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|  | Public Meeting held June 18, 2020 |
| Commissioners Present: |  |

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| --- | --- | --- |
| Gladys Brown Dutrieuille, Chairman, Statement | |  |
| David W. Sweet, Vice Chairman | |  |
| John F. Coleman, Jr. | |  |
| Ralph V. Yanora | |  |
|  | |  |
|  |  |
| Energy Efficiency and Conservation Program | Docket No.  M-2020-3015228 |

**IMPLEMENTATION ORDER**

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**BY THE COMMISSION:**

The Pennsylvania Public Utility Commission (Commission) has been charged by the Pennsylvania General Assembly (General Assembly) with establishing an energy efficiency and conservation program (EE&C Program). The EE&C Program requires each electric distribution company (EDC) with at least 100,000 customers to adopt a plan to reduce energy demand and consumption within its service territory. 66 Pa. C.S. § 2806.1. On January 15, 2009, the Commission adopted an Implementation Order at Docket No. M-2008-2069887 establishing the standards each plan must meet and providing guidance on the procedures to be followed for submittal, review and approval of all aspects of EDC EE&C plans.[[1]](#footnote-2)

The Commission was also charged with the responsibility to evaluate the costs and benefits of the EE&C Program by November 30, 2013, and every five years thereafter. 66 Pa. C.S. § 2806.1(c)(3). The Commission must adopt additional incremental reductions in consumption if the benefits of the EE&C Program exceed its costs. *Id*. In addition, the Commission was charged with the responsibility to compare the total costs of the EE&C Program to the total savings in energy and capacity costs. If the Commission determines that the benefits exceed the costs, the Commission shall set additional incremental requirements for reduction in peak demand for the 100 hours of greatest demand or an alternative reduction approved by the Commission. 66 Pa. C.S. § 2806.1(d)(2). Furthermore, EDCs are to file a new EE&C plan with the Commission every five years or as otherwise required by the Commission. Such plans are to set forth the manner in which the EDC will meet the required reductions in consumption under subsections (c) and (d). 66 Pa. C.S. § 2806.1(b)(1)(ii). With this Implementation Order, the Commission adopts additional incremental reductions in consumption, and we establish the standards each plan must meet and provide guidance on the procedures to be followed for submittal, review and approval of all aspects of EE&C plans for Phase IV of the program.

# BACKGROUND AND HISTORY OF THIS PROCEEDING

Act 129 of 2008 (the Act or Act 129) was signed into law on October 15, 2008 and became effective on November 14, 2008. Among other things, the Act created an EE&C Program, codified in the Pennsylvania Public Utility Code at Sections 2806.1 and 2806.2, 66 Pa. C.S. §§ 2806.1 and 2806.2. This initial program required an EDC with at least 100,000 customers to adopt an EE&C Plan, approved by the Commission, to reduce electric consumption by at least one percent (1%) by May 31, 2011 and by a minimum of three percent (3%) May 31, 2013. Also, by May 31, 2013, peak demand was to be reduced by a minimum of four‑and‑a‑half percent (4.5%) of the EDC’s annual system peak demand in the 100 hours of highest demand. By November 30, 2013, and every five years thereafter, the Commission was to assess the cost-effectiveness of the EE&C Program and set additional incremental reductions in electric consumption if the EE&C Program’s benefits exceed its costs.

The Act required the Commission to develop and adopt an EE&C Program by January 15, 2009 and sets out specific issues the EE&C Program must address. 66 Pa. C.S. § 2806.1(a). The Commission’s EE&C Program was to include the following:

(1) A procedure for approving EE&C Plans.

(2) A process to evaluate and verify the results of each EE&C Plan and the EE&C Program as a whole.

(3) A process to analyze the costs and benefits of each EE&C Plan in accordance with a total resource cost (TRC) Test.

(4) A process to analyze how the EE&C Program as a whole and each EE&C Plan will enable the EDCs to meet or exceed the consumption and peak demand reduction requirements.

(5) Standards to ensure that each EE&C Plan uses a variety of measures that are applied equitably to all customer classes.

(6) A process through which recommendations can be made for the employment of additional measures.

(7) A procedure to require and approve the competitive bidding of all contracts with conservation service providers (CSPs).

(8) A procedure through which the Commission will review and modify, if necessary, all contracts with CSPs prior to execution.

(9) A requirement for the participation of CSPs in the implementation of all or part of an EE&C Plan.

(10) A procedure to ensure compliance with the requirements of Sections 2806.1(c) & (d).

(11) A cost recovery mechanism to ensure that measures approved are financed by the customer class that directly receives the energy and conservation benefits.

On January 15, 2009, the Commission adopted the Phase I Implementation Order establishing the EE&C Program in compliance with Section 2806.1(a), 66 Pa. C.S. § 2806.1(a). In addition to adopting the Phase I Implementation Order, the Commission also adopted orders implementing specific and essential components of the EE&C Program, to include the establishment of a TRC Test,[[2]](#footnote-3) updates to the Technical Reference Manual (TRM)[[3]](#footnote-4) and the establishment of a Statewide Evaluator (SWE).

The Commission determined in its Phase II Implementation Order that additional reductions in consumption were cost-effective and prescribed targets to be met by May 31, 2016.[[4]](#footnote-5) At that time, though, the Commission did not have enough information to determine the cost-effectiveness of peak demand reduction programs and only permitted EDCs to voluntarily offer cost-effective demand reduction programs.[[5]](#footnote-6)

The Commission determined in its Phase III Implementation Order that additional reductions in consumption and peak demand were cost-effective and therefore prescribed reductions in consumption and peak demand targets to be met by May 31, 2021.[[6]](#footnote-7)

In preparation for a potential Phase IV, the Commission tasked the Phase III SWE with performing an energy efficiency and peak demand reduction (EEPDR) potential study, as well as a dispatchable demand response (DDR) potential study to determine the cost-effective consumption and peak demand reduction potential in Pennsylvania. The SWE submitted its final *Pennsylvania Act 129 Phase IV Energy Efficiency and Peak Demand Reduction Market Potential Study* (MPS) and *Pennsylvania Act 129 Phase IV Demand Response Potential Study* to the Commission on February 28, 2020.[[7]](#footnote-8) The EEPDR and DDR Potential Studies were released publicly via Secretarial Letter served March 2, 2020.[[8]](#footnote-9)

On March 12, 2020 the Commission adopted a Phase IV Tentative Implementation Order.[[9]](#footnote-10) In conjunction with the adoption of the Tentative Implementation Order, Chairman Gladys Brown Dutrieuille provided a statement highlighting the following aspects of the Tentative Implementation Order and encouraging stakeholders to file detailed comments:

* The transition from simple measures such as lighting to more comprehensive energy efficiency measures such as weatherization and updates to HVAC and water heating systems.
* The proposed elimination of the carve-out for government, nonprofit, and institutional (GNI) facilities.
* The proposal to establish peak demand reduction targets based on the expected peak demand reductions from energy efficiency rather than dispatchable demand response programs.

Additionally, Commissioner Andrew G. Place provided a statement requesting feedback on the following:

* The appropriateness of energy efficiency acquisition costs. In the statement Commissioner Place noted that historic acquisition costs have been lower than EE&C plan projections and the assumed acquisition costs used to set targets.
* The handling of Phase III savings in excess of Phase III compliance targets – or “carryover” of savings into Phase IV.
* The proposal that EDCs be required to nominate at least a portion of the planned peak demand reduction in their EE&C plan into PJM’s Forward Capacity Market (FCM).

Comments in response to the Phase IV Tentative Implementation Order were due April 27, 2020. The following parties filed comments: Advanced Energy Management Alliance (AEMA); Coalition for Affordable Utility Service and Energy Efficiency in Pennsylvania (CAUSE-PA); Commission on Economic Opportunity (CEO); CERES; Clean Air Board of Central Pennsylvania (Clean Air Board of Central PA); Pennsylvania Department of Environmental Protection (DEP); Duquesne Light Company (Duquesne); Energy Association of Pennsylvania (EAP); Ecobee; Enel North America Inc. (Enel); Sierra Club, Natural Resources Defense Council, Citizens for Pennsylvania’s Future, Clean Air Council, Philadelphia Climate Works, POWER, 350 Philadelphia (collectively, Environmental Stakeholders); Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company (collectively, FirstEnergy); B. Groce (Groce); Housing Alliance of Pennsylvania (Housing Alliance of PA); Industrial Energy Consumers of Pennsylvania (IECPA); Pennsylvania Energy Consumer Alliance, Met-Ed Industrial Users Group, Penelec Industrial Customer Alliance, Philadelphia Area Industrial Energy Users Group, PP&L Industrial Customer Alliance, and West Penn Power Industrial Intervenors (collectively, The Industrial Customers); Keystone Energy Efficiency Alliance (KEEA); Maxwell Lighting & Energy; Andrew Melman (Melman); Office of Consumer Advocate (OCA); Oracle Utilities (Oracle); Office of Small Business Advocate (OSBA); PA Weatherization Task Force; PECO Energy Company (PECO); Action Housing Inc., Community Legal Services of Philadelphia Inc., Green & Healthy Homes Initiative, Housing Alliance of Pennsylvania, Keystone Energy Efficiency Alliance, National Housing Trust, Natural Resources Defense Council, Pennsylvania Utility Law Project, Regional Housing Legal Services (collectively, PA-EEFA); Pennsylvania Energy Efficiency Providers ; PPL Electric Utilities Corporation (PPL); Sustainable Energy Fund of Central Eastern Pennsylvania (SEF); Kenneth Zenkevich (Zenkevich); and Russel Zerbo (Zerbo).

Reply Comments were due May 12, 2020. The following parties filed reply comments: AB Energy et al.; Building Performance Association; CEO; Duquesne; EAP; Environmental Stakeholders; FirstEnergy; IECPA; The Industrial Customers; KEEA; OCA; OSBA; PECO; PA-EEFA; PPL; and SEF.

# DISCUSSION

In this Order, the Commission presents its evaluation of the cost-effectiveness of the EE&C Program and any proposed additional required incremental reductions in consumption and peak demand. In addition, we outline our proposals addressing the issues delineated in Section 2806.1(a) of the Act, 66 Pa. C.S. § 2806.1(a), for establishing Phase IV of the EE&C Program. We sought comments on the evaluation of the EE&C Program, the proposed additional required incremental reductions in consumption and peak demand shown in ***Table 1***, as well as on the proposals addressing the design and implementation of the next round of the EE&C Program. The Commission proposed to implement a five-year Phase IV of the Act 129 EE&C Program that would operate from June 1, 2021 through May 31, 2026. We note that the EE&C Programs have matured enough so that EDCs can increase their focus on more comprehensive measures, which tend to require greater implementation timeframes.

Table 1: Proposed Phase IV Targets, by EDC

|  |  |  |
| --- | --- | --- |
| EDC | Consumption Reduction (MWh) | Peak Demand Reduction (MW) |
| Duquesne Light | 347,084 | 67 |
| PECO | 1,380,837 | 276 |
| PPL | 1,250,157 | 244 |
| FE: Met-Ed | 463,215 | 85 |
| FE: Penelec | 437,676 | 91 |
| FE: Penn Power | 128,909 | 22 |
| FE: West Penn Power | 504,951 | 95 |

Based on our review of stakeholder comments and the SWE’s review of peak demand modeling assumptions in its EEPDR Potential Study, we have modified the proposed Phase IV compliance targets slightly. The rationale for these adjustments is discussed in subsequent sections of this Order. ***Table 2*** lists required incremental reductions in consumption and peak demand, by EDC, for Phase IV of Act 129.

Table 2: Final Phase IV Targets, by EDC

|  |  |  |  |
| --- | --- | --- | --- |
| EDC | Consumption Reduction (MWh) | Peak Demand Reduction (MW) | Low Income Consumption Reduction (MWh) |
| Duquesne Light | 348,126 | 62 | 18,566 |
| PECO | 1,380,837 | 256 | 80,089 |
| PPL | 1,250,157 | 229 | 72,509 |
| FE: Met-Ed | 463,215 | 76 | 26,866 |
| FE: Penelec | 437,676 | 80 | 25,385 |
| FE: Penn Power | 128,909 | 20 | 7,477 |
| FE: West Penn Power | 504,951 | 86 | 29,287 |

## Proposed Reductions in Electric Consumption

### Summary of SWE’s EEPDR Potential Study

The SWE performed an EEPDR Potential Study which presented the technical, economic and achievable potential over ten years and program potential over five years beginning June 1, 2021 for the residential, commercial and industrial sectors.[[10]](#footnote-11) This study was released to the public on March 2, 2020. In addition, the SWE performed baseline studies for the residential,[[11]](#footnote-12) and the non-residential[[12]](#footnote-13) sectors, which the Commission released on February 14, 2019.[[13]](#footnote-14) Together, these baseline studies represent a thorough assessment of current electricity usage and electrical energy consuming equipment installed in Pennsylvania. These baseline studies formed the basis for the EEPDR Potential Study.

The purpose of the EEPDR Potential Study was to determine the remaining opportunities for cost-effective electricity savings in the service areas of the seven EDCs that are subject to Act 129. For this study, the SWE used the Act 129 Pennsylvania‑specific cost-effectiveness criteria, including the most recent EDC avoided cost projections for electricity.[[14]](#footnote-15) The avoided cost projections were calculated according to the Commission’s 2021 TRC Test Final Order.[[15]](#footnote-16) As part of the EEPDR Potential Study, the SWE also modeled combined heat and power (CHP) potential separately from other EE and associated peak demand reduction potential and integrated this potential into the final estimate of total EE and associated peak demand reduction potential. CHP was modeled separately because CHP projects have unique attributes (for example, CHP system size, sporadic adoption, site dependency, long lead times from design to operation, etc.) that required more rigorous assessment.

For the residential sector, the SWE first determined the eligible equipment stock, followed by estimations of the available electric savings and screened for cost‑effectiveness. The SWE then summed those savings at the end-use and the service ‑territory levels.[[16]](#footnote-17) Regarding the non-residential sectors, the SWE used a similar approach to determine measure-level available electric savings and costs, in addition to cost-effectiveness. The cost-effective measure savings were then applied to all applicable shares of electric load.[[17]](#footnote-18)

The SWE utilized, as a reference from which to report savings as a percent of annual kWh sales, the forecast kWh sales for each EDC for the period June 1, 2009 through May 31, 2010.[[18]](#footnote-19) The SWE estimated that the total incremental annual achievable electric savings potential for the seven EDCs from June 1, 2021 through May 31, 2026 for consumption reductions is 3.1% of the 2009-2010 baseline annual kWh sales (Act 129 Achievable in ***Table 3***).[[19]](#footnote-20) For Act 129 potential, the SWE estimated that, with the current annual spending cap the EDCs can achieve a combined annual electric savings equal to 0.62% per year of the baseline 2009‑2010 load, or 4,512,829 MWh of incremental annual savings over a five‑year timeframe.

Table 3: EEPDR Potential Study Savings compared to 2009-2010 Load Forecast

|  |  |  |
| --- | --- | --- |
| **Potential Study Scenario** | **2021-2026**  **Sum of Incremental Annual Savings** | |
| **MWh** | **% of 2009-2010 load** |
| Maximum Achievable | 8,898,584 | 6.1% |
| Act 129 Achievable | 4,512,829 | 3.1% |

The SWE also concluded that continuing consumption reduction programs would continue to be cost-effective for ratepayers, as noted in the EEPDR Potential Study and as presented in ***Table 4***, below. The TRC ratio statewide for the Act 129 Potential scenario was estimated to be 1.62, with net benefits of approximately $1.2 billion over the lifetime of measures installed during Phase IV (June 1, 2021 through May 31, 2026). The estimated program acquisition cost (dollars per first-year MWh saved) of $271.01 per MWh would result in Act 129 Achievable Potential savings of 4,512,829 MWh.[[20]](#footnote-21)

**Table 4: Phase IV Energy Efficiency Potential, by EDC**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **EDC** | **Acquisition cost**  **($/MWh)** | **Budget ($MM)** | **TRC costs**  **($MM)** | **TRC benefits ($MM)** | **Net TRC benefits ($MM)** | **TRC**  **benefit -cost ratio (X:1)** | **GWh** |
| PECO | $309.51 | $427 | $639 | $1,019 | $379 | 1.59 | 1,381 |
| PPL | $245.97 | $308 | $513 | $912 | $399 | 1.78 | 1,250 |
| Duquesne Light | $281.57 | $98 | $137 | $197 | $60 | 1.44 | 347 |
| FE: Met-Ed | $268.42 | $124 | $190 | $301 | $110 | 1.58 | 463 |
| FE: Penelec | $262.46 | $115 | $188 | $303 | $115 | 1.61 | 438 |
| FE: Penn Power | $258.31 | $33 | $46 | $65 | $19 | 1.42 | 129 |
| FE: West Penn Power | $233.32 | $118 | $180 | $277 | $97 | 1.54 | 505 |
| **Statewide** | **$271.01** | **$1,223** | **$1,894** | **$3,073** | **$1,179** | **1.62** | **4,513** |

\*Statewide values in this table may not sum due to rounding.

