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Puerto Rico Energy Bureau
Public Service Regulatory Board
Government of Puerto Rico
268 Ave. Munoz Rivera, Nivel Plaza Suite 202
Hato Rey, PR 00918

October 7, 2019

Re: Comments on Regulation for Energy Efficiency and Demand Response

We appreciate the opportunity to present these comments and hope they will help create a strong Regulation for Energy Efficiency and Demand Response. Below we provide some overall recommendations for the regulation, and we offer detailed suggestions for several items. We stand ready to help tailor these policies to achieve the stated goals when work shifts towards enacting solutions. Additionally we remain committed to helping the Puerto Rico transition quickly to clean energy and hope we can help the island achieve its climate and clean energy goals.

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Introduction

Pursuant to Act 57-2017, enacted on April 11, 2019, the Energy Bureau of the Puerto Rico Public Services Board ("Energy Bureau" or "PREB") proposed a Regulation for Energy Efficiency and Demand Response ("regulation") on September 4, 2019, that will govern and establish such programs in Puerto Rico. The Energy Bureau has requested public comments on the proposed regulation. The regulation is intended to select a third-party administrator (TPA) of these energy efficiency programs and establish the process by which they will be delivered to ensure that Puerto Rico achieves its goal of thirty percent (30%) energy efficiency by 2040.

As written, the proposed regulations for energy efficiency and demand response provide important and comprehensive guidance that will help put Puerto Rico on a path to successfully achieve its goal to pursue all cost-effective efficiency savings. While we are generally supportive of these proposed regulations, the purpose of these comments is to identify opportunities to make them even stronger and clearer as Puerto Rico embarks on its selection of a TPA that will create the initial formalized three-year Plan. Our comments are organized into eight primary sections: goal-setting, performance indicators, stakeholder process, cost-effectiveness screening, fuel-switching, access to customer data, rate design, and building codes and appliance standards. We also provide comments related to specific portions of text at the end of the document.

Goal-Setting

Long-Term Savings Clarification

Puerto Rico's long-term goal of thirty percent (30%) of energy efficiency by 2040 is referenced in a number of places in the proposed regulation. However, the regulation does not specify whether the savings are based on the sum of incremental annual savings, or cumulative persistent savings in place in 2040. Further, it is not clear what the 30% benchmark would be measured against.

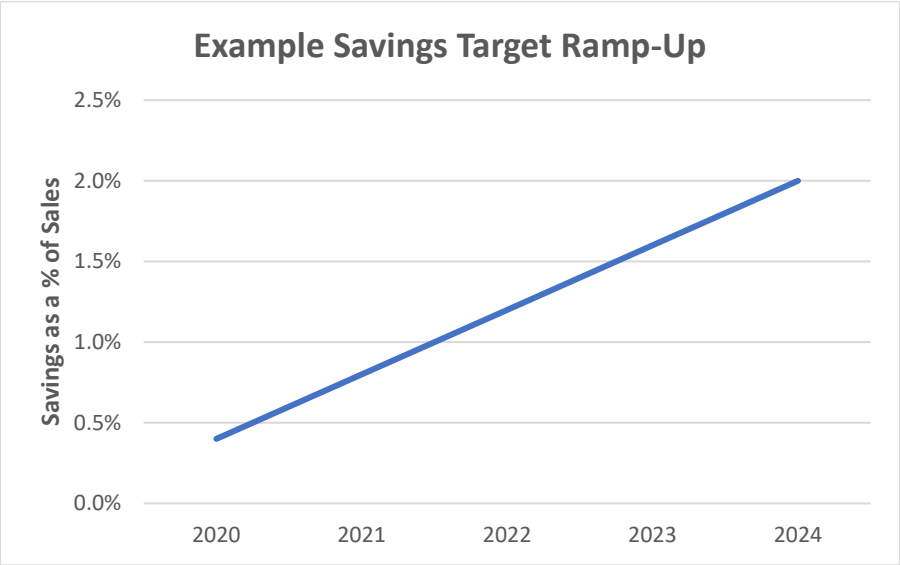
We suggest the regulation state that savings targets are based on cumulative persistent savings in 2040, which represent the energy savings achieved by measures installed in a given year plus measures installed in previous years that are still providing savings. As energy efficiency measures reach the end of their useful lives, new savings would need to be generated to replace savings that have aged out. Further, the regulations should clarify what the 30% refers to and how this would be calculated. We recommend that the goal be specified to achieve a minimum 30% reduction in load in 2040 compared to a current baseline 2040 forecast of load. Also, it is not clear as to whether the savings targets are gross savings or net savings resulting only from the impact of efficiency programs. We recommend that it be clearly stated that the goal is cumulative "net savings" to ensure consistent interpretation, meaning those savings attributable to the program that would not have otherwise occurred.[1] Finally, the goal of all cost-effective savings should be reinforced with an explicit statement that the goal of 30% efficiency savings in 2040 is a minimum goal, and if higher levels of savings are cost-effective, then those savings should be pursued and obtained.

