



COMMONWEALTH OF PENNSYLVANIA

November 1, 2019

E-FILED

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

**Re: Act 129 Information - Tentative 2021 Total Resource Cost (TRC) Test Order /
Docket No. M-2019-3006868**

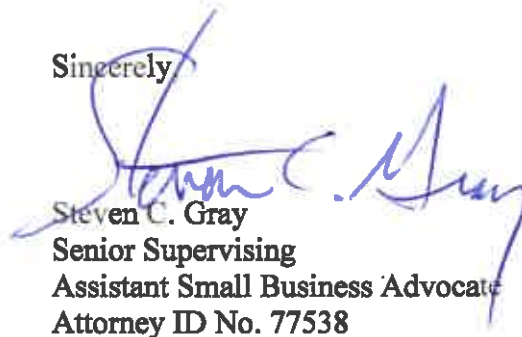
Dear Secretary Chiavetta:

Enclosed please find the Comments, on behalf of the Office of Small Business Advocate ("OSBA"), in the above-captioned matter.

Copies will be served on the parties indicated on the attached Certificate of Service.

If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "Steven C. Gray".

Steven C. Gray
Senior Supervising
Assistant Small Business Advocate
Attorney ID No. 77538

Enclosures

cc: Robert D. Knecht
Parties of Record

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Act 129 Information - Tentative 2021 :
Total Resource Cost (TRC) Test Order : **Docket No. M-2019-3006868**
:

**COMMENTS
OF THE OFFICE OF SMALL BUSINESS ADVOCATE**

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Date: November 1, 2019

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Act 129 Information - Tentative 2021 :
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Introductory Issue

Act 129 requires that Pennsylvania electric distribution companies (“EDCs”) establish cost effective energy efficiency and conservation (“EE&C”) plans, and specifies certain requirements for those plans. Among those requirements is that the cost-effectiveness of each EDC’s plan is to be evaluated using a Total Resource Cost (“TRC”) Test, subject to Commission approval. Section 2806.1(b)(1)(I). In so doing, the legislature made it clear that the economic standard for the plan would be one of overall economic efficiency, such that the total benefits of the plan exceed the total costs of the plan. The costs included in the TRC Test reflect the overall cost of the program, which is shared between the participating customer and the EDC (which of course passes that part of the cost on to other ratepayers). How those costs are shared is generally irrelevant to the TRC Test.¹ Moreover, the legislature presumably intended there to be cross-subsidies, since it did not mandate a different economic test, such as the ratepayer impact

¹ In certain conditions, the magnitude of the cross-subsidies may affect the *net* TRC Test in the net-to-gross adjustment mechanism. However, the magnitude of the cross-subsidies do not affect the Commission’s preferred NTG mechanism (paragraph F.2.). Moreover, the Commission relies on the *gross* TRC Test rather than the net TRC Test (paragraph F.3.).

test. That test is designed to ensure that non-participating ratepayers are not worse off as a result of the plan.

However, the legislature also adopted other requirements for EDC EE&C plans. These additional requirements are designed to encourage EDCs to operate the plans efficiently and to avoid excessive cross-subsidization between participants and non-participants.² First, the legislature required each EDC to meet certain load and peak demand reduction targets. Section 2806.1(c)-(d). Second, the legislature imposed financial penalties on EDCs who fail to meet those targets. Section 2806.1(f). Third, the legislature imposed a limit on EDC costs for the plans. Section 2806.1(f). These three conditions combine to provide a strong incentive for EDCs to select the most cost-effective EE&C programs, and to limit the cross-subsidies only to those necessary to induce customers to participate in the programs. In effect, EDCs cannot simply meet the target load reductions by providing large subsidies for any program that passes the TRC Test.

The Commission, therefore, has the responsibility to establish appropriate standards for the TRC Test for EDC EE&C plans by which the cost-effectiveness of those plans is determined. The OSBA recommends that, in so doing, the Commission consider the rest of the policy environment established by Act 129.

Natural Gas Distribution Company EE&C Plans

The OSBA respectfully submits that the *Tentative Order* does not establish a methodology by which the avoided cost of delivered natural gas is determined for those Pennsylvania natural gas distribution companies (“NGDCs”) who administer EE&C plans. The

² Act 129 also requires that costs related to programs for each class of customer be assigned to and recovered from that customer class. Section 2801(a)(11).