Of interest in setting the Phase IV consumption reduction targets are the program potential estimates that refer to the efficiency potential possible given specific program funding constraints. The Act 129 program potential contained in the EEPDR Potential Study considered an annual spending ceiling that limits the annual program spending to 2% of each EDC’s 2006 annual revenue. Act 129 states that “The total cost of any plan required under this section shall not exceed 2% of the electric distribution company’s revenue as of December 31, 2006.” 66 Pa. C.S. § 2806.1(g). Each EDC’s annual spending limit used by the SWE are as follows:

Table 5: EDC’s Act 129 Annual Budget

|  |  |
| --- | --- |
| **EDC** | **Annual Budget** |
| Duquesne Light | $19,545,952 |
| PECO | $85,477,166 |
| PPL | $61,501,376 |
| FE: Met-Ed | $24,866,894 |
| FE: Penelec | $22,974,742 |
| FE: Penn Power | $6,659,789 |
| FE: West Penn Power | $23,562,602 |

The reference annual consumption values utilized for the EEPDR Potential Study to express incremental savings were the forecast kWh sales for each EDC for the period of June 1, 2009 through May 31, 2010, which were the same forecasts utilized in the first three phases of the EE&C Program.[[21]](#footnote-22)

#### Comments

PPL agrees with the general approach to the EEPDR Potential Study; however, PPL notes that they have unanswered questions regarding assumptions used in the EEPDR Potential Study. PPL states that it cannot determine the achievability of its targets without clarification of the assumptions used in the EEPDR Potential Study. Specifically, PPL notes that it is unclear whether the SWE accounted for future changes in codes and standards in developing the EEPDR Study. PPL also expresses concerns about setting targets based on maximum potential, a vague definition of “whole‑house measures,” and the EEPDR Study not fully describing how Combined Heat and Power potential was determined. PPL Comments at 4-8.

The OCA requests that the Commission revisit the EEPDR Potential Study to answer questions brought up by stakeholders in comments to the Tentative Implementation Order before setting targets. The OCA suggests performing a sensitivity analysis of impacts resulting from the COVID-19 pandemic. OCA Reply Comments at 3-4.

The DEP expresses that the SWE’s use of Act 129 Achievable Potential and the EEPDR Potential Study are appropriate, stating that the studies show that a Phase IV EE&C program is cost-effective and, therefore, additional required incremental reductions in energy consumption for another five years is prudent. DEP Comments at 2.

PECO expresses that the acquisition costs used to develop consumption reduction targets should reflect the availability of comprehensive measures, but customers should be permitted to install whatever measures best meet their needs. PECO Reply Comments at 4-6.

KEEA recommends updating the calculation for the total cost of any plan to adjust for inflation and significant changes in costs since the budgets were first calculated in 2009. KEEA recommends an increase of about $300 million over the proposed $1.22 billion based on a gross domestic product implicit price deflator sourced from the United States Federal Reserve. KEEA Comments at 5-6. CERES also requests that the Commission adjust the proposed budgets to account for inflation since 2006. CERES Comments at 4. The Industrial Customers oppose KEEA’s suggestion to adjust budgets for inflation, expressing that Act 129 does not permit such budget adjustments. The Industrial Customers Reply Comments at 8-10.

The OCA notes that the proposed Phase IV budgets are higher than the approved Phase III budgets and expresses concern that “the increase in acquisition costs is largely unexplained and inconsistent with Phase III actual spending.” Therefore, the OCA requests further analysis of the EEPDR Potential Study to determine the validity of Phase IV acquisition costs. OCA Comments at 8-12. FirstEnergy disagrees with the OCA that the acquisition costs are too high. FirstEnergy Reply Comments at 5, 16-17.

#### Disposition

The Commission does not find PPL’s comments regarding the need for further clarity on EEPDR MPS assumptions compelling. PPL directly references the appendices of the EEPDR MPS report, which the SWE developed for the purpose of reporting the key inputs and assumptions of the SWE’s modeling. PPL does not specify what additional data or information would be needed to make their assessment. Equally important, the precise mix of measures in the EEPDR MPS model is not a binding requirement on the EDCs’ program design – rather, the EDCs retain the flexibility to design their programs as they see fit within the budget constraints provided by statute and the low-income carve-out.

The Commission is also not persuaded by the comments related to potential future codes and standards changes. The EEPDR MPS was conducted with reference to the 2021 TRM as the guiding document for measure characterization-related data to the extent possible. As a result, comments regarding measure-specific savings, broadly speaking, are more appropriately handled in proceedings related to the 2021 TRM, including discussion of potential changes in claimable savings for Phase IV as a result of future code and standard changes.

Regarding the request for additional information about the incorporation of CHP results, the Commission notes that the CHP methodology and results were described clearly in the EEPDR MPS report: CHP was incorporated into the Act 129 Potential through allocating 1% of spending to CHP, and blending this result with the energy efficiency results based on acquisition costs, covering both energy savings and peak demand reductions.

The Commission declines to adopt the recommendation by KEEA and CERES to adjust Phase IV EDC budgets for inflation since 2009 and continues to apply its existing interpretation of the statute, which views the EDCs’ budgets as fixed in nominal dollars rather than real dollars.[[22]](#footnote-23)

The Commission does not share the OCA’s concerns regarding the possibility that the Phase IV energy acquisition costs are too high. Though the Commission recognizes that the Phase IV acquisition costs are indeed higher than past acquisition costs, this is driven by two well-justified elements of the EEPDR MPS. First, a sizable share of low‑cost savings in prior phases have been driven by residential lighting measures, which are expected to play a very limited role in Phase IV and were modeled as such. Second, though the Commission acknowledges it is possible to design programs that capture savings at a lower average acquisition cost in Phase IV than modeled by the results of the EEPDR MPS, directing the EDCs to do so would be in contravention of the Commission’s stated encouragement for EDCs to pursue comprehensive portfolios with a greater focus on longer-lived, deeper-savings measures. The EEPDR MPS included a comprehensive mix of measures to reflect this Commission position. The Commission strongly encourages EDCs to submit EE&C plans that adhere to this recommendation and encourages stakeholders to engage in proceedings related to those plans.

### Proposed Reductions in Consumption

As previously noted, the SWE determined in its EEPDR Potential Study that electric consumption reduction programs will continue to be cost-effective.[[23]](#footnote-24) Based on the SWE’s determination, we find that the benefits of a Phase IV EE&C program will exceed the costs of such a program and therefore, propose additional required incremental reductions in consumption for another five years. Below, we outline our proposals regarding consumption reduction requirements.

#### Baseline for Targets

The Commission adopted the June 1, 2009 through May 31, 2010 expected sales forecast as the reference consumption values against which to express incremental savings for each EDC and the EE&C program as a whole.[[24]](#footnote-25) Although somewhat dated at this point, the SWE maintained this same baseline when expressing Phase IV reductions on a percentage basis in the EEPDR Potential Study. This convention allows for an “apples-to-apples” comparison with targets, on a percentage basis, from prior phases of Act 129. The Commission received no comments directly addressing the sales forecast, accordingly, we will continue to use the forecast MWh sales for each EDC for the period of June 1, 2009 through May 31, 2010, as the consumption baseline from which to express incremental savings in Phase IV. ***Table 6*** shows the baselines sales values for each EDC and statewide.

**Table 6: Baseline Sales Forecast by EDC from June 1, 2009 to May 31, 2010**

|  |  |
| --- | --- |
| EDC | MWh |
| Duquesne Light | 14,085,512 |
| PECO | 39,386,000 |
| PPL | 38,214,368 |
| FE: Met-Ed | 14,865,036 |
| FE: Penelec | 14,399,289 |
| FE: Penn Power | 4,772,937 |
| FE: West Penn Power | 20,938,650 |
| Statewide | **146,661,792** |

#### Proposed Consumption Reduction Targets

Regarding the consumption reduction targets, the Commission proposed to adopt a five-year consumption reduction requirement for each EDC for Phase IV that is based on the 2009/2010 energy forecasts previously discussed. We proposed to adopt the five-year consumption reduction requirements as presented in ***Table 7*** and reported in the EEPDR Potential Study.[[25]](#footnote-26) We note that these electric energy consumption reduction targets are measured at the retail level. The energy savings are to be reported to the Commission at the customer meter level without application of any line loss factor. As in Phase III, the Commission proposed that EE goals be measured using the sum of incremental annual savings.

**Table 7: Proposed Consumption Reduction Targets**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| EDC | Acquisition Cost ($/MWh) | Budget | Phase IV Potential (MWh) | Percent of 2009-2010 Reference Load |
| Duquesne Light | $281.57 | $97,729,760 | 347,084 | 2.5% |
| PECO | $309.51 | $427,385,830 | 1,380,837 | 3.5% |
| PPL | $245.97 | $307,506,880 | 1,250,157 | 3.3% |
| FE: Met-Ed | $268.42 | $124,334,470 | 463,215 | 3.1% |
| FE: Penelec | $262.46 | $114,873,710 | 437,676 | 3.0% |
| FE: Penn Power | $258.31 | $33,298,945 | 128,909 | 2.7% |
| FE: West Penn Power | $233.32 | $117,813,010 | 504,951 | 2.4% |
| Statewide | **$271.01\*** | **$1,222,942,605** | **4,512,829** | **3.1%** |

\*Weighted average

##### Comments

DEP supports the PUC’s evaluation of the cost-effectiveness of the EE&C Program and the proposal to add additional required incremental reductions in consumption and peak demand, citing the SWE analysis finding that EDCs can achieve combined electric savings cost-effectively. DEP Comments at 2.

FirstEnergy requests that the Commission increase West Penn Power’s (West Penn) acquisition costs by 15% given uncertainties in MPS assumptions and West Penn’s low proposed acquisition costs relative to other EDCs. FirstEnergy expresses that increasing West Penn’s acquisition costs will allow West Penn to offer greater incentives and design its Phase IV EE&C plan with an equitable focus on comprehensive programs and measures. FirstEnergy Comments at 4-5 and 13-15.

PPL expresses concerns about achieving the energy consumption reduction targets due to the COVID-19 outbreak and because the savings target was set using the maximum energy efficiency potential with the maximum allowable budget under Act 129. PPL Comments at 5-6. In their Reply Comments, PPL expresses that targets should be reduced due to lower residential lighting savings and depressed economic conditions. PPL Reply Comments at 3-4.

The OCA expresses concern that the increase in acquisition costs relative to Phase III leads to a reduced energy consumption target and requests further analysis of the EEPDR Potential Study to determine the validity of Phase IV acquisition costs. OCA Comments at 8-12.

SEF requests that the Commission increase each EDC’s reduction target by 12.5%, citing Commissioner Place’s observation that average actual acquisition costs were 30% lower than planned in Phase II and are currently 26% lower than planned in Phase III. SEF Comments at 3. PPL and EAP oppose suggestions to increase the proposed reduction targets or to decrease proposed acquisition costs. PPL Reply Comments at 7-8 and EAP Reply Comments at 2.

As previously mentioned, KEEA requests that costs and budgets based on 2006 values should be updated for inflation. KEEA Comments at 5. CERES also expresses that the proposed budgets should be adjusted for inflation. CERES Comments at 4. The Industrial Customers oppose adjusting budgets for inflation. The Industrial Customers Reply Comments at 8-10.

##### II. Disposition

The Commission acknowledges DEP’s support for additional required incremental reductions in consumption and peak demand. However, we are not persuaded by FirstEnergy’s recommendation to raise West Penn Power’s acquisition cost by the arbitrary increment of 15%, nor by SEF’s request to increase all EDCs’ consumption reduction targets by the equally arbitrary 12.5%. The Commission finds that the acquisition costs are a key result of the EEPDR MPS as they are used to develop Phase IV consumption reduction targets with allowable Phase IV budgets, and consequently, strongly objects to ad hoc adjustments thereto.

The Commission views comments made by PPL and several other stakeholders related to potential future impacts of COVID-19 as premature, noting the significant uncertainty regarding the length of time in which COVID-19 will continue to impact EDCs’ programs and the economy in general. This uncertainty, paired with the Phase IV start date, which is still over a year away, supports the Commission’s view that now is not the appropriate time to engage in speculative estimates of undefined future COVID‑19 impacts on Phase IV of Act 129. We also note that FirstEnergy, EAP, AB Energy et al. and PA-EEFA argue in their reply comments against suspending, delaying, or modifying Phase IV of Act 129 at this stage due to COVID-19.

#### Annual Consumption Reduction Targets

The Commission proposed that the EDCs design their EE&C Plans to achieve at least 15 percent of their consumption reduction target in each program year as a reasonable goal in the designing of EE&C Plans. As in previous phases, we proposed that this requirement be limited to the Commission’s review and approval of the EE&C Plans and not be a target that would subject the EDCs to the penalty provisions prescribed under section 2806.1 of the Act, 66 Pa. C.S. § 2806.1(f).

##### Comments

PA-EEFA, CAUSE-PA, and DEP all support the recommendation for EDCs to design their plans to achieve at least 15 percent of their consumption reduction target in each program year. PA-EEFA Comments at 7, CAUSE-PA Comments at 5, and DEP Comments at 2.

PECO suggests that the Commission afford flexibility to the EDCs regarding the 15 percent annual target by directing the EDCs to design EE&C plans that approach a minimum of 15 percent of both the consumption and peak demand reduction targets in each year. PECO expresses that ramp-up time makes it difficult to reach the 15 percent target in the first year of the phase. PECO Comments at 3. In its Reply Comments, PECO maintains that the 15 percent annual requirement for both consumption reduction and peak demand reduction is too restrictive. PECO Reply Comments at 7. SEF opposes PECO’s request, stating that EDCs have ten years of experience with Act 129 and will likely rollover many Phase III programs into Phase IV. SEF also states that using a vague term like “approach” could lead to unnecessary litigation in the future. SEF Reply Comments at 4-5.

Environmental Stakeholders support an annual penalty for failure to meet target compliance to encourage steady progress and promote regularity and compliance in implementation. Environmental Stakeholders Comments at 21. FirstEnergy and Duquesne oppose suggestions to penalize EDCs for not meeting annual targets. FirstEnergy Reply Comments at 14 and Duquesne Reply Comments at 7.

##### Disposition

The Commission finds that the EDCs should be required to design their EE&C Plans in a manner that provides for the annual attainment of a certain percentage of their consumption reduction targets. We, however, decline to provide greater flexibility in this regard noting that the EDCs have been implementing EE&C plans for more than a decade such that there should be little need for ramping-up the programs. We also decline to include an annual penalty for failure to meet annual targets. Instead, the determination of compliance with the consumption reduction requirements will be performed at the end of Phase IV. We note that SEF opposed softening the 15 percent annual attainment requirement in their reply comments, and that FirstEnergy opposed the suggestion to include an annual penalty for failure to meet this 15 percent attainment threshold.

Therefore, we direct the EDCs to develop EE&C Plans that are designed to achieve at least 15 percent of the target amount in each program year. This requirement will be limited to the Commission’s review and approval of the EE&C Plans and is not a target subjected to the penalty provisions at subsection 2806.1(f) of the Act.

#### Comprehensive Programs

As in Phase III, the Commission believes more comprehensive programs are beneficial to electric customers, therefore, for Phase IV, the EDCs should consider implementing a comprehensive mix of measures. We proposed that each EDC’s EE&C Plan include at least one comprehensive program for residential and at least one comprehensive program for non-residential customer classes. The EDCs should work with stakeholders to determine what these programs should include, based on the unique attributes of each service territory. Additionally, we note that, while cost-effectiveness is always a priority, an individual program does not have to be cost-effective in order to be implemented, provided the EE&C Plan as a whole is cost‑effective. We believe it to be beneficial for the EDCs to utilize the knowledge gained from implementing a comprehensive program in Phase III,[[26]](#footnote-27) as well as feedback provided by interested stakeholders, to determine what measures should be incorporated into Phase IV comprehensive programs.

##### Comments

PA-EEFA, CAUSE-PA, and CERES support the Commission’s emphasis on comprehensive programs and recommend that the Commission set specific targets for comprehensive measures. PA-EEFA suggests that the Commission base targets on spending or weighted life cycle of measures. PA-EEFA Comments at 8, CAUSE-PA Comments at 6, and CERES Comments at 5. Duquesne opposes suggestions to include a target requirement for comprehensive programs. Duquesne Reply Comments at 8.

Environmental Stakeholders request that the Commission encourage EDCs to implement as many non-lighting measures as possible and discourage mail-out measures and to require energy audits conducted under Act 129 to study total energy use and savings potential, not simply electricity use and savings potential. Environmental Stakeholders Comments at 22.

DEP recommends that the Commission propose more than one comprehensive program for residential and non-residential customer classes and suggests various examples of comprehensive programs, including, but not limited to, Passive House programs, Building Operator Certification and Building Retuning Trainings, and ISO 50001. DEP Comments at 2-3.

The IECPA expresses concern that allowing measures that do not individually prove to be cost-effective could burden individual customer classes if they do not receive benefits commensurate with the individual customer class’ costs. The IECPA seeks to clarify that EDCs will be required to report program-level cost-efficiency test ratios. IECPA Comments at 6.

The Industrial Customers requests that EDCs conduct TRC tests at the measure‑level and that measures with a TRC value less than 1.0 be terminated or modified. Industrial Customers Comments at 18 and 24-25. The OCA, KEEA, and PA‑EEFA oppose comments to conduct TRC tests at the measure level and support the Commission’s proposal to continue TRC tests at the portfolio level to allow for comprehensive programs and pilot testing. OCA Reply Comments at 4-5, KEEA Reply Comments at 8-9, and PA-EEFA Reply Comments at 12-13.

##### Disposition

The Commission maintains its decision to require the EDCs to include at least one comprehensive program for residential customers and at least one comprehensive program for non-residential customers. We disagree with the suggestions to set specific targets and more specific definitions of comprehensive programs. We find that a strict definition of comprehensive is not necessary as each EDC’s service territory presents different characteristics and, therefore, requires different programs.