[1] Often net savings are estimated by adjusting total gross savings for freeridership and spillover. Freeridership refers to savings from program participants that are tracked by a program, but that those participants would have achieved anyway absent any program. Spillover refers to savings that may have been induced by the program but are not directly tracked as part of program participant activity.

Short-Term Goals

Section 2.1 of the proposed regulation requires that the Puerto Rico Energy Bureau "shall seek select a TPA that is capable of delivering energy efficiency and demand response services at the pace required to meet the statutory goal of thirty percent (30%) efficiency improvement by 2040." However, it is not until after the selection process that the TPA would be required to develop specific three-year program plans, as well as a projected plan for efficiency and demand response resource acquisition to illustrate how the statutory goal will be achieved over a twenty-year planning period. Moreover, the TPA will propose its own performance-based compensation metrics as part of the bidding process, which may, but does not appear to require, distinct energy savings targets. We suggest that the regulatory language clarify that the program plans developed by the TPA are required to achieve annual savings that put Puerto Rico on track for meeting its statutory goal. For this reason, we suggest the PREB consider two additions to Article 2 of the regulations.

First, we suggest the Energy Bureau consider establishing interim minimum energy efficiency savings targets to ensure the those bidding to be TPA understand the ramp up that is required. Interim goals allow for tracking and reporting on a regular basis, which can help to ensure the TPA is on track to achieve longer-term goals. We would further suggest that Puerto Rico's near-term targets reflect a "ramp-up" period that allows the TPA enough time to plan for, develop, and market its programs, and to build the necessary infrastructure for successfully implementing them.[2] Providing adequate ramp-up periods is a best practice in energy target setting. As part of its 2018 IRP filing, the PREB ordered PREPA to, "model EE with gains of two percent (2%) per year, based on the energy sales of that year…for 18 years."[3] Given this direction, we would suggest the regulation require that the TPA commit to achieving 2% annual savings by the end of the first five years of program implementation. For illustrative purposes, the chart below demonstrates a potential short-term ramp-up to achieve 2% savings by 2024. Minimum goals should also be set for demand response savings, especially given the lack of a long-term demand reduction goal in the legislation.



[2] Downs and Cui 2014; US EPA 2010; Southeast Energy Efficiency Alliance 2015; State and Local Energy Efficiency Action Network 2011.

[3] As quoted in Appendix 4: Demand Side Resources of the Puerto Rico Integrated Resource Plan 2018-2019.

Second, we would suggest that the RFP require bidders to provide in their proposals the portfolio of programs they expect to offer, with proposed savings and budgets. We recommend that the Energy Bureau not set a budget cap on energy efficiency programs, but rather focus on achieving all cost-effective energy efficiency savings. The proposal should include an outline of the programs they would offer at the start of the contract period and would require those bidding to serve as TPA to demonstrate a high level of knowledge about the building stock, different markets, and potential sources of energy savings in Puerto Rico. The island has often been treated as an extension of the mainland, but the differences (building stock, climate, wealth, language) are significant enough that the TPA will need to design new programs or adopt existing ones to these realities and demonstrating the ability to do so will be critical.

Performance Indicators

Section 2.4 indicates that the TPA will be eligible to receive performance-based compensation on achievement of the goals established for the three-year program implementation period. The section further specifies that performance incentive metrics may be action-based (track specific actions that are intended to lead to a desired outcome), or program based (measure the outcomes of specific programs or collections of programs). We support the use of performance incentives to motivate program administrators to achieve goals, but believe that these metrics should be based on outcomes, rather than on the completion of activities. For example, instead of rewarding a TPA for completing a certain number of energy audits or contractor training sessions, it would be better to reward the actual energy savings from audit-driven installed measures or participation rates resulting from the completed training of contractors. In some cases, action-based incentives could reward the program administrator even if the efficiency program performs activities poorly and its initiatives are not effective or worthwhile. Instead, the design should reward measurable savings and other benefits from action. In short, "performance incentives" should be just that – incentives to achieve performance. We therefore recommend that the reference to action-based items be removed from the regulation in Section 2.4.