OSBA recognizes that the Commission has not established a standard method for deriving the avoided cost of natural gas for NGDC EE&C plans, but this office submits that such standards are necessary for two over-arching reasons:

- First, the Commission has approved the implementation of EE&C plans for two Pennsylvania NGDCs, based generally on the principles that apply to EE&C plans for EDCs.³ While the NGDC EE&C plans are not mandated by law, the OSBA respectfully submits that since the Commission has the legal responsibility to define how avoided costs are derived in the EDC EE&C plans that are mandated by legislation, it has a similar responsibility for the NGDC EE&C plans that it has approved on its own accord.
- Second, for EDC EE&C plans, the Commission has approved programs that rely on a measure of the cost of natural gas to be used in TRC Test analysis. Specifically, the Commission has approved the use of fuel switching programs within EDC EE&C plans. See *Tentative Order* at 42-43. In some circumstances, switching from electricity to natural gas will reduce overall energy consumption by achieving a net reduction in energy losses in electricity generation. Thus, the Commission must define a mechanism for valuing the incremental cost of natural gas. Furthermore, the Commission allows EDC EE&C plans to reflect the avoided cost of natural gas associated with certain EDC programs when natural gas savings are achieved as part of an overall energy savings program. See *Tentative Order* at 30-31. In addition, the

³ EE&C Plans have been approved at the Philadelphia Gas Works (the second phase of PGW's DSM plan was approved at Docket No. P-2014-2459362, Order Entered November 1, 2016), and UGI Utilities Inc. (Gas Division), for each of the rate districts (South, North and Central) (Docket Nos. R-2018-3006814 and R-2016-2580030).

Commission has approved utility programs designed to encourage the adoption of efficient combined heat and power (“CHP”) projects, which often involve the incremental use of natural gas for distributed generation, thereby requiring a natural gas cost. See *Tentative Order* at 42-43. In order to provide for a level playing field between electric and natural gas technologies, the OSBA submits that that the avoided and incremental costs of natural gas used for these three programs should be derived in a manner that is consistent with how the avoided costs of both electricity and natural gas are derived for NGDC EE&C programs. In general, long-run incremental and avoided costs should be similar or identical in magnitude, as the former represent the cost associated with an increase in load relative to current consumption and the latter represents the cost of a decrease in consumption.

The absence of specific rules for deriving avoided, delivered natural gas costs is compounded by inconsistencies in past Commission decisions in this respect. As detailed in the *Tentative Order*, the cost of natural gas used for EDC fuel switching programs is “[t]he marginal system cost of fuel.” Section C.5 specifies that the marginal cost of natural gas be based on a price forecast “. . . collapsed to a single annual value, to monetize fuel savings and increased consumption of fossil fuel that result from installation of EE&C measures.” Section C.5 appears to indicate that natural gas price forecasts would be based on NYMEX natural gas futures for 2022 to 2026, on NYMEX futures blended into DOE/EIA AEO natural gas prices for 2026 to 2031, and on DOE/EIA AEO price forecasts for 2032 to 2041. Thus, for fuel switching, the delivered cost of natural gas excludes any incremental delivery or storage costs, and certainly excludes carbon costs and conservation shadow price effects.

In contrast, the NGDC EE&C programs include some or all of these effects. In light of the current low level of natural gas prices at Pennsylvania hubs, it is possible that many NGDC EE&C programs would be uneconomic on a TRC Test basis if only marginal commodity costs are included. Possibly as a result of this issue, the Commission has, implicitly or explicitly, approved inclusion of the following costs in natural gas avoided costs for NGDC EE&C programs:

- PGW: A provision to include “demand reduction induced price effects” (“DRIPE”) in the avoided cost of natural gas. This mechanism attempts to account for the overall reduction in the market price of natural gas associated with reduced natural gas consumption.⁴ In contrast, the *Tentative Order* rejects inclusion of DRIPE in the avoided cost of electric power.
- UGI Gas: The UGI Gas EE&C Plan includes provisions for incremental peaking, storage and distribution costs, which are not recognized in the EDC EE&C fuel switching cost of natural gas.⁵ In general, the UGI Gas EE&C plan relies on the highest cost options for these services under the theory that these are the incremental costs that could be backed off if demand were reduced. Needless to say, increased natural gas use from fuel switching programs would result in similar or higher incremental costs. Thus, under current Commission policy, the natural gas avoided costs used in NGDC EE&C programs are higher

⁴ Tentative Opinion and Order, Docket No. P-2014-2459362, Order Entered August 4, 2016, pages 10-14.

⁵ The EE&C compliance plan from the recent UGI Gas base rates case references avoided costs from the PNG plan. The PNG plan can be found at https://www.ugi.com/wp-content/uploads/2018/09/PNG-EEC-Plan_Website.pdf. See pages 16-17.

than the natural gas incremental costs associated with EDC EE&C fuel switching programs.