Regarding program-level and measure-level cost-effectiveness, the Commission declines to adopt a requirement for measure-level TRC test screening and that the EDCs will be required to report program-level cost efficiency test ratios but not at the measure level.[[27]](#footnote-28)

### Prescription of Low-Income Measures and Carve-Out

In all prior phases of Act 129 the Commission required each EE&C Plan to include specific measures for households at or below 150% of the Federal Poverty Income Guidelines (FPIG) and further established a minimum percentage for such measures that must be offered, in proportion to that sector’s share of the total energy usage in the EDC’s service territory.[[28]](#footnote-29) Additionally, in Phases II and III of the EE&C Program, the Commission added requirements that the EDCs obtain minimum percentages of consumption reductions from the low-income sector.[[29]](#footnote-30) The Commission permitted the EDCs to include savings from qualifying low-income customer participation in non-low-income programs and from multifamily housing, up to the percentage of customers living in the multifamily housing with incomes at or below 150% of the FPIG, towards these carve-out goals and clarified that savings from non-low-income programs, such as general residential programs, would not be counted for compliance.[[30]](#footnote-31)

#### Summary of SWE’s EEPDR Potential Study Findings Regarding Low-Income Potential

As part of the EEPDR Potential Study, the Commission directed the SWE to determine if the low-income sector could realize cost-effective consumption savings, and the extent of those possible MWh savings within the residential sector. The EEPDR Potential Study modeled a low-income spending carve-out consistent with historical EDC Act 129 spending levels in the low-income sector: approximately 13% of EEPDR budgets. The SWE determined that low-income customers at or below 150% of the FPIG could achieve approximately 6.5% of statewide portfolio savings when 12.7% of EEPDR budgets are allocated to specific low-income programs.[[31]](#footnote-32) The low-income potential varies by EDC, from a low of 5.8% for PECO to a high of 9.4% for Penn Power.

##### Comments

PPL stated that they had questions regarding assumptions used to develop the low‑income savings carve-out for Phase IV. PPL requests more information on the estimated program potential in PPL’s service territory disaggregated by end use, the low‑income population used by the SWE, the measures assumed to generate low-income acquisition costs, and how the SWE accounted for barriers to accomplish the low-income savings relative to the same measures in the non-low-income segment. PPL Comments at 10.

##### Disposition

The Commission finds PPL’s concern regarding the achievability of their low‑income carve-out target to be misplaced. In particular, the Commission notes that there is no requirement that EDCs spend precisely 13% of their Phase IV budget on low‑income savings, and that the precise mix of measures modeled in the EEPDR Potential Study is not binding. Additionally, the Commission reminds PPL that their MWh savings target has declined from Phase III to Phase IV, and that PPL’s Phase IV target was calculated based on the lowest percentage value among all EDCs’ results for the calculation of low-income Act 129 potential as a percentage of total Act 129 potential, a calculation in which PPL’s result was not the binding value. In addition, the Commission notes that the EEPDR Potential Study modeled the low-income sector with 100% incremental costs covered by program incentives, which represents a well-established strategy to help overcome barriers to program participation in the low‑income sector. In addition, the Environmental Stakeholders, OCA, CEO, and PA‑EEFA either advocated for raising the low-income carve-out or opposed lowering the low-income carve-out in their reply comments.

However, the Commission understands PPL’s expressed interest in the distribution of their savings opportunities among building types and end uses, and so directed the SWE to extract this data from the Program Potential results set. This information is presented in **Table *8*** and **Table *9***, respectively.

**Table 8: PPL Low-Income Phase IV Incremental Annual Electric Energy Percent Savings By Building Type, 2021-2025 Total**

|  |  |
| --- | --- |
| **EDC** | **Percent of LI Energy Savings** |
| **Single Family Low-Income** | 81.3% |
| **Multifamily Low-Income** | 18.7% |

**Table 9: PPL Low-Income Phase IV Incremental Annual Electric Energy Percent Savings By End Use, 2021-2025 Total**

|  |  |
| --- | --- |
| **EDC** | **Percent of LI Energy Savings** |
| **Appliances** | 7.9% |
| **Cooling** | 7.9% |
| **Exterior Lighting** | 0.1% |
| **Interior Lighting** | 0.2% |
| **Other** | 1.7% |
| **Refrigeration** | 16.3% |
| **Space Heating** | 21.2% |
| **Whole Building** | 29.5% |
| **Water Heating** | 15.0% |

#### Commission Proposal

For Phase IV, as in all prior phases of Act 129, the Commission proposed that each EDC EE&C Plan include specific energy efficiency measures for households at or below 150% of the FPIG, in proportion to that sector’s share of the total energy usage in the EDC’s service territory. *See* 66 Pa. C.S. § 2806.1(b)(1)(i)(G).[[32]](#footnote-33) As shown in ***Table 10***, below, we proposed for Phase IV that the EDCs provide a proportionate number of measures equivalent to the low-income sector’s share of usage as previously required in Phases II and III of the program.[[33]](#footnote-34)

**Table 10:** **Proposed Phase IV Low-Income Savings Targets**

|  |  |  |  |
| --- | --- | --- | --- |
| EDC | Proportionate Number of Measures | 2021-2026 Potential Savings (MWh) | Low-Income Savings Target (MWh) |
| Duquesne Light | 8.40 | 347,084 | 20,131 |
| PECO | 8.80 | 1,380,837 | 80,089 |
| PPL | 9.95 | 1,250,157 | 72,509 |
| FE: Met-Ed | 8.79 | 463,215 | 26,866 |
| FE: Penelec | 10.23 | 437,676 | 25,385 |
| FE: Penn Power | 10.64 | 128,909 | 7,477 |
| FE: West Penn Power | 8.79 | 504,951 | 29,287 |
| Statewide |  | **4,512,829** | **261,744** |

Furthermore, after review of the EEPDR Potential Study results, the Commission proposed to require each EDC to obtain a minimum of 5.8 percent of its total consumption reduction target from the low-income sector as outlined in ***Table 10***, above, from programs solely directed at low-income customers or low-income-verified participants in multifamily housing programs. Savings from non-low-income programs, such as general residential programs, would not be counted toward these targets.[[34]](#footnote-35) In addition, the Commission invited stakeholders to propose a different approach that would harmonize the management and spending of Act 129 low-income funds with Low Income Usage Reduction Program funds that is also overseen by the Commission.

As adopted in Phases II and III, EDCs that fail to meet this proposed Phase IV low-income carve-out, will not be subject to the penalties prescribed under subsection 2806.1(f) of the Act, 66 Pa. C.S. § 2806.1(f). They will, however, be subject to the penalties prescribed under Chapter 33 of the Public Utility Code, 66 Pa. C.S. § 3301(a).

##### Comments

PECO expresses that the low-income carve-out should be based on spending rather than savings by asserting that a spending requirement would allow EDCs to design and implement innovative programs and meaningful opportunities for bill reduction while avoiding a need to rely upon high-volume measures, such as lighting, to manage the compliance risk associated with a savings carve-out. PECO Comments at 4, Reply Comments at 12-13.

The PA Weatherization Task Force and CEO request that the Commission increase the proposed percentage of the low-income carve out since the proposed percentage would result in less savings for the low-income sector than in Phase III given the reduction in proposed overall savings. PA Weatherization Task Force Comments at 1 and CEO Comments at 2. The OCA also requests an increase in the low-income carve out percentage, citing high acquisition costs used in the EEPDR Potential Study resulting in understated achievable savings, and the adoption of the lowest EDC potential as the target for all EDCs. OCA Comments at 13, Reply Comments at 7-8.

Similarly, PA-EEFA, CAUSE-PA, CEO, and Environmental Stakeholders request the Commission increase the low-income carve-out from 5.8 percent, which was the lowest estimate potential of any EDC from the EEPDR Potential Study, to 6.5 percent, which was the estimated statewide potential. PA-EEFA and CAUSE-PA cite reduced overall savings, carry-over from Phase III, and the economic effects of the COVID-19 pandemic as reasons to increase the low-income carve-out percentage. PA-EEFA Comments at 12, CAUSE-PA Comments at 8, CEO Reply Comments at 3, and Environmental Stakeholder Reply Comments at 7. Environmental Stakeholders express that the 5.8 percent low-income percentage is not equitable and recommends using the EDC specific values from the EEPDR Potential Study. Environmental Stakeholders Comments at 22. FirstEnergy, Duquesne, and EAP reject suggestions to increase the low-come carve-out. FirstEnergy Reply Comments at 6, Duquesne Reply Comments at 8, and EAP Reply Comments at 3.

Duquesne expresses that the EEPDR Potential study overstates the potential for low-income savings in Duquesne’s service territory in part because the EEPDR Potential Study utilizes electric space heating and water heating saturations from the 2018 Pennsylvania Statewide Act 129 Residential Baseline Study, which Duquesne claims are too high. In addition, Duquesne believes that there will be higher acquisition costs than calculated by the SWE in estimating low-income potential, in part due to a small pool of available projects given energy efficiency projects implemented to date. Duquesne Comments at 3-8. In their Reply Comments, Duquesne disagrees with the OCA assertion that low-income acquisition costs are too high. Duquesne Reply Comments at 3-4. PPL also requests that the Commission lower the low-income target given uncertainties surrounding acquisition costs. PPL Comments at 8. PECO also requests that its low‑income carve-out be no greater than 85 percent of the low-income potential determined by the SWE. PECO Comments at 5-6. PA-EEFA opposes suggestions to reduce the low-income carve-out. PA-EEFA Reply Comments at 6-8.

The CEO, PA-EEFA, CAUSE-PA, and the Environmental Stakeholders request that the Commission require a percentage of the low-income carve-out be achieved through direct-install measures, citing the long-lasting impacts and real energy bill savings of direct-install measures. CEO Comments at 2, PA-EEFA Comments at 14, CAUSE-PA Comments at 11, and Environmental Stakeholders Comments at 24. PA‑EEFA specifically requests that 46 percent of the low-income carve-out target be direct-install measures. PA-EEFA Comments at 14. Environmental Stakeholders specifically request that the Commission require one percent of EDCs’ savings come from direct install measures in low-income multifamily buildings and that this one percent count toward the low-income carve-out. Environmental Stakeholders Comments at 24.

PA-EEFA and CAUSE-PA request the Commission require 20 percent of the low‑income carve-out come from multifamily measures. CAUSE-PA expresses a need for a multifamily carve-out by saying the sector would likely be underserved without a carve-out. PA-EEFA Comments at 13, Reply Comments at 8 and CAUSE-PA Comments at 13.

The Housing Alliance of PA and OCA suggest that reporting should include the numbers of units and buildings on solutions implemented for multifamily publicly subsidized housing and include names of housing authorities and developments whenever permission is granted. Housing Alliance of PA Comments at 5, OCA Reply Comments at 8. PA-EEFA and the Environmental Stakeholders expresses support for including master metered multifamily properties in the low-income carve-out but urges the Commission to establish clear and sufficient reporting requirements for the EDC’s multifamily programs. PA-EEFA Comments at 13, The Environmental Stakeholders Reply Comments at 7. PPL disagrees with PA-EEFA’s low-income multifamily reporting requirement recommendation. PPL Reply Comments at 12.

The PA Weatherization Task Force supports not counting soft measures, such as energy education measures, towards the low-income carve-out. PA Weatherization Task Force Comments at 2.

FirstEnergy, PECO, PPL, Duquesne, oppose comments to instate additional targets for the low-income sector, including savings targets for direct install measures, multifamily buildings, and comprehensive measures. FirstEnergy Reply Comments at 15-16, PECO Reply Comments at 14-15, PPL Reply Comments at 10-11, and Duquesne Reply Comments at 8. The OSBA asserts that the SWE has not conducted enough research on the size of the master-metered multifamily market to set a specific target for that sector. OSBA Reply Comments at 4-5.

In response to the Commission’s request for comments on harmonization of Act 129 and the Low-Income Usage Reduction Program (LIURP), the OCA, CAUSE-PA, and the PA Weatherization Task Force state that Act 129 funding, when coordinated with LIURP, should be in addition to LIURP and should not simply substitute LIURP funding. OCA Comments at 14, CAUSE-PA Comments at 15, and PA Weatherization Task Force Comments at 2. FirstEnergy requests that no changes be made regarding the harmonization of LIURP and Act 129 programs, as they have been successfully harmonizing, coordinating, and leveraging their LIURP and Act 129 low-income offerings and funding. FirstEnergy Comments at 5 and 16. PECO also states that requirements regarding Act 129 and LIURP is unnecessary. PECO Comments at 6.

CEO, CAUSE-PA, and PA-EEFA request that the Commission direct EDCs to contract with LIURP contractors, such as community-based organizations (CBOs), to perform Act 129 work. CEO Comments at 3, CAUSE-PA Comments at 16, and PA‑EEFA Comments at 16. CAUSE-PA and PA-EEFA also suggest that the Commission direct EDCs to develop standardized applications between Act 129 and LIURP programs. CAUSE-PA Comments at 16 and PA-EEFA Comments at 16. PA‑EEFA further requests that EDCs report their coordination with LIURP programs to date. PA-EEFA Comments at 16.

FirstEnergy and PECO oppose suggestions to add additional requirements regarding coordination between Act 129 and LIURP programs, saying that EDCs coordinate between Act 129 and LIURP programs already. FirstEnergy Reply Comments at 20 and PECO Reply Comments at 13-14. Duquesne opposes suggestions to require EDCs to contract with LIURP CBOs, stating that such CBOs can participate in a competitive bidding process that already exists. Duquesne Reply Comments at 9. Conversely, PA-EEFA rejects the suggestion to take the EDC’s at their word and suggests that a stakeholder working group be convened to discuss optimal coordination between Act 129 and LIURP programs. PA‑EEFA Reply Comments at 10-11.

##### Disposition

PECO’s suggestion for a spending rather than savings carve-out for the low‑income sector does not meet the Commission’s goals for the carve-out. The Commission highlights two aspects of this issue; however, the following discussion does not constitute a comprehensive list of the Commission’s goals for the low-income carve-out. First, the carve-out helps to ensure that low income customers are able to access and participate in EDCs’ efficiency programs. A spending requirement would permit very high spending to acquire a relatively small number of program participants, potentially resulting in low overall savings and limiting the number of customers participating. Second, the carve-out helps to ensure that low-income customers realize significant benefits from those programs. Additionally, the Commission notes that, in general, outcome-oriented metrics such as savings targets are better aligned with ensuring that Act 129 programs maximize benefits to Pennsylvania customers and residents. Lastly, the Commission highlights an apparent misunderstanding of the nature of the Act 129 potential results, which are not drawn from the maximum achievable potential, as PECO’s comments suggest. Rather, the Act 129 Potential is drawn from the program potential, which is significantly below the maximum achievable potential.

The Commission acknowledges comments from CEO, the PA Weatherization Task Force, the OCA, PA-EEFA, and CAUSE-PA encouraging an increased low-income carve-out for a wide range of reasons, as summarized above. We, however, are not persuaded by the specific arguments presented, but are keenly aware of the multitude of comments requesting an increase to the low‑income carve-out, and that this consensus among stakeholders supports the decision to issue minimal modification to the low-income carve-out, based on potential overestimates of the penetration of electric fuel space and water heating in Duquesne’s service territory (described in more detail below), though multiple EDCs provided comments requesting reductions thereto, and reply comments opposing any increase.

The Commission is not persuaded by Duquesne’s reliance on past program data to question the EEPDR MPS estimate of low-income savings opportunities, as past programs have been budget-constrained and were not required to capture a representative sample of savings opportunities. The Commission is also not persuaded by the calculations presented regarding the share of Duquesne’s low-income households that would need to be treated to reach the proposed Duquesne low-income savings target as these calculations likely underestimate the savings that can be obtained from direct-install lighting and rely on a total eligible household value that the Commission views as inappropriately conservative. Specifically, the source relied on by Duquesne for this eligible household count had removed all households with monthly energy consumption below 500 kWh. While this may be an appropriate consideration for prioritizing homes to receive measures, it is not appropriate to exclude these homes from the pool of eligible energy consumption measures. This exclusion reduced the eligible household count cited in Duquesne’s comments by roughly 50 percent.

The Commission finds that, as Duquesne suggested, that the 2018 Residential Baseline Study may have overestimated the penetration for these two specific end uses in Duquesne’s territory when compared to the results of the 2012 and 2014 baseline studies. The Commission notes that for end uses with particularly low electric fuel penetration, it is possible for sampling variation in baseline studies to yield results that are meaningfully different from the on-the-ground penetration because of the inherently low sample size for such end uses. To address Duquesne’s concerns the SWE modified Duquesne’s overall low-income end use disaggregation by separately adjusting space and water heating downward according to the ratio of the 2018 Residential Baseline Study’s electric fuel penetration for these end uses to the average electric fuel penetration of these end uses across the 2012, 2014, and 2018 baseline studies. For both space heating and water heating, this resulted in a roughly 35 percent reduction in the applicable end use of electric energy within the low-income sector. Importantly, these MWhs were re-allocated to the other low-income electric end uses according to their proportional distribution in Duquesne’s low-income end use sales disaggregation because the estimate of total sales by building type was unaffected by this change. To estimate updated low-income program potential for Duquesne, the updated low-income end use sales disaggregation was applied directly to Duquesne’s weighted average low-income end use percent savings values from the EEPDR’s unmodified Program Potential results.