Some guiding principles for effective performance incentive ("PI") mechanisms are outlined below:

- **Multivariate**—PI mechanisms benefit from rewarding multiple measures of performance. This allows for incentives that can promote many policy objectives rather than just a single metric. For example, although one might care about whether the utility has met its annual savings goals, another key policy objective could be cost-efficient spending and maximizing net benefits or maximizing lifetime (rather than annual) savings.
- **Scalable**—PI mechanisms benefit from scalability. If instead they encourage a "winner take all" approach for meeting a specific target, they are less effective. For example, if a utility realizes in September that it will not succeed in meeting its goal by the end of the year, and will therefore lose its entire incentive (or pay a penalty), the incentive no longer is a motivating factor to still try to maximize what can be captured. Worse yet, the incentive mechanism can actually encourage a utility to delay capture of some savings to apply in the next program year. Similarly, if a utility is doing well and reaches its goal early, an effective PI mechanism would continue to reward the utility for striving for even better performance and exceeding targets.
- **Measurable and objective**—It is critical that any PI metric be measurable and objective, as well as based on actual performance. This will ensure that all parties understand and can agree on the level of performance achieved and enables program administrators to manage

their progress effectively. It is important to clearly define metrics and establish any assumptions necessary to calculate performance in advance. For example, if a metric is tied to achievement of net benefits but allows the avoided costs by which they were set to vary depending on future estimates, or does not clearly identify all the costs and benefits that can be included, it can result in protracted disagreements. Such a situation also makes it difficult for program administrators to monitor their programs' progress.

- **Inclusive of countervailing-influence metrics to address secondary policy objectives**- Typically, primary PI metrics for energy efficiency are about energy savings or some other form of benefits accruing from the savings. These are clearly key policy concerns that reflect the primary purpose of the programs. However, dependence on them can result in perverse incentives that can undermine other secondary policy concerns. For example, with fixed program budgets, maximization of savings or net benefits could drive a program administrator to pursue only the easiest and cheapest savings. This might discourage appropriate attention to capturing long-lived and comprehensive savings, or to serving low-income customers or other segments that are typically more costly for an efficiency program to serve. Several jurisdictions have found that a few metrics to promote actions that counter any possible perverse incentives of the primary metrics, or which ensure attention to key policy objects, can be effective at encouraging a balanced portfolio of programs.

Stakeholder Process

The proposed regulation includes a stakeholder review process for the TPA-developed three-year plan. The process would allow stakeholders to submit comments and feedback on the draft Plan and provide interested parties an opportunity to be heard in a public hearing. The Energy Bureau would then issue a decision on the plan. We support the involvement of stakeholders in the three-year planning process and believe it is an important element of developing successful energy efficiency programs. However, we recommend that the regulation include a more formal stakeholder process which includes the creation of a permanent oversight body with defined roles and responsibilities, not only throughout the planning processes but also as an on-going function throughout program delivery.

Decisions regarding which and how energy efficiency programs should be delivered are typically addressed through hearings or dockets before state utility commissions. These proceedings provide the primary venue in which the program administrator, the regulator, and a wide variety of other stakeholders can discuss, advocate, and support their agenda through an adversarial and litigious process. An alternative venue in which these activities can occur is a stakeholder body ('council' or 'board'). A collaborative, multi-stakeholder council can foster a climate of efficiency program success and cooperation. Among the most important of these outcomes is a shift in the nature of decision-making from a potentially adversarial process to collaboration and consensus. Importantly, stakeholder councils also act as a focal point in energy planning for efficiency and related demand side policy implementation.

We recommend that Puerto Rico's energy efficiency and demand response regulation establish such a stakeholder body. This recommendation is based on the fact that all, or virtually all, of the leading jurisdictions in North America have some sort of stakeholder collaborative process, which has been a significant driver of their success. Of the many commonalities among these jurisdictions, the presence of a central stakeholder body focused on energy efficiency policy, planning, implementation and evaluation

stands out as an important factor in their accomplishments. Although stakeholder bodies differ in terms of their authority, governance, funding and membership, they each represent diverse interest groups and are charged with guiding and overseeing energy efficiency program planning and implementation. In a few cases, formal requirements for their membership structures as well as their decision-making ability are codified in statute. However, most processes are established by regulatory authority, and fundamentally function as formalized settlement processes among the interested parties. Utility regulatory commissions continue to retain ultimate authority for decisions. However, when regulatory commissions are presented with consensus plans that have gone through this process, the result has often been more thoughtful and effective plans than would occur simply from an adversarial litigated process. It also ensures that constituents' concerns can be taken into account while still providing that, at any time, any stakeholder can choose to still challenge a proposal if consensus cannot be reached.