The OSBA respectfully recommends that the Commission resolve these inconsistencies. The OSBA suggests that the Commission direct the Statewide Evaluator to develop a methodology for calculating the avoided, delivered natural gas costs for both winter season and year-round applications, for use in both the NGDC and EDC EE&C programs.

Specific Comments

A.1. The OSBA agrees that the use of TRC Test assumptions outside of the evaluation of EE&C plans should be used only with care. Nevertheless, the OSBA encourages the Commission to be consistent in its decision-making, particularly with respect to how avoided costs should be developed for matters of utility regulation. It would make little sense, for example, for the Commission to conclude that the avoided costs of electricity or natural gas are far in excess of current regulated prices for the purposes of subsidizing energy efficiency measures, but to then conclude that the incremental costs of electricity and natural gas are far lower for the purpose of evaluating system expansions policies for new customers and programs designed to increase natural gas consumption at existing customers. In making policy, the OSBA respectfully submits that the Commission should treat EE&C programs and system expansion issues as two sides of the same coin.

A.2. The OSBA strongly agrees with the Commission's desire "to promote consistency across EDCs and TRC Test results that are in line with the policy objectives of the Commonwealth." The OSBA submits that such a policy should extend to (a) consistent treatment of EDC and NGDC EE&C plans and (b) the quantification of avoided costs across different regulatory policies.

A.3. The OSBA does not object to evaluating TRC Test compliance for EDC EE&C plans at a plan level, and supports requiring EDCs and NGDCs to report TRC Test results at the program level. The OSBA recommends that, in considering whether it should “. . . reject any program with a low TRC test ratio . . .,” the Commission should also consider whether the cross-subsidies to program participants are excessive. Programs that have a low TRC Test benefit-cost ratio will generally require proportionately higher subsidies in order to induce customer participation, because the economic benefit to the participating customer is lower. In the case of EDC EE&C programs, as discussed above, the utility has an incentive to try to use subsidies efficiently. However, for NGDC programs, regulatory vigilance regarding excessive subsidization is more important because there are no legal rate cap or penalty provisions. The Commission should consider whether the TRC Test should be applied at the program level for NGDC EE&C programs.

A.4. The OSBA agrees with the argument put forth in the *Tentative Order* that the utility’s weighted average cost of capital has little relevance for evaluating EE&C programs. These programs are financed by, and provide a benefit to, utility ratepayers. The utility’s cost of capital is irrelevant, as utility investors see neither the benefit nor the cost. Unfortunately, the Commission’s evaluation of the discount rate issue in the *Tentative Order* follows the logic that is often applied to government policy programs. That is, the Commission has determined that the societal benefits of the EE&C programs are of such a high value as to merit the use of a low societal discount rate for evaluating the program’s economic efficacy. This may be appropriate for the federal government, which can borrow at low cost to finance deficits and can impose progressive taxation to recover the costs. However, the OSBA cautions the Commission with respect to its reliance on the public policy analogy for EE&C programs. First, as an issue of

fairness, the impact of utility programs would likely be deemed to be regressive with income, since utility bills decline as a percentage of income as personal income rises. Second, these programs are not financed by low-cost government borrowing, but are financed directly by ratepayers. The OSBA therefore recommends that the Commission evaluate the TRC Test from the perspective of the ratepayers who must finance the program, and not from a government policy perspective.

From that perspective, the capital provided to fund these programs comes from real residential and commercial customers, since utility EE&C programs are paid for up front by utility customers – all of whom have other uses for that capital. In exchange for broad ratepayer funding, a subset of the utility customers (i.e., those who participate in the program) obtain a benefit in the form of lower utility bills over an extended period of time. Thus, it is reasonable that the appropriate cost of capital for making such an evaluation would be the ratepayers' cost of capital, and not a societal metric. Simply put, these are real costs paid by real customers with hard-earned dollars. The OSBA respectfully submits that this is a particular problem for small businesses, which face a cost of capital well in excess of that of the typical regulated utility. For a small business to finance the higher costs associated with EE&C charges over the longer term for which the EE&C plans are in effect, it must raise additional capital through some combination of loans, debt, and owner contributions, and it must do so on a pre-tax basis. While it might be argued that some small businesses may be able to pass on the higher costs to customers (if their competitors face the same costs), this argument would merely shift the financing burden from the small business to the small business customers. And even for residential customers, it is likely that the marginal cost of capital for many residential ratepayers is the interest rate on their credit cards, and not a societal discount rate. The OSBA recommends

that the Commission reconsider its proposal to apply a social policy discount rate, and instead adopt a policy in which the discount rate for EE&C programs is based on the pre-tax cost of capital for the customers who both benefit from, and provide financing for, these programs.