Keeping in mind that Duquesne’s low-income target was derived from their Act 129 potential, the percentage reduction in program potential resulting from this modification – approximately 8 percent – was directly applied to Duquesne’s low-income target in MWh. This resulted in an updated low-income target for Duquesne. Duquesne’s non-low-income savings target was also adjusted to account for the reduced low-income spending associated with the reduced low-income target. The SWE estimated the reduced low-income spending from this change in low-income MWh savings using Duquesne’s low-income acquisition cost from the unmodified program potential results. The SWE allocated these dollars to all the non-low-income sectors in aggregate (non-low-income residential, small C&I, and large C&I) using their weighted average acquisition cost, also drawn from Duquesne’s unmodified program potential results. Both of these updates to Duquesne’s targets are reflected in ***Table 11***, as are updated statewide values.

**Table 11:** **Final Phase IV Low-Income Savings Targets**

|  |  |  |  |
| --- | --- | --- | --- |
| EDC | Proportionate Number of Measures | 2021-2026 Potential Savings (MWh) | Low-Income Savings Target (MWh) |
| Duquesne Light | 8.40 | 348,126 | 18,566 |
| PECO | 8.80 | 1,380,837 | 80,089 |
| PPL | 9.95 | 1,250,157 | 72,509 |
| FE: Met-Ed | 8.79 | 463,215 | 26,866 |
| FE: Penelec | 10.23 | 437,676 | 25,385 |
| FE: Penn Power | 10.64 | 128,909 | 7,477 |
| FE: West Penn Power | 8.79 | 504,951 | 29,287 |
| Statewide |  | **4,513,871** | **260,179** |

The Commission notes that this modification does not bring into question the quality or accuracy of the 2018 Residential Baseline Study or the EEPDR MPS. Rather, the adjustment to Duquesne’s low-income savings target and overall consumption reduction target acknowledges a general structural limitation to a sample of site visits, which seeks to estimate low-incidence values in the context of a moderate overall sample size and Duquesne’s current challenge in meeting their Phase III low-income target. Note that these adjustments do not affect Duquesne’s peak demand reduction targets, which are addressed in section B.10.b.

Additionally, the Commission highlights that beyond this isolated small change, the low-income energy savings targets presented in the Tentative Implementation Order are seen as reasonable and achievable. The Commission notes that these targets were set using a requirement that 5.8 percent of Phase IV savings come from low-income households, which is higher than the 5.5 percent used in Phase III, the Phase IV target is lower for all EDCs in MWh terms due to the higher portfolio-level acquisition costs used to set the Phase IV targets. We also acknowledge that OCA, CEO, and the Environmental Stakeholders all oppose reducing or propose increasing the low-income carve-out in their reply comments.

The Commission is not supportive of the range of proposals suggested by CEO, PA-EEFA, CAUSE-PA, and the Environmental Stakeholders related to an additional carve-out requirement for direct install measures within the low-income carve-out; the proposals put forth by Environmental Stakeholders, PA-EEFA, and CAUSE-PA related to an additional multifamily carve-out within the low-income carve-out; nor the suggestion to exclude the vaguely defined category of soft measures from the low‑income carve-out put forth by the PA Weatherization Task Force. These proposals collectively fall into a similar category of adding additional carve-outs, with associated increased administrative burden, which the Commission finds does not represent net improvements in program delivery. The Commission notes that FirstEnergy, Duquesne, PPL, PECO, and EAP all specifically oppose various additional carve-outs in their reply comments. However, the Commission recognizes the range of stakeholders interested in the multifamily space, and so directs the EDCs to report savings achieved in multifamily housing, both for the low-income carve-out and for their portfolio of programs. Regarding comments concerning multifamily housing, the Commission reiterates that savings from multifamily housing, up to the percentage of verified low-income households living in the multifamily housing, are eligible for the low-income carve-out.

The Commission appreciates the comments made by numerous stakeholders regarding the harmonization of LIURP and Act 129 programs. The Commission acknowledges that FirstEnergy and PECO view current coordination between LIURP and Act 129 programs to be sufficient and that any additional coordination is unnecessary. In aggregate, the Commission finds the arguments put forth in comments and reply comments for changes from the coordination already in place to be unpersuasive but encourages stakeholders to consider more comprehensive proposals describing the nature, structure, and implications of potential alternate approaches to coordination in future proceedings.

### Carve-Out for Government, Nonprofit and Institutional Entities

Act 129 required in its initial phase of implementation that EE&C Plans obtain a minimum of ten percent (10%) of all consumption and peak demand reduction requirements from units of the federal, state and local governments, including municipalities, nonprofit entities and institutions, including school districts and institutions of higher education (GNI carve-out). 66 Pa. C.S. § 2806.1(b)(1)(i)(B). No such stipulation was required for subsequent phases of implementation. For Phase II, the Commission prescribed a similar requirement for the EE&C Program.[[35]](#footnote-36)

In Phase III, the Commission required that each EDC must obtain at least 3.5% of all consumption reduction requirements from GNI entities.[[36]](#footnote-37) The Commission notes that through program year (PY) 10, the third year of the current five-year phase, each EDC has met its GNI target and statewide compliance was at 186% of the Phase III target (**Table *12***). Statewide, the GNI sector represents 9% of total verified savings through PY10.

**Table 12:** **Phase III GNI Verified Savings, through PY10**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| EDC | Phase III GNITarget (MWh) | GNI Verified Savings, Phase III to Date (MWh) | % of GNI Phase III Target Achieved | GNI, % of Total Phase III Verified Savings |
| Duquesne Light | 15,432 | 24,847 | 161% | 9% |
| PECO | 68,693 | 94,260 | 137% | 9% |
| PPL | 50,507 | 116,748 | 231% | 10% |
| FE: Met-Ed | 20,977 | 22,082 | 105% | 4% |
| FE: Penelec | 19,816 | 43,945 | 222% | 9% |
| FE: Penn Power | 5,508 | 8,288 | 150% | 5% |
| FE: West Penn Power | 18,935 | 62,465 | 330% | 13% |
| Statewide | **199,868** | **372,635** | **186%** | **9%** |

#### Summary of SWE’s EEPDR Potential Study Findings Regarding Government/ Nonprofit/Institutional Potential

As part of the EEPDR Potential Study, the Commission directed the SWE to determine if the GNI sector could realize cost-effective consumption savings and the extent of those possible MWh savings. The SWE determined that various market segments should be analyzed to determine GNI potential. These segments included education – college/university, health – hospital, and institutional/public service building types for both large and small commercial and industrial (C&I) sectors. The SWE estimated that there is approximately 691,100 MWh of program potential for the GNI sector, which represents 16% of all program potential.[[37]](#footnote-38) The GNI potential by EDC can be seen in **Table *13***, below.

**Table 13:** **Program Potential, GNI**

|  |  |  |  |
| --- | --- | --- | --- |
| EDC | 2021-2026 Program Potential (GWh) | GNIProgram Potential (GWh) | GNIProgram Potential, % of Portfolio Program Potential |
| Duquesne Light | 339.8 | 70.1 | 20.6% |
| PECO | 1,330.1 | 259.2 | 19.5% |
| PPL | 1,214.0 | 159.6 | 13.1% |
| FE: Met-Ed | 451.1 | 50.5 | 11.2% |
| FE: Penelec | 423 | 74.7 | 17.7% |
| FE: Penn Power | 125.3 | 12.0 | 9.6% |
| FE: West Penn Power | 492 | 65.1 | 13.2% |
| Statewide | **4,375.40** | **691.1** | **15.8%** |

#### Commission Proposal

The Commission did not propose a specific carve-out for the GNI sector for Phase IV of Act 129. The results of the EEPDR Potential Study indicated that the GNI sector is expected to produce a significant share in Phase IV consumption reductions at a comparable acquisition cost to the broader small and large C&I customer classes without a specific compliance target. Unlike the low-income sector, which would likely be underserved without a carve-out, we aver that the GNI sector can be adequately served by measures offered to other non-residential customers. However, the Commission proposed that the EDCs report savings achieved for the GNI sector in Phase IV and that the EDCs’ EE&C plans highlight how the GNI sector will be served.

Our proposal not to establish a GNI carve-out for Phase IV was informed, in part, by Willingness to Pay and Procurement Policy findings from the 2018 Non-Residential Baseline Study.[[38]](#footnote-39) While conducting site visits at C&I facilities, the SWE asked participating organizations the following five questions regarding equipment purchasing policies and Act 129 program awareness:

1. Does your company have any procurement policies or guidelines to purchase high-efficiency options when they are available and would provide a lower life cycle cost?
2. Do you do capital planning for major equipment replacements and proactively replace equipment when it is toward the end of its useful life (as opposed to waiting until something fails to replace it)?
3. For significant energy-using equipment purchases, does your company routinely analyze the different efficiency and cost options to assess life cycle costs?
4. Are you aware of your utility's energy efficiency rebate program?
5. Have you participated in the program before?

***Table 14*** shows the percent of respondents who answered “Yes” by segment. The response patterns for questions 1 through 3 indicate that segments corresponding to the GNI sector (Education, Health, Institutional/Public Service) are just as likely to plan for and consider energy efficient upgrades as other non-residential customers. The GNI segments also show similar levels of Act 129 program awareness and historic participation. The Commission’s proposal was also informed by the performance of the GNI sector in Phase III. To date, the GNI sector represents 9% of total verified savings statewide (see **Table *13***).

**Table 14: Mean Procurement and Program Awareness Response Rates**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Segment | Q1: Procurement | Q2: Capital | Q3: Equipment Purchase | Q4: Rebate Aware | Q5: Program Before |
| Education (n=33) | 18% | 58% | 83% | 66% | 40% |
| Grocery (n=19) | 14% | 25% | 61% | 58% | 29% |
| Health (n=36) | 16% | 42% | 54% | 52% | 41% |
| Industrial Manufacturing (n=75) | 29% | 28% | 56% | 46% | 19% |
| Institutional/ Public Service (n=41) | 38% | 50% | 58% | 48% | 20% |
| Lodging (n=20) | 69% | 35% | 83% | 60% | 31% |
| Miscellaneous/Other (n=54) | 28% | 24% | 38% | 19% | 9% |
| Office (n=50) | 18% | 31% | 36% | 39% | 26% |
| Religious (n=5) | 45% | 23% | 92% | 47% | 0% |
| Restaurant (n=58) | 30% | 27% | 48% | 47% | 15% |
| Retail (n=52) | 28% | 27% | 40% | 21% | 9% |
| Warehouse (n=38) | 29% | 25% | 41% | 75% | 13% |

##### Comments

FirstEnergy, PECO, and DEP support removing the specific carve-out for the GNI sector, citing the EEPDR Potential Study finding that the GNI sector is likely to produce a significant share of Phase IV consumption reductions. FirstEnergy Comments at 5 and 17, PECO Comments at 6, and DEP Comments at 3.

The Environmental Stakeholders recommend that the Commission keep a carve‑out for government buildings since such savings benefit taxpayers. Environmental Stakeholders Comments at 25. EAP opposes suggestions to maintain the GNI carve-out. EAP Reply Comments at 3.

The PA Weatherization Task Force opposes the removal of the GNI carve-out, specifically recommending that the Commission emphasize savings for multifamily properties. PA Weatherization Task Force Comments at 1. PA-EEFA also requests that the Commission consider low-income multifamily when removing the GNI carve-out and reiterates that PA-EEFA supports adding commercial multifamily properties to the low‑income sector while increasing the share of the low-income sector to 6.5%. PA‑EEFA Comments at 17. KEEA recommends that the Commission preserve multifamily and street lighting standards. KEEA Comments at 14. SEF also requests that the Commission set targets for savings from streetlights. SEF Comments at 4. FirstEnergy and PECO oppose suggestions to include additional specific targets, such as those requested for streetlight savings and the GNI sector. FirstEnergy Reply Comments at 6 and PECO Reply Comments at 15.

SEF also requests that the Commission direct EDCs to create safeguards to prevent small GNI customers from being excluded from the programs. SEF Comments at 4. In its reply comments, PPL rejects SEF’s assertion that PPL capped GNI savings once it reached its Phase III GNI target and negatively affected waitlisted GNI customers. Instead, PPL opines that they facilitated GNI savings beyond the carve-out. PPL Reply Comments at 13-14.

The OSBA and the OCA suggest that the Commission require utilities to monitor and report how much non-residential load in each rate class is accounted for by GNI, and how much spending is dedicated to GNI. OSBA Comments at 4, Reply Comments at 3-4 and OCA Reply Comments at 9. Furthermore, PA-EEFA suggests that EDCs that do not currently implement programs targeted to small GNI entities to consider them in their Phase IV EE&C plans. PA-EEFA Reply Comments at 11-12.

##### Disposition

The Commission maintains its decision to not require a specific carve-out for the GNI sector for Phase IV of Act 129. Through the third year of the current five‑year phase, each EDC has met its GNI target and the results of the EEPDR Potential Study indicated that the GNI sector is expected to produce a significant share in Phase IV consumption reductions without being specifically targeted. In regards to comments concerning multifamily properties, the Commission reiterates that savings from multifamily housing, up to the percentage of verified low‑income households living in the multifamily housing, are eligible for the low‑income carve-out (see Section A.3) and notes that all EDC EE&C portfolios in Phase III include multifamily offerings.

We disagree with the suggestions to set specific targets, such as targets for multifamily properties or street lighting, as this will result in increased administrative burden and potentially hinder the EDCs’ flexibility to design a mix of programs to meet Phase IV overall targets. We find that the EDCs and their stakeholders are in the best position to determine the appropriate programs in each territory. We will, however, require the EDCs to report savings achieved for the GNI sector in Phase IV and to highlight in their EE&C plans how the GNI sector will be served.

### Accumulating Savings in Excess of Reduction Requirements

In its Phase II Implementation Order, the Commission recognized that many of the EDCs may achieve their Phase I consumption reduction targets before the end of Phase I. We recognized that a smooth transition between phases was of paramount importance and would help minimize both customer confusion and transition costs. Therefore, the Commission allowed those EDCs that had achieved their Phase I consumption reduction target before the end of the phase to continue their programs and credit all of those savings above the target towards their Phase II targets, so long as those EDCs still had Phase I funds available. We clarified that any savings in excess of the target should, in Phase II, be applied at the particular customer sector level.[[39]](#footnote-40) In our Phase II and III Implementation Orders, we again directed the EDCs to continue their programs through the end of each phase even if they attain their consumption reduction targets, so long as they still had funds available.[[40]](#footnote-41)

For Phase IV, we proposed that the EDCs be allowed to count only those savings attained in Phase III in excess of their targets for application towards their Phase IV targets. These carryover savings may only be savings actually attained in Phase III. For example, assume an EDC had a Phase III target of 1,000 MWh and had 100 MWh of carryover savings from Phase II. In order to have carryover into Phase IV, the EDC must have attained over 1,000 MWh in Phase III alone, not including the 100 MWh of Phase II carryover. We believed that this approach would encourage EDCs to continue the full implementation of programs and not allow programs to go dark, without reaching a scenario where target attainment is achieved solely through multiple phase carryover savings. Regarding the low-income carve-out savings carryover, the Commission proposed that the EDCs be allowed to carryover low-income carve-out savings only if they have carryover savings for the entire portfolio of programs in Phase III and if they have low-income carve-out savings attained in Phase III in excess of their Phase III carve-out targets for application towards Phase IV targets.

#### Comments

Duquesne specifically expresses that limiting low-income carry-over will remove an incentive for EDCs to achieve extra low-income savings while staying on budget. Duquesne adds that COVID-19 is already burdening low-income efforts. Duquesne Comments at 8-9, Reply Comments at 9. PPL and FirstEnergy generally agree with the Commission’s proposal for Phase III carryover savings. PPL Comments at 11, FirstEnergy Comments at 3 and 9.

KEEA, SEF, and CAUSE-PA support the proposed approach to carry-over for Phase IV but recommend further limitations on carry-over or adjustments to Phase IV goals based on carry-over. KEEA requests reducing carry-over to 50% of Phase III excess savings to provide incentive to EDCs to spend excess funds while still continuing programs. KEEA Comments at 13-14. SEF suggests the Commission limit carry-over to 25% of excess Phase III savings and to apply the carry-over to year one of Phase IV. SEF Comments at 5 and Reply Comments at 5-6. CAUSE-PA recommends that the Commission adjust the Phase IV targets to account for carry-over. CAUSE-PA also suggests that the Commission require EDCs to spend unspent budget on health and safety measures in Phase IV that are currently impeding comprehensive improvements. CAUSE-PA Comments at 17-18 and 24-26. EAP, PPL, and FirstEnergy oppose any limitations on carry-over. EAP Reply Comments at 3, PPL Reply Comments at 15-16, FirstEnergy Reply Comments at 3 and 9-10.

The Environmental Stakeholders encourage the Commission to consider rollover savings to be treated as measures with zero additional acquisition cost in Phase IV. Environmental Stakeholders Comments at 21.

#### Disposition

The Commission appreciates comments made by those parties in support of the carryover of excess savings. However, we remain concerned that continued carryover of all excess savings from phase to phase could lead to a scenario in which an EDC could meet most, if not all, of its reduction target simply with carryover savings. As Commissioner Place’s Statement noted, EDCs could meet up to 75% of their Phase IV target, assuming rates of savings in the last two years of Phase III match the first three years of Phase III. Several parties recommended applying limits to carryover, which EAP, PPL, FirstEnergy, and Duquesne opposed.

The Commission will allow carryover as proposed, allowing EDCs to count only those savings attained in Phase III in excess of their targets for application towards their Phase IV targets. The Commission find that it is not necessary to cap the amount of carryover, noting that the EDCs are still required to run their programs in a cost-effective manner, despite any amount of carryover.  Additionally, not limiting carryover provides the EDCs with more flexibility and willingness to take risks with certain measures, such as whole house programs for low-income customers.