Based on the positive impact collaboratives can have on driving energy efficiency program success, we recommend that the regulation establish a permanent stakeholder group to support and review the development of the three-year plans. Specifically, the regulations should:

- Require the TPA to work collaboratively with the stakeholder group to develop three-year plans.
- Establish an independent facilitator for the stakeholder group to be funded through proceeds from the system benefit charge.
- Require the stakeholder group to meet no less than once every two months.
- Empanel a diverse membership that includes key parties who are engaged in energy policy Puerto Rico. Having these members participating 'at the table' rather than commenting from the outside is a key element of the collaborative council process.

Cost-Effectiveness

Section 5.1 states that the Energy Bureau shall approve a Puerto Rico cost-effectiveness test that reflects the policy objectives of Puerto Rico with regard to energy, environmental, and societal impacts. We support the development of a cost-effectiveness test that reflects Puerto Rico's policy objectives. We have several recommendations for strengthening the language around cost-effectiveness screening in the regulation. First, where section 5.1 states that the Energy Bureau *shall* "include in the PR test all relevant generation, transmission, and distribution impacts, reliability and resilience, other fuel impacts, and environmental impacts," it states that it *may* "include other non-energy impacts, economic development impacts, and social equity impacts." We would recommend strengthening the latter part of this sentence to say it "*shall"* include reasonably quantifiable non-energy impacts (NEIs). In our experience, when NEIs are made an optional consideration, they are unlikely to be included.

We would also recommend that the regulation specifically state that the cost-effectiveness test "shall include a societal carbon value." While in theory a societal carbon value could be included in the generic requirement of "environmental impacts," jurisdictions often only include SOx and NOx because those are the only explicitly monetized environmental impacts. A carbon value should be included to reflect the full environmental benefits of energy efficiency to Puerto Rico.

In section 5.1 D, we recommend adding that the PR test, "shall use a discount rate that reflects a societal value, such as the interest rate on long term U.S. Treasury bills." Often, utilities will advocate for using their weighted average cost of capital ("WACC"). While analysis of utility investments using the WACC is appropriate when assessing utility financial impacts such as rate impacts, it is not appropriate for

assessing public investments on behalf of all ratepayers as a whole. Rather, as with other government investments, a long-term societal view should be taken.

Fuel Switching

In addition to electric savings, energy efficiency programs can achieve other energy savings such as from fuel oil and propane. In some cases, switching from these fuels to electricity can reduce overall energy use, and help achieve carbon goals. Although electric loads can increase from fuel switching to electricity, the net energy usage can decrease in some cases. The regulation indicates that other fuel savings should be included in cost-benefit testing, but it does not specifically mention whether the TPA can or should target non-electric savings in its three-year plans and count savings toward its electric efficiency goals. Moreover, it does not indicate whether fuel switching measures would be allowed or encouraged as part of energy efficiency programs. We recommend that the regulations state that non-electric fossil fuel efficiency savings, as well as energy savings resulting from fuel switching opportunities from fossil fuels to electricity, be explicitly allowed. The purpose of fuel switching is sometimes to improve energy efficiency, but more often it is to reduce greenhouse gas emissions by reducing direct fossil fuel use. As the electric grid becomes greener with more renewable generation sources, electrification will provide additional carbon reduction benefits. We also propose a specific methodology to account for all efficiency savings in a common MWh metric. Non-electric savings should be converted from MMBtu to MWh, using a source conversion factor that accounts for the energy losses associated with generating and delivering electricity. To do so, the regulations should specify the use of a generation efficiency established for each plan period based on the estimated Btu per kWh of electric generation on the margin in Puerto Rico.

Access to Customer Data by the TPA

Section 9 of the proposed regulation addresses the need for protection of customer data for both the TPA and the ESPCs. In creating such data protections, however, there is erected a barrier to the most effective efficiency programming: access to data. By requiring individual customer permission for the TPA to access customer data, the draft regulation as it stands will inhibit the TPA in important ways.

The best efficiency programs have access to customer-level data and have the necessary security barriers to ensure that customer privacy is not compromised. Because utilities are often the efficiency program administrators, they have access to all customer data. There is an example of the same level of access to data being afforded to a TPA. Many other TPAs around the country continue to fight for data access, understanding how the lack of such data compromises their abilities in program design, planning, implementation, and evaluation.