A.8. The OSBA agrees that the availability of other funding streams should be recognized by utilities in developing their EE&C programs. However, the OSBA disagrees that such funding streams should be considered as an offset to measure costs. The objective of the TRC Test is to compare the overall savings of a particular efficiency measure with the cost of that measure. For example, suppose a particular measure has a present value benefit of \$1,000, and a full cost of \$1,200. This program would fail the TRC Test. But suppose that a customer can get a tax credit for making the investment in this particular measure of \$400. As the OSBA understands it, under the Commission's policy, the measure would then pass the TRC Test. However, that \$400 remains a real cost of the program, as it is implicitly absorbed by the balance of the taxpayers. The OSBA respectfully submits that the Commission should not encourage utilities to include economically inefficient programs in the EE&C plans simply because the costs may be borne by parties other than the participant and the utility ratepayers.

The OSBA, therefore, recommends that the costs used in the TRC Test should be total costs, with no deduction for alternative revenue streams.

The availability of the alternative revenue streams should, of course, be considered by the utility in developing the incentive necessary to induce customer participation. Because the availability of alternative revenue sources should generally reduce the need for participant subsidies, the utility should have an incentive to "piggy-back" on these opportunities (as long as the program passed the TRC Test on a total cost and total revenue stream basis).

B.5. The OSBA observes that the Commission intends to use a generation/transmission/distribution (“GTD”) sector price index as an inflation factor, but its proposal involves the use of a generation sector only index (NAICS 221110).⁶ The OSBA also observes that the generation sector only index is likely to be heavily influenced by fuel costs, although the inflation factor is generally not applied to any cost items that involve fuel costs (fuel costs are addressed directly within the Commission’s economic framework.). Finally, a historical four-year average does not represent a reasonable basis for a 15 or 20-year forecast, particularly for an index that is as unstable from month to month as is the NAICS 221110 index. For example, the proposed index shows negative real price changes over that past several years, presumably reflecting fuel cost reductions. It is not clear that these real declines are reflective of generation capacity cost trends, although the Commission would apply this factor to generation capacity costs per paragraph B.6.

The OSBA respectfully suggests that a simpler approach would be to use a broader-based inflation index for which long-term forecasts are readily available, such as the GDP deflator or the Wholesale Price Index. Both would avoid the potential problems of using a historical generation cost index.

B.7. The Commission’s policy on deriving avoided transmission and distribution costs is to require the utilities to provide forecasts of capital expenditures associated with load growth and to apply those capital expenditures to peak demand growth forecasts from the PJM load forecast. *Tentative Order* at 21. The Commission correctly reflects that this is a crude method, since (a) it is often an arbitrary distinction for a utility to determine whether a particular investment is for a replacement or to serve new load, and (b) transmission and particularly distribution system

⁶ See <https://www.bls.gov/ppi/ppipower.htm>.

investments are location specific, such that overall load growth may be small but investments may need to be made in specific geographic areas to accommodate load growth. Given these problems with the method, the OSBA respectfully submits that this approach is likely to produce cost estimates that are overstated. Capital expenditures that are designated as related to load growth may be partly related to replacing obsolescent equipment and upscaling at the same time. Similarly, the averaging of load growth across the entire utility will serve to understate the load growth in those areas where growth-related investments are being made.

There is no obvious solution to this problem.

However, the OSBA observes that the tables presented in the *Tentative Order* exhibit two unusual values, namely the avoided distribution costs for PECO and PPL Electric. For example, the \$121.21 per kW-year for PPL Electric could be compared to the demand charge for commercial customers (PPL Electric has no energy charges for commercial distribution service), which is far lower at \$3.985 per kW-month, or \$47.82 per kW-year. When the analysis produces such a large discrepancy between average-cost rates and avoided costs, the OSBA respectfully recommends that the Statewide Evaluation (“SWE”) be directed to study the costs at a more detailed geographic level. This will ensure that the costs correctly limit the capital to that related to expansion, and correctly reflect geographic differences in load growth. The OSBA recommends that a more detailed evaluation be applied to PPL Electric and PECO avoided distribution costs. In addition, the OSBA is unable to locate the source for the avoided T&D values shown in Tables 1 and 2 in this section. The studies referenced in footnotes 39 and 40 do not appear to include any cost information, nor is it obvious which load growth values were used in the Commission’s calculations. The OSBA respectfully recommends that the studies and underlying data for the avoided T&D cost analysis be made available for public review.