We disagree with those parties asserting that the targets should be recalculated to take carryover savings and/or historical achievements into account. We recognize that, in most instances, the EDCs have over-complied with their historical consumption reduction targets. However, that is not a guarantee of future performance. We find that the targets should be based on a determination of cost-effective potential remaining in an EDC’s service territory, as has been developed by the SWE.

### Process to Challenge Reduction Requirements

In Phase II, the Commission set forth a process through which each EDC could challenge the consumption reduction requirements initially adopted by the Commission.[[41]](#footnote-42) In Phase III, the Commission proposed the same challenge process for both the consumption and peak demand reduction requirements.[[42]](#footnote-43) As in the previous phases, the Commission proposed the same challenge process for both the consumption and peak demand reduction requirements for Phase IV of Act 129.

Specifically, in adopting the Final Implementation Order, the Commission proposed that it would tentatively adopt the consumption and peak demand reduction requirements for each EDC. These consumption and peak demand reduction requirements would become final for any EDC that does not petition the Commission for an evidentiary hearing within 15 days of the entry of the Final Implementation Order.

If an EDC desires to contest the facts the Commission relied upon in adopting the consumption and peak demand reduction requirements contained in the Final Implementation Order, it has 15 days from the entry of the Final Implementation Order, to file a Petition requesting an evidentiary hearing on its specific consumption and peak demand reduction requirements. The EDC contesting the consumption and peak demand reduction requirements shall have the burden of proof in accordance with 66 Pa. C.S. §332(a). The scope of any such proceeding will be narrow and limited to the consumption and peak demand reduction requirement issues. If an EDC does not file a Petition within 15 days of the entry of the Final Implementation Order, it would have been deemed to have accepted the facts and will be bound by the consumption and peak demand reduction requirements contained in that order for that EDC as there would be no remaining disputed facts.

If an EDC files a Petition within 15 days of the entry of the Final Implementation Order, the matter would be assigned to the Office of Administrative Law Judge for expedited hearings with certification of the record to the Commission by October 23, 2020. Petitions for intervention must be filed within 10 days of an EDC filing a hearing request.

At such hearings, the EDC would have the opportunity to present evidence and argument as to its reasonable consumption and peak demand reduction requirements for Phase IV. While the Commission would not entertain petitions from other parties, any other party may intervene in the EDC-requested hearing and present evidence. Given the narrow scope of the proceeding and time constraints, we found it appropriate to have certification of the record rather than issuing a recommended decision. As part of this process, the parties would have the opportunity to file main and reply briefs directly to the Commission rather than filing exceptions to a recommended decision.

Furthermore, we proposed the use of administrative counsel from the Commission’s Law Bureau to represent the SWE in the proceedings, to introduce relevant SWE studies into the record, and to assist the SWE in discovery matters. The Commission found this expedited process to be reasonable and necessary to complete all litigation, including that of the EE&C plan filings before June 1, 2021, when Phase IV is to begin.

#### Comments

EAP, FirstEnergy, and PECO request that the Commission incorporate a provision into the Final Implementation Order that allows for the revision of targets under special circumstances, such as those that result from the COVID-19 pandemic. EAP Comments at 4, FirstEnergy Comments at 5 and 15-16, and PECO Comments at 7-8.

#### Disposition

Because the start of Phase IV is over one year away, the Commission finds that it is premature to consider any changes based on the COVID-19 pandemic. If long‑term impacts to the economy begin to manifest themselves after the beginning of Phase IV, June 1, 2021, the Commission may consider taking appropriate actions at that point.

### Measuring Annual Consumption Reductions

Consumption reduction for Phase IV is addressed at 66 Pa. C.S. § 2806.1(c)(3), which requires that by November 30, 2013, and every five years thereafter, the Commission must adopt additional required incremental reductions in consumption, if the Commission determines that the benefits of the EE&C Program exceed its costs. For Phase IV of Act 129, the Commission proposed to adopt the five-year energy consumption reduction requirements outlined previously in this Implementation Order.

As in Phases II and III, the Commission proposed to continue the use of the same savings approach for Phase IV.[[43]](#footnote-44) This approach develops estimates of the weather‑normalized annual energy savings that can be expected over the course of a measure’s expected useful life (EUL), absent any dual baseline considerations. This proposal is based on the fact that the results of specific conservation measures are determined by using the deemed or partially deemed approaches outlined in the 2021 TRM, which uses calculations derived from studies or measurement methods that already account for extraordinary weather or loads. Regarding custom measures not included in the 2021 TRM, the Commission proposed for Phase IV of Act 129 that EDC evaluation contractors continue to estimate weather-normalized annual energy savings that consider, and control for, extraordinary weather conditions observed during the measurement and verification period. The Commission continues to find that this approach negates the need to weather-normalize the consumption reduction requirements or determine what qualifies as extraordinary load.

#### Comments

KEEA recommends that the Commission direct EDCs to submit plans that have an average EUL of measures within a target range and that include strategies that leverage short-lived measures to maximize the benefit of longer-lived measures. KEEA Comments at 12-13.

#### Disposition

While the Commission is supportive of EDC programs with longer-lived measures, annual consumption reductions will be measured using a savings approach, as discussed above.

## Proposed Reductions in Peak Demand

Act 129 required the Commission to, by November 30, 2013, compare the total costs of the EDCs’ EE&C Plans to the total savings in energy and capacity costs to retail customers or other costs as determined by the Commission. If the Commission determined that the benefits of the plans exceeded the costs, the Act required the Commission to set additional incremental requirements for reduction in peak demand for the 100 hours of greatest demand, or an alternative reduction approach approved by the Commission. Any such reductions in peak demand must be measured from the EDC’s peak demand for the period from June 1, 2011 through May 31, 2012. *See* 66 Pa. C.S. § 2806.1(d)(2).

### Summary of SWE’s DDR Potential Study

The SWE performed a DDR Potential Study to determine whether cost-effective potential exists for Act 129 DDR programs. The purpose of the DDR Potential Study was to determine the amount of cost-effective DDR potential available in each of the seven EDCs’ service territories. The Commission directed the SWE to examine the design of Act 129 programs and how the peak demand reductions achieved might be recognized in the wholesale markets operated by PJM. The DDR programs implemented in Phase III of Act 129 operated independently of PJM using a day-ahead load forecast trigger[[44]](#footnote-45) to determine which days DR events would be called. However, customers with DR commitments in PJM’s capacity market were also allowed to participate in Phase III DDR programs and were compensated from both programs for taking the same singular action. The underlying premise of the Phase III design was that the reduced peak loads achieved by Act 129 DDR programs would reduce PJM’s peak load forecasts for the zones served by the EDCs. In turn, this reduced summer peak load forecast would reduce the resource requirements and the amount of generation capacity procured on behalf of Pennsylvania ratepayers.

While the Phase III design is theoretically sound with respect to the mechanisms by which forward planning and capacity procurement occur at the wholesale level, quantifying and valuing the capacity impacts of Phase III Act 129 DDR programs has been challenging and requires several assumptions. For the Phase IV DDR Potential Study, the SWE elected to model a more coordinated Act 129 DDR program design that leverages the Peak Shaving Adjustment (PSA) mechanism,[[45]](#footnote-46) developed by PJM in 2019. This change provides a clear mechanism for Act 129 DDR to be recognized at the wholesale level, but drastically reduces Act 129 DDR potential from the large C&I customer class because it effectively prohibits dual participation in Act 129 DDR and PJM’s capacity market.

The DDR Potential Study included simulations to determine recommended values for each of the required PSA parameters. Act 129 peak shaving events were assumed to occur from 3pm to 6pm for the months of June through September on days when the real‑time temperature humidity index (THI) reached the values shown in ***Table 15***.[[46]](#footnote-47) These recommended THI thresholds are expected to result in 20-25 hours of peak shaving per summer, on average, based on an analysis of the last twenty years of weather.

**Table 15: Optimal THI for Recommended DDR Program Design, by Zone**

|  |  |  |
| --- | --- | --- |
| **EDC** | **PJM Zone** | **THI Threshold** |
| Duquesne Light | DUQ | 80.0 |
| PECO | PECO | 82.5 |
| PPL | PPL | 81.0 |
| FE: Met-Ed | METED | 82.0 |
| FE: Penelec | PN | 79.5 |
| FE: Penn Power | ATSI | 80.0 |
| FE: West Penn | APS | 80.0 |

The SWE provided the recommended PSA parameters to PJM’s Load Forecasting Group for analysis and received expected forecast reductions for each zone. These forecast impacts were included in the 2021 TRC Test Final Order[[47]](#footnote-48) and used to model the cost-effectiveness in the DDR Potential Study. All other cost-effectiveness analysis in the DDR Potential Study was conducted in accordance with the directives of the 2021 TRC Test Final Order, including assumptions regarding the avoided cost of transmission and distribution (T&D) capacity for DDR programs. The avoided T&D values used in the DDR Potential Study are provided in ***Table 16*** and ***Table 17***.

**Table 16: Avoided Cost of Transmission Capacity Forecast, by EDC ($/kW-year)**

| **Year** | **EDC** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **DLC** | **PECO** | **PPL** | **ME** | **PN** | **PP** | **WPP** |
| PY13 (2021-2022) | $18.76 | $14.97 | $0.00 | $15.05 | $18.25 | $0.00 | $0.10 |
| PY14 (2022-2023) | $19.14 | $15.27 | $0.00 | $15.35 | $18.61 | $0.00 | $0.10 |
| PY15 (2023-2024) | $19.52 | $15.58 | $0.00 | $15.65 | $18.98 | $0.00 | $0.10 |
| PY16 (2024-2025) | $19.91 | $15.89 | $0.00 | $15.97 | $19.36 | $0.00 | $0.11 |
| PY17 (2025-2026) | $20.31 | $16.21 | $0.00 | $16.29 | $19.75 | $0.00 | $0.11 |

**Table 17: Avoided Cost of Distribution Capacity Forecast, by EDC ($/kW-year)**

| **Year** | **EDC** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **DLC** | **PECO** | **PPL** | **ME** | **PN** | **PP** | **WPP** |
| PY13 (2021-2022) | $9.78 | $63.49 | $72.73 | $42.03 | $27.65 | $11.43 | $14.03 |
| PY14 (2022-2023) | $9.97 | $64.76 | $74.18 | $42.87 | $28.20 | $11.66 | $14.31 |
| PY15 (2023-2024) | $10.17 | $66.05 | $75.67 | $43.73 | $28.77 | $11.89 | $14.60 |
| PY16 (2024-2025) | $10.38 | $67.37 | $77.18 | $44.60 | $29.34 | $12.13 | $14.89 |
| PY17 (2025-2026) | $10.58 | $68.72 | $78.72 | $45.49 | $29.93 | $12.37 | $15.19 |

As shown above, T&D benefits varied significantly across the EDCs. This variability was a key factor in the estimated DDR potential. The three EDCs with higher avoided T&D costs (PECO, PPL, and Met-Ed) showed over 90% of the DDR potential for Phase IV because higher avoided costs allow for higher incentive levels without causing the program to fail cost-effectiveness testing. In turn, higher incentive levels produce increased estimates of participation and peak demand reduction.

The SWE examined the following four demand response strategies in the DDR Potential Study and estimated the potential for each, by EDC:

1. Residential Wi-Fi Connected Smart Thermostats
2. Residential Behavioral Demand Response
3. Commercial and Industrial Load Curtailment
4. Behind the Meter Battery Storage

***Table 18*** shows the average annual DDR potential, along with the associated economics for each EDC and statewide.[[48]](#footnote-49) We would like to note that the SWE’s estimates of DDR potential are at the system level, meaning that they reflect line losses between the generator and customer meter. ***Table 18*** also presents estimates of DDR potential as the average megawatt (MW) value across the five years of Phase IV. However, the estimates of potential vary somewhat by year because of the availability of the avoided cost of generation capacity benefit stream and assumptions about the time it takes an EDC and its CSP to ramp up a DDR program. In recognition of this ramp up time, and the fact that the summer DR season is the first four months of each EE&C Program year, the Commission chose not to order DDR program activity during PY8, the first year of Phase III. Additionally, although each EDC shows a non-zero amount of DDR potential, the Commission notes that the estimates of DDR potential for Penn Power, Duquesne Light, and West Penn Power add up to less than 10 MW/year and represent less than 0.1% of the peak load of those three EDCs.

**Table 18: Phase IV DDR Potential, by EDC**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **EDC** | **DDR Potential (MW/year)** | **Budget Requirement ($1,000 Nominal)** | **Percent of EE&C Budget** | **TRC Cost ($1,000)** | **TRC Benefit ($1,000)** | **PVNB ($1,000)** | **TRC Ratio** |
| Duquesne Light | 3.6 | $455 | 0.47% | $394 | $793 | $399 | 2.01 |
| PECO | 83.3 | $29,711 | 6.95% | $26,177 | $40,298 | $14,121 | 1.54 |
| PPL | 70.4 | $21,376 | 6.95% | $18,812 | $31,206 | $12,394 | 1.66 |
| FE: Met-Ed | 25.2 | $9,116 | 7.33% | $8,173 | $10,194 | $2,021 | 1.25 |
| FE: Penelec | 11.3 | $2,550 | 2.22% | $2,295 | $3,098 | $802 | 1.35 |
| FE: Penn Power | 0.5 | $19 | 0.06% | $17 | $34 | $17 | 1.99 |
| FE: West Penn | 3.6 | $352 | 0.30% | $300 | $604 | $304 | 2.01 |
| **Statewide** | **197.9** | **$63,580** | **5.20%** | **$56,168** | **$86,226** | **$30,058** | **1.54** |
| \*Statewide values in this report are summed prior to rounding. Totals may not equal the sum of all rows. | | | | | | | |

Although the Commission maintains that the PSA mechanism is the clearest and most viable way to recognize Act 129 DDR programs at the wholesale level, the DDR Potential Study identified the following administrative and timing challenges associated with nominating Act 129 DDR programs as PSA:

* Act 129 planning timelines will not allow for PSAs to be recognized in the Base Residual Auctions (BRAs) corresponding to the five program years of Phase IV of Act 129. This limits the avoided cost of generation capacity benefit stream. At most, PSAs could be reflected in three of five years depending on how delayed the BRA for the 2023/2024 delivery year is.
* The PSA event trigger is a real-time THI. This is a significant departure from Phase III when EDCs and their CSPs knew with certainty whether the following day would be an event day with over 24 hours’ notice. A real-time THI trigger creates the possibility of an EDC not calling an event when the trigger is met or calling an event when the trigger is not actually met due to inaccuracies in weather forecasts.
* There is no limit to the number of peak shaving events that can be triggered in a summer. In an extreme summer an EDC could experience 15 to 18 DR events, based on the SWE’s analysis of historic weather data.

#### Comments

Stakeholder comments on the SWE’s DDR Potential Study are organized by topic due to the volume of comments received.

##### Dual Participation

AEMA and Enel suggest that dual participation in PJM emergency DR programs and Act 129 is incorrectly classified in the DDR Potential Study. The study states that customers are dually compensated for singular event participation. Enel states that over the course of Phase III, there have not been any Act 129 peak reduction actions that were also PJM emergency event actions. If that were to occur, PJM and Act 129 are coordinated such that there is no double compensation. Enel Comments at 4-5. AEMA believes the existing structure is working effectively and that most customers dual participate. AEMA Comments at 7-8. AEMA believes dual participation should not be required but should continue. AEMA Comments at 13.

##### Price Elasticity

PPL notes that price elasticity of demand in the DDR Potential Study should consider differing elasticities by customer type and the distinction between short and long run elasticities. PPL Comments at 16-17. PPL requests clarification on how these variations were considered, and if they were not considered, requests that business type and duration be implemented for price elasticity calculations.

##### Residential Behavioral and Dispatchable Demand Response

PPL comments that the DDR Potential Study assumes EDCs have email or cell phone numbers for 70% of target homes. PPL suggests that this assumption for the behavioral demand response potential is unfounded. Additionally, PPL requests further clarification on how the DDR Potential Study accounted for overlap in potential participants of residential behavioral demand response and smart thermostats. Since both programs would target highest use households and dual participation would not be allowed, PPL suggests that the potential savings may not be accurate. PPL is also concerned with the behavioral demand response assumption of 0.05 kW per customer savings. A contributing assumption within the potential study suggests EDCs will target the top 50% of electricity customers. PPL has significantly lower air conditioning saturation than the other EDCs, has little to no experience with residential demand response, and is concerned with their ability to appropriately target high-value customers, highlighting their disadvantages in meeting this goal. PPL Comments at 11-16.

##### Additional Demand Response Strategies

Groce, Melman, Zenkevich, and Zerbo propose that DDR measures and time‑of‑use tariffs be included in the portfolio of tools available to utilities. These parties suggest that increasing the deployment and usage of smart meters to most effectively reduce peak demand electricity consumption will save consumers money on electricity and reduce air pollution associated with electricity generation. They also comment on the forthcoming requirements of smart meters and request increased deployment of smart meters as a means of reducing peak demand electricity consumption. Groce Comments at 2, Melman, Zenkevich, and Zerbo Comments at 1-3.

#### Disposition

##### Dual Participation

The Commission agrees with AEMA and Enel’s comments that the Tentative Order’s characterization of dual participation as a singular action receiving two payments is imprecise. Our concerns on this issue are twofold. First, the valuation of the Phase III design through lower load forecasts and reduced capacity obligations is fundamentally sound but difficult to quantify. During Phase III, there was not a clear mechanism for state DDR to be recognized by PJM.  Since that time PJM has developed a procedure to recognize retail DDR programs in regional planning parameters but it eliminates the opportunity for dual participation.  Additionally, the Commission prefers a program that provides direct and immediate recognition at the wholesale level, which is why we directed the SWE to consider the PSA mechanism for Phase IV. The PSA mechanism prohibits dual participation. Second, there are robust demand response markets offered by PJM, which large customers can, and do, take advantage of – hence the dual participation issue. It is unclear that a secondary dispatchable demand response mechanism is warranted at the retail level for these large customers.