In establishing Efficiency Vermont in 2000, the Vermont Legislature and the Vermont Public Service Board understood that, without access to customer-level data, a statewide efficiency utility would be hampered in its programming. Efficiency Vermont was provided with electric use records for every ratepayer in Vermont from its inception, and the results of the data-driven approaches that this allowed its programming were borne out when Vermont was the first state in the U.S. to reduce load growth.

Why is access to all customer data important? Because it allows the TPA to identify the best targets from an energy use perspective, whether those be at the individual customer or market level. It lets the TPA understand fully every attribute of energy use and waste in the market it is addressing, rather than

trying to guess at what will save the most energy. It allows the TPA to quantify rigorously the expected results and then to validate those results with real data, rather than using proxies and hypotheticals.

A 2012 study explored the issue and provides the following diagram to summarize the different approaches states have taken to this question for different types of entities.[4]

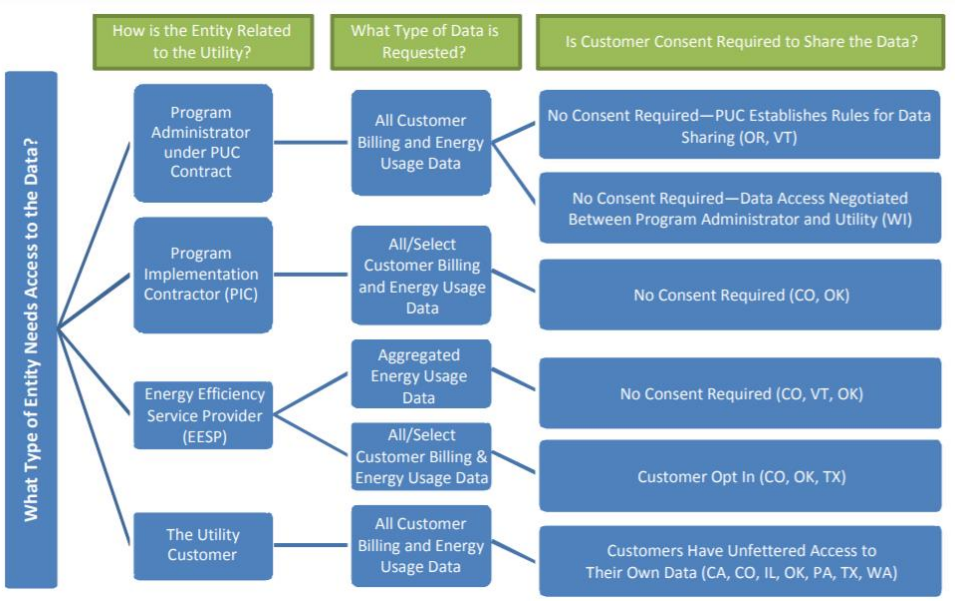


Figure 1. Overview of state approaches on accessing customer utility data.
Source: SEEAction 2012, pg. vii.

The proposed regulation delineates a very different role for the TPA than it does for the ESPCs, and yet, from a data perspective, the regulation than classifies the TPA as another ESPC. We argue that TPA is very different from other ESPCs and needs direct and timely access to all customer data. This is similar to the model used by Vermont and Oregon (top of figure). The PREB should look to the enabling statutory and regulatory language provided by the Vermont and Oregon examples to equip the TPA fully with the data needed to complete all of its functions as efficiently and effectively as possible. Even if such access is not allowed at the start, due to statutory prohibitions, the way should be paved as quickly as possible to provide such access.

Rate Design

In Section 10 of the proposed regulation, the TDP/SO is directed to develop rate designs that are "consistent with customer implementation of cost-effective EE and DR resources," and may develop time-varying rates. Such rate designs would be reviewed by the Energy Bureau.

We would suggest that language be inserted into this section of the regulation that required any rate designs specifically address, quantitatively and qualitatively, the effects that any rate changes may have

[4] SEEAction, "A Regulator's Privacy Guide to Third-Party Data Access for Energy Efficiency," 2012. http://web.mit.edu/cron/project/EESP-Cambridge/Articles/SEEA%20-%202013%20-%20cib_regulator_privacy_guide.pdf

on low-income ratepayers. The TDP/SO should be requested to provide the Energy Bureau with its estimates of the effect of expected rate changes, on average, on residential energy costs, and what percent of income such an increase would be for low-income Puerto Ricans.