B.8. The OSBA agrees that the costs of AEPS compliance are properly recognized in the avoided cost calculation, since load reductions would also serve to reduce AEPS compliance costs. For the reasons provided in our B.5. comments, the use of the historical Bureau of Labor Statistics (“BLS”) generation index may not be appropriate as a long-term inflator of costs.

B.9. The OSBA takes no position with respect to the Commission’s policy position that DRIPE should not be included as a benefit for EDC EE&C plans. Nevertheless, the OSBA understands the Commission’s concerns about the complexity of the DRIPE calculations. As indicated earlier, however, once a policy has been established for EDC EE&C plans, the OSBA respectfully submits that the same policy should apply to NGDC EE&C plans. Also, as suggested earlier, the OSBA notes that if the Commission believes that increases in demand have a negative price impact on existing customers, then the DRIPE principle should apply not only to the economic evaluation of EE&C load reduction programs, but also to the economic evaluation of system expansions to serve new load, as well as other utility load attraction and retention programs.

C.1. In general, some energy efficiency investments involve costs and revenues that do not fit neatly into the traditional EE&C benefit-cost framework. As the Commission recognizes, the benefits for a particular program may come in the form of reduced water consumption, and the cost of a program may include incremental fuel costs. For some programs, it is also possible that either the benefits or the costs would involve avoided/incremental labor and materials costs. (See paragraph C.6.) The underlying principle for the TRC Test is that all costs and benefits should be considered. Following this principle, however, may unreasonably complicate program evaluation, except for large projects that involve all project-specific costs.

In general, the OSBA supports the Commission's efforts to calculate and monetize water savings associated with particular EE&C programs, and to standardize those calculations to the extent practicable.

C.4. The Commission indicates that interactive effects should be recognized in the TRC Test. The OSBA agrees. However, the *Tentative Order* refers only to the heating penalty associated with more efficient lighting in homes or businesses with fossil fuel heating systems. In addition, the *Tentative Order* appears to refer only to a heating penalty for natural gas heated homes. Common sense would suggest that the heating penalty from more efficient lighting would also apply to oil-heated homes.

C.5. As detailed earlier, the OSBA proposes that natural gas avoided costs, to be treated as benefits in EDC or NGDC conservation programs, or as incremental costs in fuel switching and CHP programs, should be consistent in terms of their recognition of avoided energy losses, transmission costs, and distribution costs, as well as with the recognition of DRIPE.

C.7. The OSBA takes no position as to whether carbon costs or other environmental externalities should properly be included in the benefits for an EDC EE&C plan. The OSBA does observe, however, that the Commission's longer-term avoided cost calculations in the TRC Test rely substantially on the DOE/EIA Annual Energy Outlook ("AEO") for a natural gas price forecast, which is used to derive the avoided electricity energy costs. As the AEO appears to rely on the current policy environment without carbon taxes for its forecasts, including an expected carbon tax in the avoided costs would presumably require the Commission to rely on a

different price forecast for natural gas in order to reflect the effect of reduced demand due to carbon taxes.⁷

D.1. The OSBA appreciates the Commission's attention to the issue of whether costs are properly included in the "incentive" category, recognizing that this categorization does not affect the overall results of the TRC Test. For programs that apply to small business customers, the OSBA views the important distinction being whether costs are borne by the participant (who benefits from the program) or are passed on to ratepayers (in the EE&C tariff charges). From that perspective, the OSBA agrees that direct install costs and kit costs are better categorized as incentives than as program administration costs.

D.4. Please see OSBA comments regarding paragraph A.8.

E.2. As indicated earlier, OSBA recommends that avoided and incremental fuel costs be treated consistently in NGDC and EDC EE&C plans, as both costs and benefits.

F.2. The OSBA does not contest the Commission's exclusion of incentives for free riders from costs in the net-to-gross ("NTG") adjusted TRC Test. However, the OSBA encourages the Commission to scrutinize programs with relatively low NTG ratios to ensure that EE&C programs are achieving net benefits that would not be achieved in the absence of the programs. At this stage, OSBA believes this assessment is better accomplished by reviewing individual plans rather than by trying to adjust the TRC Test.

⁷ *"The Reference case generally assumes that current laws and regulations that affect the energy sector, including laws that have end dates, are unchanged throughout the projection period. This assumption is important because it permits EIA to use the Reference case as a benchmark to compare policy-based modeling."* 2019 AEO at 6. <https://www.eia.gov/outlooks/aeo/pdf/aeo2019.pdf>

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CERTIFICATE OF SERVICE

I hereby certify that true and correct copies of the foregoing have been served via email and/or First-Class mail (*unless otherwise noted below*) upon the following persons, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

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