##### Price Elasticity

The Commission directs PPL to Table 58 of the DDR Potential Study, which lists the price elasticity assumptions used to estimate load curtailment potential. The price elasticity values for the large C&I sector is 4.55 times higher than the small C&I sector for day-ahead dispatch and 3.66 times higher for day-of dispatch. The Commission agrees with the SWE that short-run price elasticities, in combination with an expected number of event hours, are the relevant inputs to consider for event-based demand response because businesses are asked to temporarily forego use of electricity in exchange for financial incentives. A load curtailment program makes no effort to change the total energy consumption of the facility or modify the retail price of electricity faced by the participant outside of the DR event window.

##### Residential Behavioral and Dispatchable Demand Response

The Commission finds PPL’s concerns to be speculative and unsupported by any data that contradicts the assumptions in the DDR Potential Study assumptions. For example, PPL questions the assumption of 70% of target homes having email or cell phone numbers on file but does not include the relevant percentage for its service territory. As shown in Table 32 of the DDR Potential Study, the saturation of central air conditioning was a key input to the connected thermostat analysis. PPL correctly notes that their service territory has one of the lowest saturation levels in the Commonwealth but fails to note that this translates into a reduced number of candidate households. The SWE’s behavioral demand response per-home impact estimate of 0.05 kW is based on multiple years of rigorous evaluation results from the FirstEnergy EDCs. The Commission does not share PPL’s vague concerns with this assumption. Targeting of high-usage customers is a basic program design function that PPL has implemented successfully in its Home Energy Report program for the last decade. PPL correctly identifies that dual participation between a behavioral demand response and a connected thermostat offering would need to be managed carefully if DDR targets had been established for Phase IV. The DDR Potential Study did not explicitly adjust estimates of behavioral demand response potential to exclude potential connected thermostat participants. Such an adjustment would lower PPL’s behavioral demand response potential by less than one MW. Given the fact that PPL’s proposed DDR target was zero MW, we do not consider this to be a material issue.

##### Additional Demand Response Strategies

The Commission agrees with comments made by Groce, Melman, Zenkevich, and Zerbo that the widespread deployment of smart meters in Pennsylvania presents a significant opportunity to reduce peak demand through time-varying price signals. We have directed EDCs to offer time-of-use rates and all seven EDCs subject to Act 129 have complied. The challenge with relying on time-of-use rates for compliance targets is the Commonwealth’s competitive market for generation supply.[[49]](#footnote-50) For customers who shop for the generation component of their electric supply, EDCs only provide the distribution component of service. EDCs have little to no control over the proportion of customers that shop for supply or the pricing structure offered by the electric generation suppliers. For these reasons, the Commission believes the inclusion of demand reduction impacts from time-of-use pricing in Act 129 compliance targets would expose the EDCs to an unfair amount of risk, so we directed the SWE to exclude time-of-use pricing from its DDR Potential Study.

### Methodology Used to Set Peak Demand Reduction Targets

In Phase I, Act 129 required the Commission to set additional incremental requirements for reduction in peak demand for the 100 hours of greatest demand, or an alternative reduction approach approved by the Commission. *See* 66 Pa. C.S. § 2806.1(d)(2). The EEPDR and DDR Potential Studies each identified cost effective potential for Phase IV. The two studies produce very different levels of consumption reduction and peak demand reduction per program dollar spent. Questions related to any proposed peak reduction targets include:

* Should Phase IV peak demand reduction targets be designed around DDR programs like in Phase III or, should coincident reductions in peak demand from EE contribute toward peak demand reduction target achievement like in Phase I?
* Should both coincident reduction in peak demand from EE and DDR programs be utilized to comply with peak demand reduction targets?
* If the peak demand reduction target plans can include DDR programs, what is the program design and event trigger? During which summers are peak demand reductions from DDR programs measured for purposes of determining compliance?
* To what extent should the Commission direct the EDCs to nominate peak demand reductions from EE or DDR for recognition at the wholesale level by PJM and for which years?

In addition to electricity consumption savings, the EEPDR Potential Study was to determine the remaining opportunities for cost-effective annual peak demand reductions related to EE measures. The statewide estimated potential peak demand reductions for the 2021-2026 program period at the system level were 878 MWs of total incremental annual peak demand reduction.[[50]](#footnote-51) As presented above, the DDR Potential Study found estimated potential annual peak demand reductions of 198 MW.

The EEPDR Potential Study included a section comparing Phase IV metrics with and without funding for DDR programming.[[51]](#footnote-52) Although the DDR Potential Study found that the benefits of a Phase IV DDR program would exceed the costs, the DDR potential identified was less cost-effective (TRC ratio = 1.54) than the EEPDR potential (TRC ratio = 1.62). The SWE estimated that a Phase IV design which pursues both EE and peak demand reductions without utilizing DDR would achieve $35 million more net benefits to the Commonwealth than a Phase IV design which includes DDR. This calculation was based on comparing the net TRC benefits columns of Tables 37 and 38 of the EEPDR Potential Study.[[52]](#footnote-53) All TRC benefits and TRC costs were presented in 2021 dollars in the EEPDR Potential Study. The present value of net benefits was calculated by subtracting the TRC costs from the TRC benefits.

* Table 37 of the EEPDR Potential Study showed summary statistics for a Phase IV design with no funding for DDR programming. The cost‑effectiveness metrics were:
  + TRC Benefits = $3,073 million
  + TRC Costs = $1,894 million
  + Net TRC Benefits = $1,179 million
* Table 38 of the EEPDR Potential Study showed summary statistics for a Phase IV design with 5.2% of Phase IV EE&C funding allocated to DDR programming and the remaining 94.8% allocated to EE programming. The cost-effectiveness metrics were:
  + TRC Benefits = $2,995 million
  + TRC Costs = $1,852 million
  + Net TRC Benefits = $1,144 million

The SWE’s calculation of $35 million in additional net TRC benefits was based on the calculation $1,179M - $1,144M = $35 million. TRC benefits were predominately comprised of reduced marginal energy and capacity costs so this $35 million was the net present value (in 2021 dollars) of additional energy and capacity net benefits to the Commonwealth expected from a Phase IV design which does not include DDR programming versus a Phase IV design that does include DDR programming.

The SWE also noted in its EEPDR Potential Study that allocation of 5.2% of Phase IV funding to DDR programming lowers the achievable consumption reductions by 213,000 MWh statewide.[[53]](#footnote-54) Inclusion of DDR programming leads to a net increase of 153 MW of peak demand impact (1,031 MW vs. 878 MW).[[54]](#footnote-55) The DDR programs modeled by the SWE contribute 198 MW of peak demand reduction for each of the five summers of Phase IV, while the reduced EE funding sacrifices 46 MW of coincident peak demand reduction from EE measures.

Although the comparison of peak demand impacts with and without funding allocated to DDR programs is useful for comparison purposes, the Commission notes that all MW impacts are not created equally. Because EE measures typically have multiple years of useful life, their associated incremental annual peak demand reductions will continue to provide value beyond the year in which they are claimed as incremental annual peak demand reductions in EE&C programs. The Commission prefers the lasting peak demand reduction (PDR) achieved by EE measures for the following reasons:

* Coincident peak demand reductions from EE measures are longer lasting than DDR programming and will persist for years after Phase IV has ended. While the DDR programming modeled by the SWE achieves an average of 198 MW over five consecutive summers, the 46 MW of coincident peak demand reduction from EE measures has a weighted average measure life of 10.7 years.
* Coincident demand reductions from EE measures are available every day rather than just a small number of DR event days. The 2021 TRM[[55]](#footnote-56) defines peak demand reductions from EE as the average demand reduction from 2pm to 6pm on non-holiday weekdays June through August. This means EE measures deliver peak demand reductions on over 60 days per summer compared to the five to ten days DDR programs are active. Although, the 2021 TRM does not provide algorithms and assumptions for winter peak demand impacts, many EE measures also reduce demand coincident with winter peaks. This is an important consideration for EDCs like PPL whose winter peak demand forecast[[56]](#footnote-57) is as high, or higher, than the summer peak demand forecast over the next decade.
* Coincident demand reductions from EE measures can be recognized in PJM’s Forward Capacity Market (FCM). The proceeds from bidding these demand resources can reduce the EE&C plan funding that must be collected via riders.

The Commission also sought to establish targets and policies that would streamline Phase IV EE&C plans and limit administrative costs. Avoiding the need to establish a separate program type, such as with DDR, and the associated need to hire additional CSPs, allows for greater spending on more economical EE measures that deliver PDR benefits long after Phase IV has ended.

For Phase IV of Act 129, the Commission proposed steps to better reflect PDRs from EE&C Programs at the wholesale level. While the administrative challenges and economics of DDR as PSA do not support establishment of PDR targets that must be met exclusively with DDR programs, we proposed to have EDCs nominate a portion of the PDRs achieved by its EE portfolio as a capacity resource in PJM’s forward capacity auctions. The PDRs achieved by EE measures such as C&I lighting meet both the summer and winter requirements required by PJM and are therefore eligible for recognition and compensation as a supply resource. As discussed in Section I.5: Bidding Peak Demand from Energy Efficiency Resources into the PJM Capacity Market, the Commission posited that the proceeds from these PDRs will help reduce Act 129 collection requirements via rider and limit the rate pressure imposed by establishing a Phase IV program. Winter peak demand is becoming increasingly important in regional planning parameters, so we favor a program type that addresses both summer and winter demand.

#### Comments

##### Demand Response Exclusion

OCA, AEMA, CAUSE-PA, Enel, the Industrial Customers, Environmental Stakeholders, and Clean Air Board of Central PA commented on the elimination of C&I DR programs to count towards the peak demand goals. AEMA argues extensively for the continuation of DR because of its Phase III cost-effectiveness, its advancement of other goals such as greenhouse gas (GHG) reductions, increased participation in Act 129, and the fact that it provides savings and revenue to customers. AEMA Comments at 4-7. In their own analysis, AEMA found that EE-only peak reduction is more expensive and less effective than peak reductions that include DDR and EE programs. AEMA discusses flaws with the DDR and EEPDR Potential Studies due to the omission of large C&I and the failure to analyze all of the available DR resources. They ultimately request the inclusion of residential, small C&I, and large C&I DR programs to support an equitable and cost-effective demand reduction strategy. AEMA Comments at 2-4, 6, and 10-12. Enel agrees with AEMA that the elimination of large C&I is based on incomplete conclusions, the Act 129 programs should be preserved, and the final order should take the AEMA analysis into consideration with the SWE study. Enel Comments at 1-3, and 5-8.

The Clean Air Board of Central PA comments that utilities should be incentivized to use all tools at their disposal to reach targets, highlighting the benefits of smart meters as a demand response tool. Clean Air Board Comments at 1. The OCA notes that the removal of DR programs reduces EDCs’ ability to provide a comprehensive measure mix and EDCs should be encouraged to meet its potential using cost-effective programs, such as DR. OCA Comments at 15-17. In its reply comments, OCA supports AEMA’s analysis of the cost-effectiveness of the existing demand response systems. OCA recommends continuing DR without a requirement to nominate into PJM. OCA Reply Comments at 7.

OSBA, PECO, EAP, and the Environmental Stakeholders support the removal of mandatory regulations on DDR inclusion. PECO strongly agrees with the Commission that DDR programs should not be mandatory. PECO Comments at 9. OSBA agrees that PDR targets should not have to be met exclusively through DDR programs and supports the implementation of EE measures with longer term savings. OSBA Comments at 3. EAP supports the shift from DDR to EE measures due to the long-term impacts, everyday benefits, and streamlined administration. EAP Comments at 10. The Environmental Stakeholders agree with the decision to replace DR with longer‑lasting EE measures. They suggest encouraging the use of measures that can serve dual EE and DR purposes, such as time-of-use. Environmental Stakeholders Comments at 26. In its reply comments, EAP reiterates that they do not support suggestions to continue mandated DR program design. EAP Reply Comments at 3.

PA-EEFA, the Industrial Customers, and CAUSE-PA support the Commission’s decision to exclude DDR in Phase IV. PA-EEFA supports the proposal to forego DDR programs in favor of increasing EE programming. PA-EEFA Comments at 19-20. The Industrial Customers state that large customers who already participate in PJM’s emergency load management programs are unlikely to participate in DR programs. The Industrial Customers at 16. CAUSE-PA comments that replacing DR programs with EE measures results in longer lasting savings and are available every day rather than just event days. CAUSE-PA Comments at 18. In its reply comments, the Industrial Customers recommend holding a technical conference while delaying Phase IV to resolve disagreements surrounding the inclusion of DR in Phase IV. Industrial Customers Reply Comments at 17-18.

##### EEPDR in PJM Capacity Market

OSBA supports the Commission’s proposal that the EDCs be required to nominate a portion of the expected PDR of the EE&C Plan as a capacity resource in PJM’s FCM and agrees that the proceeds from resources that clear should be used to reduce Act 129 surcharges and collections for customer classes from which the savings were acquired. These proceeds should not be used to expand the overall size and scope of the EE&C subsidies. OSBA Comments at 3.

While PA-EEFA chooses not to take a stance on required participation in the PJM Capacity Market, they suggest that proceeds gained should be invested in increasing the number of low-income customers that can be served by the EDCs’ programs. PA-EEFA also suggests directing the proceeds to address health and safety needs of the customers that would otherwise preclude them from receiving the full complement of efficiency services that the EDCs can provide. PA-EEFA Comments at 20.

Duquesne, IECPA, the Industrial Customers, Maxwell Lighting & Energy, and the Pennsylvania Energy Efficiency Providers oppose the nomination of EE demand reduction into the PJM market. Duquesne notes the complications of nominating energy efficiency demand reductions calculated using the required TRM summer coincidence factors into an annual PJM capacity market and suggests this ruling could influence the types of projects EDCs prioritize. Additionally, the conflicting measurement requirements between PJM rules, the Commission’s orders, and the SWE’s promulgated measurement requirements cause EDCs to spend time and resources trying to understand and comply with conflicting rules. Making PJM market bidding a voluntary activity allows for resources and attention to be directed toward the customers and the grid. Duquesne Comments at 11-12. PPL agrees with comments made by Duquesne that participation in the PJM capacity market should remain voluntary, stating that customer benefits are variable and uncertain and may not outweigh the costs of participation. PPL Reply Comments at 19-20.

The Industrial Customers request that the PUC not require EDCs to nominate any portion of PDR achieved by the EE portfolio into PJM’s Capacity Auctions, citing uncertainties, the Minimum Offer Pricing Rule (MOPR), and the manner in which EE is processed into PJMs capacity market. Industrial Customers Comments at 21-23. The Pennsylvania Energy Efficiency Providers oppose this requirement due to the displacement of existing capacity in PJM, complexity of participation, risks to EDCs, and the Federal Energy Regulatory Commission’s (FERC’s) recent MOPR ruling. Pennsylvania Energy Efficiency Providers Comments at 1-2. Maxwell Lighting & Energy also advises against having the EDCs take a more central role in aggregating PDRs from EE and nominating them to PJM. Maxwell Lighting & Energy Comments at 1-2. IECPA agrees with the Industrial Customers, Duquesne, and other parties who recommend that PJM participation should be voluntary, especially regarding the uncertainties existing under the revised MOPR. IECPA Reply Comments at 6-7.

In the case the PJM capacity market participation is approved and required, the Industrial Customers suggests that the proceeds be used to reduce Act 129 customer surcharges and collections from customer classes from which savings were acquired. The Industrial Customers Comments at 16. IECPA proposes that proceeds be returned to the customers that generated the PJM proceeds and avers that they should not be used to increase program budgets. IECPA Comments at 7-8. FirstEnergy opposes IECPA’s suggestion that PJM revenues should be returned to the individual customers that provided the energy efficiency resource, stating that tracking and allocating the revenue back to specific customers would be difficult and costly. FirstEnergy Reply Comments at 5 and 15.

##### TRC Comments

AEMA comments that the 2021 TRC Test Final Order should include avoided generation in all five years of the program for all customer segments (Residential, large C&I, and small C&I). AEMA Comments at 4.

##### Demand Response Triggers

AEMA proposes maintaining existing DDR triggers. AEMA opposes updating to a day-of trigger or THI. If these considerations are set in place, AEMA proposes that the Commission hire a consultant to share THI data with all Act 129 participants to ensure all EDCs have the same data source. AEMA Comments at 12-13.

##### Miscellaneous Peak Demand Comments

AEMA recommends requiring peak demand reduction in year one of Phase IV in support of program continuity and reiterates the potential benefit of DDR programs regardless of the decision on peak demand reduction requirements. AEMA Comments at 12.

