to accounting and financing requirements.

For these reasons we do not recommend performance incentives that are based on the utility's rate of return.

Setting Potential and Earned Incentives

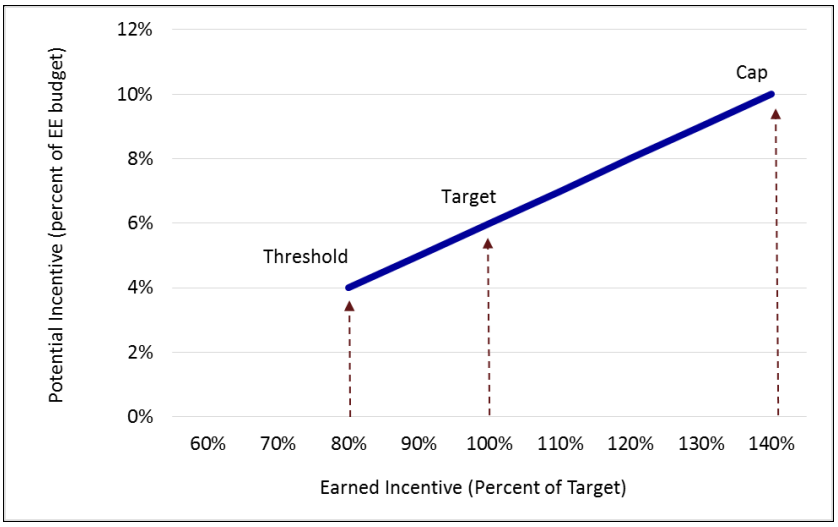
It is possible to combine some of the concepts above to design a performance incentive that achieves several key goals at once. In our view, the magnitude of the potential incentives (i.e., the total amount of incentives that the utility could potentially earn), should be based on a portion of efficiency program budgets. In this way, the amount of incentive that the utility actually earns will always be in proportion to the magnitude of the efficiency program themselves. This will ensure that (a) the utility incentive is proportional to its level of activity; and (b) customer payments will also be proportional to the level of efficiency activities. In other words, the energy efficiency program budgets provide very useful benchmarks to ensure that the amount of the incentive remains reasonable.

Furthermore, the magnitude of the earned incentives (i.e., the amount of incentives that the utility actually earns) should be based on utility performance. Utility performance can be defined in several different ways, including achieved energy savings (in MWh), achieved capacity savings (in MW), achieved net benefits, or more specific outcomes that are determined to warrant performance incentives.

Figure 1 provides a relatively simple example of the relationship between potential and earned incentives. The y-axis indicates the amount of incentive that the utility could potentially earn. In this example, the potential incentive ranges from 4 percent of the efficiency program budget to a maximum of 10 percent of the program budget.

The x-axis indicates the amount of the incentive that the utility actually earns, based on performance relative to efficiency targets. The efficiency targets can be based on energy savings, capacity savings, net benefits, or a combination of these. In this case, if the utility achieves 100 percent of the efficiency targets, it will earn an incentive equal to 6 percent of the efficiency program budget. If the utility achieves results between 80 percent and 140 percent of the target, it will earn an incentive based on the line between these two points. This is referred to as a sliding scale incentive.

Figure 1. Example of a Sliding Scale Performance Incentive



Existing Performance Incentive Policy in Virginia

Under Virginia Code (Section 56-585.1) utilities may earn a rate of return—equal to the general rate of return on common equity—on the operating expenses component of total energy efficiency costs.[27] However, the amount of the incentive in Virginia may not to be sufficient to capture utility management's attention. Based on a review of Dominion's proposed revenue requirements in Case No. PUE-2014-00071, it appears that the incentive (called a "margin on operations and maintenance") was on the order of 0.5 percent of total program costs in 2013.[28] We have not reviewed incentives for other Virginia utilities; however based on the structure of the law, it seems likely that they are of a similar magnitude.

If this estimate is accurate, the efficiency performance incentives that Virginia utilities receive are very small relative to what other utilities receive (ranging from a low of 2 to 8 percent of program costs in Connecticut, to a high of 5 to 15 percent of program spending in Michigan).[29]

VA House Bill No. 1053

VA House Bill No. 1053 would allow an investor-owned utility to recover an energy efficiency performance incentive that is based on the levelized cost of saved energy associated with the utility's energy efficiency programs.

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[27] The Code of Virginia, § 56-585.1. http://law.lis.virginia.gov/vacode/title56/chapter23/section56-585.1/

[28] In Case No. PUE-2014-00071, the Corporation Commission approved Dominion Virginia Power's proposed Income and Age Qualifying Home Improvement and Appliance Recycling programs, subject to a cost cap. This cost cap includes an incentive; however the Commission did not specify the proportion of each cost component relative to the total cap in the order. (April 24 2015 Final Order.)

[29] Nowak et al., 2015.

We are not aware of any state that uses the cost of saved energy to determine the amount of the incentive in this way. Some states instead account for cost effectiveness in determining whether the energy savings or net benefits qualify the utility to earn an incentive (e.g., South Carolina's requirement that the programs as a whole must pass the Utility Cost Test), or as a cap on incentives (e.g., Minnesota's cap on incentives at $0.0875 per first-year kWh saved).[30]

Using the cost of saved energy to determine the earned performance incentive suffers from a significant flaw. It encourages utilities to focus on the least expensive efficiency resources, while leaving other viable and cost-effective opportunities behind. This results in "cream-skimming" that will lead to lost opportunities, as revisiting a customer to install the remaining measures may involve prohibitive transaction costs.

For this reason, we do not support the utility efficiency incentive mechanism proposed in House Bill No. 1053.

Recommendations

We recommend that the Virginia utilities be provided with comprehensive, thoughtful energy efficiency performance incentives. The American Council for an Energy-Efficient Economy (ACEEE) found increasing evidence of a relationship between performance incentives and achievement of efficiency savings goals.[31] ACEEE also reported that states with energy efficiency performance incentives averaged higher levels of energy efficiency savings and higher levels of energy efficiency spending as a portion of utility revenue, relative to states without energy efficiency performance incentives.[32]

While the incentive mechanism proposed in VA House Bill 1053 is a step in the right direction, we recommend against an incentive that is based solely on the cost of saved energy. As noted above, this will certainly result in cream-skimming and lost opportunities.

Instead, we recommend a mechanism that specifies the potential incentive based upon a portion of efficiency program budgets, and the earned incentive based upon a combination of energy savings, capacity savings, and net benefits. The threshold could start at 80 percent of the targets, and the cap could be at 140 percent of the targets. A sliding scale could be used to determine the earned incentive between these two points. **Figure 1** above provides an illustration of how such a mechanism could work.

[30] Ibid., p. 11.

[31] Ibid., p. 22-23.

[32] Ibid., p. 24.