Low-income people may be less able to change energy use patterns and so may not be able to advantage themselves with time-varying rates. Low-income households often have less control over job schedules and higher likelihood of working on second or third shifts, and so may have less ability to move home energy uses to periods of lower cost and end up with a higher energy cost and burden through no action of their own.

Building Codes and Appliance Standards

TPAs can play an effective and useful role in the development, improvement, and implementation of buildings codes and appliance standards. There are some important caveats to their role in this area, though, and these should be recognized from the start to empower the TPA in the most effective way possible. Efficiency programs over many years, many types, and many jurisdictions have struggled for market penetration if seen as an arm of building code enforcement. If a building owner has concerns that an energy auditor or quality control inspector may report building inspection violations of building codes unrelated to energy, that may keep that owner from making energy improvements that the TPA wants to promote.

That being said, however, the TPA will have important contributions to make in helping building code officials understand where the building sector is with respect to market adoption of different technologies and should have a role in the development of building codes related to energy use. The TPA can also play an important role on education about any changes in the building code. If the TPA has done its job, it will have strong connections with many in the building trades and the building material supply chain. The TPA will know what business-as-usual practices are and what code changes will mean for different market actors. The TPA can design and offer educational programs to ensure that building code changes are understood and accepted. In leading jurisdictions, efficiency program administrators can claim savings based on their roles in education about code and standards.

The TPA can play a similar role with respect to appliance standards. It will be deeply familiar with the norms and needs of different customer types and can provide excellent advice to those who are designing and codifying new standards.

Other Thoughts and Proposed Edits

Section 2.1 The Energy Bureau should allow for a broad range of submissions for TPAs. There are very capable groups in the island that may be interested in running the programs like from the University of Puerto Rico system. They should not be excluded from submitting a proposal.

Section 2.2 B. 60 days to issue RFP is probably not enough - should review good RFPs from other jurisdictions, plus there are probably many administrative hurdles to get an RFP like this through - any stakeholder input into RFP?

Section 2.2 D. Does this mean the first contract is for 4 years, plus 3-year extension?

Section 2.3 A. How are new goals and metrics for second three-year period established and agreed to?

Section 2.3 A 2 a. Need longer period than 90 days for doing an RFP.

Section 2.3 A 2 b. By that point, the TPA should have already developed plans for the next period.

Section 2.4 A 1. The RFP should include the performance metrics that the TPA should be aiming for, and at least suggest a structure of incentives. See, e.g., RFP for DCSEU. Also, while establishing long-term goals is important, setting interim short-term goals - in the RFP - is important.

Section 2.4 A 2. Need to establish if 3rd-party verification is needed BEFORE incentives are paid.

Section 3.1 A. Will this be known by the time the RFP is issued? Responders will need some sense of budget scale.

Section 3.2 B 8. Should include technical assistance, project management support

Section 3.3 A 2. Should refer to Puerto Rico Test.

Section 3.3 A 8. Should this include geographic equity - any parts of the territory expected to be over- / under-served?

Section 3.3 A 10. Definition of “lost opportunity” is incorrect. A lost opportunity is when a natural market event is happening (new construction, purchase of new product or equipment). While it often provides lower cost energy savings, that is not always the case. The primary issue is that if the less efficient alternative is selected, the savings are lost for the life of the installation.

Section 3.3 B 3 a. Should specify suggested level of EM&V spending expressed as % of total budget (typically 2-5%; potentially higher in early years).

Section 3.4 G. Once plan is accepted, what are the parameters within which the TPA can make changes without requesting approval. When is such approval required?

Section 5.2 D. Specify to whom the TDP/SO and Provider of Last Resort must provide all requested data necessary for the calculation of avoided costs.

Section 6.1 A. Require some flagging of issues e.g., like the annual plan: If more than xx% behind plan targets, describe barriers and proposed solutions. Are quarterly plans also good place for identifying and asking for budget / target changes.

Section 6.3 C. Should TRM update be part of a "proceeding" - or a regular process with a guided stakeholder group?

Section 7.2. This makes sense for established markets. Probably need to have some language about DEVELOPING the market of vendors. TPA will be expected to assess vendor pools and conduct market development activities as needed, especially to bring in small PR-based businesses. TPA should also be able to work with existing vendors, with tech asst and training to improve their operations and their workforces.

Section 8.1 A 1 a ii. Eliminate reference to IRP if requirement is all cost-effective savings.