#### Disposition

##### Demand Response Exclusion

The Commission appreciates the thoughtful and detailed comments made by stakeholders on both sides of this issue. The decision to exclude DDR from the Phase IV goal setting was not made lightly. We find the merits of a PDR strategy focused on long‑lasting everyday reductions from energy efficiency measures outweigh the features of a design that includes both PDR from EE and DDR. The streamlined administrative responsibilities cited by EAP of a portfolio targeting a single resource type weighed heavily in our decision. While AEMA suggests that DDR will provide GHG reductions, more durable peak demand reductions from investing in EE will produce vastly more overall GHG reductions and also significantly larger financial benefits. The AEMA analysis also relies heavily on the program benefits from dual enrollment under a Phase III design, however, dual participation is prohibited under PJM’s revised procedures that are designed to recognize state-level DDR at the wholesale level.  We are uncomfortable with the AEMA suggestion because it diverts limited funds from EE programming to a DDR program design that is not formally recognized by PJM.  Due to the limited funding associated with the budget cap, we find that the PDR approach provides an appropriate compromise in achieving meaningful PDRs and further maintain that our preference for wholesale recognition is illustrated by the fact that the Commission is directing EDCs to nominate a portion of the PDR from their EE programs into PJM’s FCM.  Therefore, for Phase IV of Act 129, we maintain the approach proposed in the Tentative Order. Phase IV PDR targets are established at the expected level of system-level coincident demand reduction from allocating 100% of Phase IV funding to a balanced portfolio of energy efficiency programs.

The Commission finds the absence of comments from certain parties on the exclusion of DDR to be meaningful. In its comments, Enel and AEMA discuss the importance of Act 129 DDR programs to Pennsylvania businesses. However, comments from the Industrial Customers and IECPA do not profess such support and comments made by OSBA agree with the proposal to not include DDR in Phase IV of Act 129.

##### EEPDR in PJM Capacity Market

The Commission disagrees with the position put forth by the Pennsylvania Energy Efficiency Providers suggesting unregulated providers are better positioned to coordinate the nomination of PDR into PJM’s FCM. The EDCs are ultimately responsible for the design and delivery of their EE&C Plans and are therefore best equipped to nominate peak demand reductions from the projects they support. We recognize the fact that these proceeds have been harvested previously and returned to participating customers in the form of lower project costs. While the Pennsylvania Energy Efficiency Providers assert the proposed change is inferior or zero sum compared to the Phase III design, the Commission sees two important distinctions:

1. When the EDCs nominate PDR into PJM’s FCM, the proceeds can be returned to the customer class in the form of reduced cost recovery and not just to the provider and participating customer. We disagree with the IECPA that proceeds should be returned to the customer generating the proceeds and find that the proceeds should be returned to the customer class from which the demand reductions originated.
2. Having the EDCs manage this process allows for increased transparency. Under the Phase III construct, there is no visibility into how much FCM revenue is generated from Act 129 projects.

The MOPR issues raised by several commenters increase the complexity of this issue because final determinations at FERC are currently pending. Based on the comments received to the Tentative Order, it is clear that PDRs from Act 129 EE measures are being bid into the FCM and the question at hand is whether that bidding continues to be done ad hoc by CSPs or orchestrated by the EDCs. While the Industrial Customers raise several key questions and concerns regarding the MOPR implications, it is unclear if these implications would lead to different outcomes based on who orchestrates the bidding. The Commission maintains that EDCs have greater visibility and control of EE&C Plan performance and are thus best equipped to manage this process on behalf of the customer classes contributing viable peak demand reductions.

The Commission agrees with Duquesne that the summer coincidence factors in the Pennsylvania TRM will be insufficient to support PJM’s annual requirements. As discussed in the Tentative Order, FCM participation carries additional M&V requirements. We expect each of the EDCs to retain an industry-leading EM&V contractor for Phase IV who will have little problem meeting these requirements, as most are conducting similar efforts in multiple other states. Further, we note that current Act 129 M&V protocols for custom measures and prescriptive measures above the size thresholds established in the 2021 TRM are consistent with PJM’s M&V requirements. For Phase IV of Act 129, EDCs shall nominate a portion of the projected PDR in their EE&C Plans into PJM’s FCM. We reiterate that this requirement is for a portion of the planned PDR and EDCs have the flexibility to make a business decision regarding the appropriate amount based on the mix of program measures in its Phase IV EE&C Plan. We remind parties that robust 8760 load shapes for Pennsylvania commercial lighting, by business type, are available on the PUC website.[[57]](#footnote-58) We believe this data will prove valuable for EDC planners as they gauge the expected summer and winter demand reduction from Phase IV commercial lighting measures and may help offset PJM’s additional M&V requirements.

##### TRC Comments

AEMA’s suggestions regarding the calculation of avoided generation capacity costs are consistent with the disposition of the 2021 TRC Test Final Order.[[58]](#footnote-59) The TRC Order does not specify which years the avoided cost of generation capacity is or is not included as a TRC benefit. AEMA correctly identifies that the proper handling of this issue would depend on the Phase IV construct of any DDR programs. We find the 2021 TRC Order guidance is appropriate as written and the SWE’s application was correct in the DDR Potential Study for the program design considered.

##### Demand Response Triggers

Phase IV of Act 129 will not include a dedicated target for DDR and PDRs from voluntary DDR programs will not be eligible to count toward an EDCs PDR target. Therefore, the Commission finds it unnecessary to specify an event trigger. If an EDC wishes to deliver a voluntary DDR program, the event trigger should be proposed in its Phase IV EE&C Plan.

##### Miscellaneous Peak Demand Comments

Our determination to establish peak reduction targets from coincident demand reductions from EE rather than DDR makes AEMA’s suggestion regarding PY13 moot. The PDR targets for Phase IV are the sum of incremental annual savings meaning that the commercial date of operation for the measure does not affect the contribution towards compliance.

### Baseline for Targets

Since Phase I of Act 129, the Commission has utilized the average load for the 100 hours of highest load for the period June 1, 2007 through May 31, 2008 as the reference peak load values against which to express peak demand reductions for each EDC and for the EE&C Program as a whole.[[59]](#footnote-60) Although somewhat dated at this point, the SWE maintained this same baseline when expressing Phase IV reductions on a percentage basis in the EEPDR and DDR Potential Studies. This convention allows for an apples‑to‑apples comparison with targets, on a percentage basis, from prior phases. The Commission proposed to continue to use the average top 100 hours peak demand values for each EDC from the period June 1, 2007 through May 31, 2008, as the consumption baseline from which to express incremental savings in Phase IV. **Table *19*** shows the baseline peak demand values for each EDC and statewide.

**Table 19: Baseline Peak Demand Values from 2007-2008 by EDC**

|  |  |
| --- | --- |
| EDC | MW |
| Duquesne Light | 2,518 |
| PECO | 7,899 |
| PPL | 6,592 |
| FE: Met-Ed | 2,644 |
| FE: Penelec | 2,395 |
| FE: Penn Power | 980 |
| FE: West Penn Power | 3,496 |
| Statewide | **26,524** |

#### Comments

DEP proposes an update to the consumption baseline, which draws from 2007 and 2008 peak demand values. DEP recommends the SWE conduct an interim evaluation of Phase IV for the approach to PDRs. Due to the approach being a new process from previous phases, a new evaluation should also examine whether a more recent period of peak demand values can be used to reflect more current weather patterns due to our changing climate. DEP Comments at 3-4.

#### Disposition

The Commission agrees with DEP that the legacy peak demand baselines from the top 100 Hours of 2007-2008 are now somewhat dated and will be nearly twenty years old when planning for a possible Phase V of Act 129 begins. However, we maintain the value in expressing compliance targets using these legacy baseline values for ease of comparison with prior phases and note that the SWE utilized contemporary sales and peak demand forecasts for all modeling in its EEPDR and DDR Potential Studies. **Table *20*** compares the legacy peak demand baselines to EDC-specific peak demand forecasts for the first year of Phase IV using PJM’s 2019 Load Forecast Report.[[60]](#footnote-61) The contemporary values are higher statewide, with five EDCs showing higher values and two having lower values. As requested by DEP, we will direct the Phase IV SWE to monitor this issue and issue a recommendation regarding the appropriate peak demand baselines for future planning and reporting.

**Table 20: Comparison of Peak Demand Baselines**

|  |  |  |
| --- | --- | --- |
| EDC | 2007-2008 Peak Demand (MW) | 2021/2022 Peak Demand (MW) |
| PECO | 7,889 | 8,710 |
| PPL | 6,600 | 7,151 |
| Duquesne Light | 2,511 | 2,853 |
| FE: Met-Ed | 2,644 | 2,730 |
| FE: Penelec | 2,400 | 2,367 |
| FE: Penn Power | 978 | 851 |
| FE: West Penn Power | 3,489 | 3,724 |
| Statewide | **26,511** | **28,386** |

### Proposed Peak Demand Reduction Targets

For Phase IV, the Commission proposed that each EDC’s peak demand reduction target be equal to the expected reduction in coincident peak demand estimated in the EEPDR Potential Study subject to the 2% spending cap. ***Table 21*** shows the MW values for each EDC, and for the EE&C Program as a whole. We also note that these peak demand reduction values are expressed at the system-level. Therefore, any meter-level demand reduction estimate, like the ones provided in the TRM, would need to be scaled by the applicable line loss factor for reporting.

**Table 21: Proposed Phase IV Peak Demand Reduction Targets**

|  |  |  |
| --- | --- | --- |
| EDC | MW | Percent of 2007-2008 Reference Load |
| Duquesne Light | 67 | 2.7% |
| PECO | 276 | 3.5% |
| PPL | 244 | 3.7% |
| FE: Met-Ed | 85 | 3.2% |
| FE: Penelec | 91 | 3.8% |
| FE: Penn Power | 22 | 2.2% |
| FE: West Penn Power | 95 | 2.7% |
| \*Statewide | **878** | **3.3%** |

\* Statewide values in this table may not sum due to rounding.

We proposed that at the conclusion of Phase IV, in consultation with the Phase IV SWE, the Commission would determine EDC compliance with the PDR targets listed in ***Table 21***. Verified gross peak demand savings should be evaluated, reported, and compared to the targets in each EDC Annual Report. EDCs that fail to meet the peak demand reduction targets will be subject to penalties under subsection 2806.1(f) of the Act, 66 Pa. C.S. § 2806.1(f). In addition, the Commission proposed that each EDC submit an EE&C Plan that states the measures, programs, and customer classes from which PDRs would be nominated to PJM, along with the projected MW totals. A component of the EE&C Plan review will be to confirm the details of each EDC’s plan to bid peak demand reductions from EE into PJM’s FCM. Section I.5: Bidding Peak Demand from Energy Efficiency Resources into the PJM Capacity Market includes additional discussion on this topic.

#### Comments

OCA, the Industrial Customers, PECO, EAP, FirstEnergy, and Duquesne commented on the proposed PDR targets. PECO believes that setting PDR targets at 100% of the reductions estimated by the SWE is overly aggressive. Each EE measure has its own potential for coincident peak demand reduction and the SWE’s estimates are based on the particular measure mix that was modeled in the EEPDR Potential Study. The Commission’s proposal would effectively require EDCs to either replicate the measure mix modeled by the SWE or seek a much higher level of overall consumption reductions in order to make sure that the PDR target is met and PDR penalties are avoided. PECO believes that the PDR target should be no greater than 85% of the SWE’s estimate. For PECO, this would result in a reduction of its Phase IV PDR target from 276 MW to 234 MW. PECO Comments at 9-10.

Duquesne also proposes lowering the PDR targets, stating that the Phase IV target is 63% higher than previous targets. Duquesne anticipates lower PDR per unit of energy saved due to the removal of residential lighting measures and claims that the inflated PDR target would require Duquesne to shift program dollars to the most cost-effective demand reduction measures and away from more costly demand reduction choices, such as low-income programs. Duquesne Comments at 9-10. FirstEnergy also agrees that proposed PDR targets should not be set at 100% of the projected savings but should be set at 70% to allow for uncertainty in the EEPDR Potential Study and mix of measures implemented by customers. FirstEnergy Comments at 3 and 6-9. EAP mimics many of the arguments provided by the EDCs and asks the Commission to set Phase IV goals using a subset of the PDR estimated in the EEPDR Potential Study. EAP Comments at 10. PPL supports other commenter’s request for reduction of consumption and PDR targets due to the loss of residential lighting savings and anticipated depressed economic conditions. PPL Reply Comments at 3-4. Further, PPL is concerned that more funding will have to be allocated to C&I to meet the PDR targets, resulting in less funding for residential and low-income customers. Lowering the PDR targets will mitigate this allocation concern. PPL Reply Comments at 5-7. In its reply comments, IECPA supports the comments made by several other stakeholders and suggests that the Commission revise the PDR targets for Phase IV. IECPA Reply Comments at 6.

The Industrial Customers request clarification of the assumptions utilized to arrive at proposed targets and questions whether there is a portfolio and/or class allocation assumption for each EDC PDR target. They also suggest that the corresponding detail supporting the PDR targets is entirely absent from the report, preventing the Industrial Customers from determining whether the proposed PDR targets are reasonable or consistent with the statutory language requiring the EDCs to offer diverse alternatives for all customers of all rate classes. Consequently, the Industrial Customers suggest the removal of PDR targets. Industrial Customers Comments at 17-19.

DEP comments that they appreciate the results of the EEPDR Potential Study but defers to the Commission on how to best balance the costs and benefits of PDR approaches. Additionally, DEP agrees with the Commission’s preference for long-lasting PDR achieved by EE measures. DEP Comments at 3-4. The Building Performance Association opposes many comments made by other stakeholders and believes that the PDR targets are reasonable and achievable. Building Performance Association Reply Comments at 2.

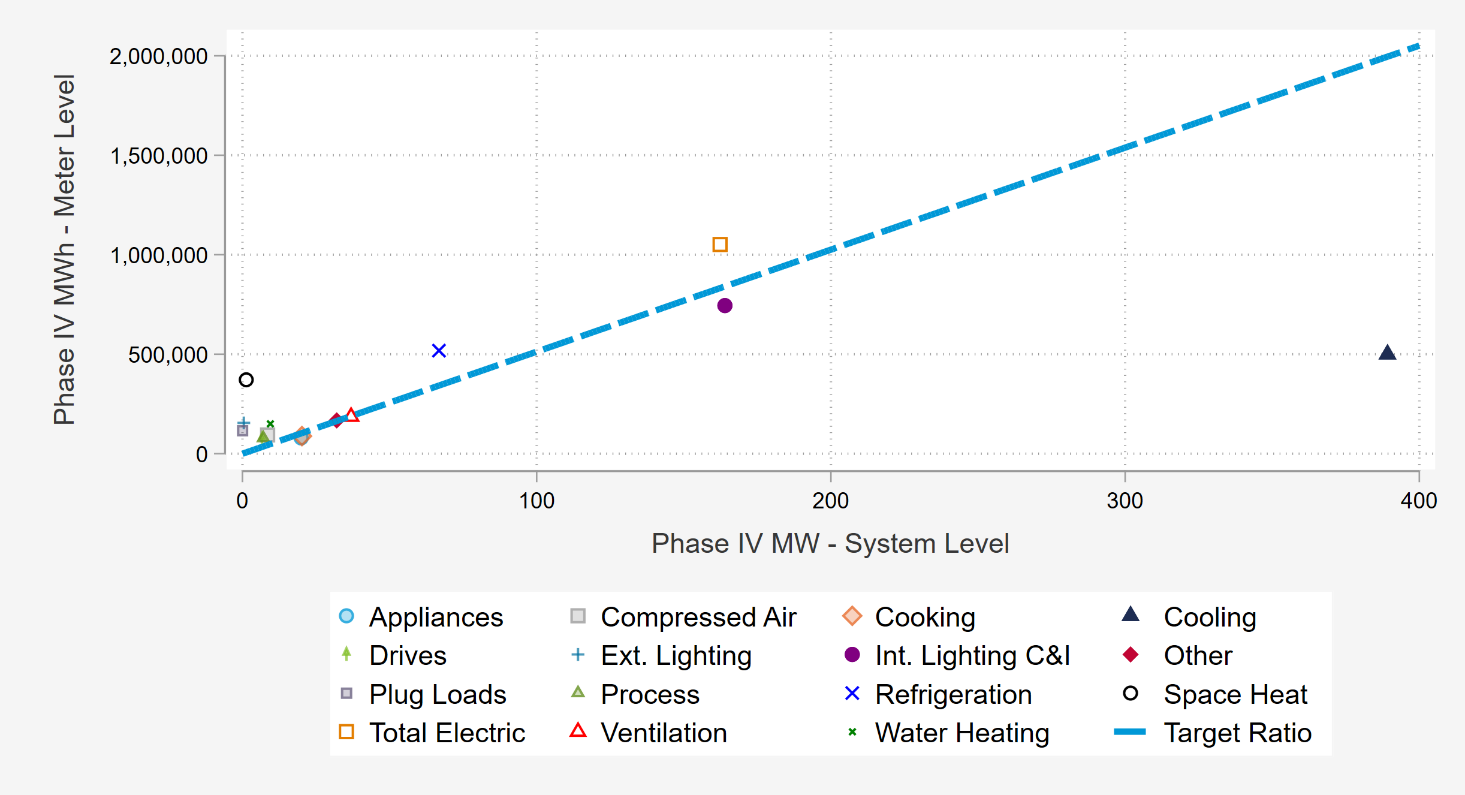
#### Disposition

The Commission notes several flaws in the objections raised by Duquesne and FirstEnergy with respect to the proposed PDR targets. Both parties compare the ratio of Phase III to date MWh and MW from recent Phase III compliance reports to the ratio of MWh to MW in the proposed targets. While the data are transcribed correctly in both cases, both Duquesne and FirstEnergy fail to note that the Phase III reporting of MWh and MW are both at the meter-level. Phase IV targets for MWh are at the meter-level, while Phase IV PDR targets are at the system-level, meaning they are inclusive of line losses. This simple modification changes the ratio by 6-8% depending on the EDC and sector.

Duquesne correctly identifies the removal of residential lighting measures as a key factor in the difference between Phase III and Phase IV energy-to-demand ratios but has the direction of the change backwards. Residential lighting measures have extremely low coincidence factors meaning that they save a large amount of kWh per peak kW. In PY10 Duquesne’s upstream lighting program showed 20,221 MWh of verified gross energy savings and 2.05 MW of peak demand savings for a ratio of 9,877 MWh per MW. The reduced contribution of residential lighting will lead to larger peak period demand reductions per unit of energy, not lower ones. Further, the SWE analysis did not include any screw-in residential lighting measures that Duquesne is concerned about. The Commission also notes that the MWh to MW ratios are generally in line with some other demand-side portfolios in the region, and we expect the EDCs would improve their historic ratios now that they have a PDR target.

We acknowledge the Industrial Customers’ concern that the EEPDR Potential Study contained less detail on the distribution of peak demand savings than energy savings. ***Figure 1*** shows the distribution of peak demand savings from energy efficiency by end use. The dashed blue lines represent the ratio of MWh to MW statewide in the proposed targets of 5,128 MWh per MW. Not surprisingly, given the summer weekday definition of peak demand for Act 129, the cooling end use shows the most peak demand savings per unit of energy. At the other end of the spectrum, electric space heating and exterior lighting save virtually zero peak demand despite contributing significantly to the statewide MWh totals.

**Figure 1: Scatterplot of Statewide Energy and Peak Demand Savings by End Use**



***Figure 2*** presents the same information by building type. Business types that are most active during weekday business hours tend to have a lower MWh to MW ratio, while residential and industrial building types, which have more weekend and evening consumption, show larger MWh to MW ratios.

**Figure 2: Scatterplot of Statewide Energy and Peak Demand Savings by Building Type**

A close up of a map

Description automatically generated

The Commission disagrees with PECO and other parties who suggest that adoption of the PDR targets based on the Act 129 potential estimates in the EEPDR Potential Study limits EDC program design flexibility or requires EDCs to replicate the SWE’s measure mix. We directed the SWE to model a comprehensive portfolio, which includes a mix of measures, end uses, and customer segments. As shown in ***Figure 1*** and ***Figure 2***, measures, end uses, and customer segments contribute a range of peak demand savings per unit of energy. In fact, the SWE modeled this comprehensive mix of measures without any preference for demand savings, so it does not arbitrarily reflect a “demand-heavy” mix of measures. If there is concern about meeting the PDR targets, the EDCs may design a portfolio that concentrates more on measures providing relatively higher demand savings.

In light of the objections raised by several parties regarding the PDR targets, our decision to establish a PDR compliance target from EE, and our rejection of requests to implement PDR carryover from Phase III to Phase IV, the Commission directed the SWE to carefully review all PDR assumptions and calculations in its EEPDR Potential Study. During this review, the SWE identified two areas where peak demand savings were neither explicitly excluded nor clearly specified in the 2021 TRM, commercial HVAC controls measures, and Home Energy Reports. Based on stakeholder comments and acknowledging that Phase IV will represent the first phase in which PDR targets have to be met exclusively with EE, the Commission directed the SWE to re-estimate the Phase IV PDR targets to reflect more conservative PDR requirements. More conservative assumptions regarding the peak MW savings attributable to these measures resulted in a lower demand savings of approximately 8% statewide. We note that the values shown in ***Figure 1*** are prior to this adjustment and the affected end-uses are Cooling and Total Electric. Peak demand savings from the Cooling end use are lower by approximately 50 MW statewide, and peak demand savings from the Total Electric end use are lower by approximately 20 MW. ***Table 22*** presents the updated PDR targets for Phase IV of Act 129. EDCs that fail to meet the PDR target will be subject to penalties under subsection 2806.1(f) of the Act, 66 Pa. C.S. § 2806.1(f).

**Table 22: Phase IV Peak Demand Reduction Targets by EDC and Statewide**

|  |  |  |  |
| --- | --- | --- | --- |
| EDC | Proposed Phase IV MW Target | Final Phase IV MW Target | Revised Percent of 2007-2008 Reference Load |
| Duquesne Light | 67 | 62 | 2.5% |
| PECO | 276 | 256 | 3.2% |
| PPL | 244 | 229 | 3.5% |
| FE: Met-Ed | 85 | 76 | 2.9% |
| FE: Penelec | 91 | 80 | 3.3% |
| FE: Penn Power | 22 | 20 | 2.0% |
| FE: West Penn Power | 95 | 86 | 2.5% |
| Statewide | **878** | **808** | **3.0%** |

### Annual Peak Demand Reduction Targets

The Commission proposed that the EDCs design their EE&C Plans to achieve at least 15 percent of their PDR target in each program year. We considered 15 percent to be a reasonable goal in designing the EE&C Plans. As with the consumption reduction targets, we propose that this requirement be limited to the Commission’s review and approval of the EE&C Plans and not be a target that would subject the EDCs to the penalty provisions prescribed under 66 Pa. C.S. § 2806.1(f).

#### Comments

The OCA and Duquesne believe the removal of DDR programs will require new EE measures, which take time to ramp-up. This ramp-up time will make the 15 percent target difficult to achieve in the first year of Phase IV. OCA Comments at 18-19, Duquesne Reply Comments at 4-5.

#### Disposition

The Commission disagrees with OCA that a significant additional ramp-up will be needed. The EDCs are already promoting a wide variety of measures that produce PDR MWs and having a PDR goal along with the energy goal does not fundamentally change the nature of the overall EE effort. We recognize that there can be ramp up issues at the beginning of a phase as EDCs implement new program offerings and potentially integrate new CSPs. The 15 percent requirement is intended to provide this flexibility. Ultimately, each EDC will need to acquire an average of 20 percent of its PDR target per year of Phase IV. We maintain that it is reasonable to plan for at least 15 percent each year and direct each EDC to file an EE&C plan to achieve no less than 15 percent of the MW PDR targets shown in ***Table 2*** each year of Phase IV.

### Measuring Peak Demand Reductions

Peak demand for Phase IV is addressed at 66 Pa. C.S. § 2806.1(d)(2), which requires the Commission, by November 30, 2013, to compare the total costs of EE&C plans to total savings in energy and capacity costs to retail customers. If the Commission determines that the benefits of the plans exceed the costs, the Commission shall set additional incremental requirements for reduction in peak demand for the 100 hours of greatest demand or an alternative reduction approved by the Commission. Any such reductions must be measured from the EDC’s peak demand for the period from June 1, 2011 through May 31, 2012. Any additional reductions must be accomplished no later than May 31, 2017.

For Phase IV of Act 129, the Commission proposed that PDRs from EE measures be measured using the savings approach described in Section A.7: Measuring Annual Consumption Reductions, and the definition of peak demand from Phases II and III, as documented in the 2021 TRM.[[61]](#footnote-62) The peak demand period for Act 129 programs is non-holiday weekdays from June through August from 2:00 pm to 6:00 pm Eastern Daylight Time. Measures in the 2021 TRM include algorithms and assumptions for calculating ΔkWpeak. For most measures, the calculation of peak demand savings involves the use of a coincidence factor, which the 2021 TRM defines as “[t]he ratio of the (1) sum of every unit’s average kW load during the PJM peak load period (June through August, non-holiday weekdays, 2 pm to 6 pm) to the (2) sum of the non-coincident maximum kW connected load for every unit.”[[62]](#footnote-63) We note that the peak demand savings associated with specific conservation measures are defined by the deemed or partially deemed approaches outlined in the 2021 TRM. For custom measures not included in the 2021 TRM, the Commission proposed that EDC evaluation contractors continue to estimate weather-normalized annual peak demand savings that consider and control for extraordinary weather conditions observed during the measurement and verification period.

PDR from EE nominated as capacity resources to PJM will need to follow the M&V requirements of PJM Manual 18B.[[63]](#footnote-64) The Commission notes that there are key differences between the M&V requirements of Act 129 and PJM. In the Tentative Order, we proposed that EDCs factor these requirements into their Phase IV evaluation contractor request for proposals (RFPs) and the selected evaluation contractors incorporate all incremental M&V requirements into their Act 129 M&V activities.

#### Comments

No comments were received on Section B.6. Measuring Peak Demand Reductions; however, several parties commented on the M&V requirements associated with bidding PDRs from energy efficiency into PJM’s FCM; those comments are summarized in Sections B.2 and I.5 of this Order.

Several parties commented on the possibility of voluntary DDR programs for Phase IV. OCA recommends that EDCs be allowed to offer a cost-effective DDR program, but suggests EDCs not be required to offer the programs as PSA. OCA identifies confusion amongst stakeholders regarding whether voluntary DDR programs are allowed and suggests that the Commission make this clear. OCA Comments at 15-17, Reply Comments at 9. FirstEnergy supports the OCA recommendation to allow EDCs to plan DR programs as part of PDR if they can do it cost-effectively. FirstEnergy Reply Comments at 13.

In reply comments, PECO observes that some parties did not interpret the Tentative Order as permitting DDR programs. PECO agrees with OCA that EDCs should be allowed the flexibility to include DDR programs if desired. PECO cites its AC Saver Program as a popular and cost-effective offering. PECO Reply Comments at 10.

#### Disposition

Comments regarding the M&V requirements of bidding PDR into PJM’s FCM are addressed in Sections B.2 and I.5 of this Order. We address the inclusion of voluntary DDR programs in this section because the topic is particularly relevant for measurement of compliance with Phase IV PDR targets. While EDCs are free to offer voluntary DDR programs in Phase IV, PDRs from DDR events will not contribute towards the Phase IV compliance targets shown in ***Table 2***. As described in the Tentative Order and 2021 TRM, the peak demand performance definition for Phase IV is 2:00 pm to 6:00 pm on non-holiday weekdays, June through August. The Commission has not created a DDR event trigger or performance definition for Phase IV. Absent such a definition, there is no mechanism for EDCs and their EM&V contractors to measure the PDR from DDR programs or claim DDR impacts towards Phase IV compliance targets.

The Commission also takes exception with PECO’s characterization of its AC Saver Program in reply comments. While the program may be popular, PECO’s PY10 Final Annual Report shows a TRC ratio of 0.58 for Phase III to date.[[64]](#footnote-65) A TRC ratio less than 1.0 indicates the programs costs are greater than its benefits; therefore, we disagree with PECO’s determination that the AC Saver Program is cost-effective according to the Act 129 TRC Test.

### Carryover of Peak Demand Savings

Our Tentative Order did not address the possibility of carryover of coincident peak demand savings generated by Phase III energy efficiency programs into Phase IV. Nonetheless, several parties submitted proposals on this topic and those proposals were addressed in reply comments.

#### Comments

PPL and the Industrial Customers characterize the absence of a PDR carryover mechanism as a limitation on carryover for Phase IV. PPL cites concerns about the methodology and assumptions used to develop the Commission’s proposed PDR targets and the COVID-19 pandemic. PPL Comments at 11. The Industrial Customers suggest that the Commission reconsider disallowing carryover from Phases I and II, arguing that since customers pay for the program, disallowing the savings from these earlier Phases deprives consumers of the benefits of previously paid-for efficiency reductions. Industrial Customers at 23-24.

PPL recommends the Commission permit EDCs to carryover the demand reductions associated with any excess Phase III MWh savings to Phase IV and count those carryover demand reductions toward the Phase IV PDR targets. PPL Comments at 11. EAP, FirstEnergy, and PECO also request that the Commission allow carryover from Phase III coincident peak demand savings towards Phase IV targets since energy efficiency measures have both energy savings and peak load reduction components and since allowing such carryover recognizes the value of the reductions achieved and paid for by ratepayers. EAP Comments at 7, FirstEnergy Comments at 3 and 9-10, and PECO Comments at 7.

#### Disposition

The Commission rejects all proposals to create a peak demand carryover mechanism from Phase III to Phase IV. Phase III of Act 129 included a PDR target that could only be met with DDR programs. Phase IV of Act 129 includes a PDR target that can only be met with coincident reductions in peak demand from energy efficiency programs. No EDC accumulated savings in excess of a Phase III EEPDR target because no such target existed. Because the nature of the PDR targets in Phase III and Phase IV are inherently different, we believe it would be inappropriate to count surplus Phase III MW achievements from dispatchable demand response programs towards a Phase IV PDR target. Therefore, carryover of Phase III peak demand savings into Phase IV of Act 129 will not be permitted.

## Plan Approval Process

The Act requires the Commission to establish procedures for approving EE&C Plans submitted by EDCs. 66 Pa. C.S. § 2806.1(a)(1). For the initial phase of the EE&C Program, the Act dictated that all EDCs with at least 100,000 customers must develop and file, by July 1, 2009, an EE&C Plan with the Commission for approval. 66 Pa. C.S. §§ 2806.1(b)(1) and 2806.1(l). The Commission was to conduct a public hearing on each EE&C Plan that allowed for submission of recommendations by the statutory advocates and the public regarding how the EDC’s EE&C Plan could be improved. 66 Pa. C.S. § 2806.1(e)(1). The Commission was to rule on each EE&C Plan within 120 days of submission. 66 Pa. C.S. § 2806.1(e)(2). If the Commission disapproved of some or all of an EDC’s EE&C Plan, it was to describe in detail its reasons for disapproval, after which the EDC had 60 days to submit a revised EE&C Plan. 66 Pa. C.S. § 2806.1(e)(2). The Commission then had 60 days to rule on the revised EE&C Plan. *Id*.

### Phase IV EE&C Plan Approval Process

In the initial phase of the EE&C Program, we established an EE&C Plan approval process that balanced the desire to provide all interested parties with an opportunity to be heard, with the need to complete the process within the statutory time constraints. We noted that the EE&C Plans were evolutionary in nature as the Act provides for modification of those plans after approval. Finally, we noted that, while we had established a formal approval process, we specifically directed the EDCs to offer and engage in informal discussions with the statutory advocates and interested stakeholders during the pre-filing development of their EE&C Plans.[[65]](#footnote-66)

The approval process established in the initial phase of the EE&C Program was as follows:

The Commission will publish a notice of each proposed plan in the *Pennsylvania Bulletin* within 20 days of its filing. In addition, the Commission will post each proposed plan on its website. An answer along with comments and recommendations are to be filed within 20 days of the publication of the notice in the *Pennsylvania Bulletin*. Each plan will be referred to an Administrative Law Judge (“ALJ”), who will establish a discovery schedule and hold a public input hearing(s) in the EDC’s service territory, as well as an evidentiary hearing(s) on issues related to the EDC’s EE&C plan. Such hearings are to be completed on or before the 65th day after a plan is filed, after which, the parties will have 10 days to file briefs. The EDC will then have 10 days to submit a revised plan or reply comments or both. The ALJ will then certify the record to the Commission.

The Commission will approve or reject all or part of a plan at public meeting within 120 days of the EDC’s filing. The Commission will provide a detailed rationale for rejecting all or part of a plan. Thereafter, the EDC will have 60 days from the entry date of the order to file a revised plan that addresses the identified deficiencies. This revised plan is to be served on OCA, OSBA [Office of Small Business Advocate], OTS [Office of Trial Staff][[66]](#footnote-67) and all other parties to the EDC’s EE&C plan filing, who, along with other interested parties, will have ten days to file comments on the revised plan, with reply comments due ten days thereafter. The Commission will approve or reject a revised plan at a public meeting within 60 days of the EDC’s revised plan filing. This process will be repeated until a plan receives Commission approval.[[67]](#footnote-68)

For Phases II and III, we utilized the same approval process with one revision. Specifically, we eliminated the need for a public input hearing, unless specifically requested, as interested parties have ample opportunity to participate in the proceedings, as well as EDC stakeholder meetings, or are already adequately represented. We directed the EDCs to offer and engage in informal discussions with the statutory advocates and interested stakeholders during the pre-filing development of their EE&C Plans.[[68]](#footnote-69)

The Act requires EDCs to file a new EE&C Plan with the Commission every five years or as otherwise required by the Commission. Such new plans must set forth the manner in which the EDC will meet the required reductions in consumption under subsections (c) and (d) of the Act. *See* 66 Pa. C.S. § 2806.1(b)(1)(ii). Therefore, we proposed that the EDCs file new EE&C Plans outlining how they will implement measures/programs necessary to attain the consumption and peak demand reduction targets proposed herein. Additionally, we proposed, for the approval of the EDCs’ Phase IV EE&C Plans, the same process that was utilized in Phases II and III. We judged that this process balances the needs of all stakeholders while recognizing the time constraints and resource allocation required in the litigation of the Plans. As no comments were received, the Commission adopts with this Order the EE&C plan approval process as proposed.

### Phase IV Planning Timeline

***Table 23*** shows the Commission’s proposed timeline for the Implementation of Phase IV of the EE&C Program. The Commission proposed this timeline as it judged that it balances the needs of all parties. This timeline allows for input from all interested stakeholders and provides all parties with the appropriate level of due process, as well as gives the EDCs adequate time to implement their EE&C Plans in a manner to meet the proposed Phase IV consumption and PDR requirements.

**Table 23: Phase IV Planning Timeline**

|  |  |
| --- | --- |
| Date | Milestone |
| March 12, 2020 | Tentative Implementation Order on Public Meeting agenda[[69]](#footnote-70) |
| March 28, 2020 | Tentative Implementation Order Notice published in *Pennsylvania Bulletin[[70]](#footnote-71)* |
| April 27, 2020 | Tentative Implementation Order Comment due date |
| May 12, 2020 | Tentative Implementation Order Reply Comment due date |
| June 18, 2020 | Final Implementation Order on Public Meeting agenda |
| July 6, 2020[[71]](#footnote-72) | Petitions for Evidentiary Hearings filing deadline[[72]](#footnote-73) |
| October 23, 2020 | Evidentiary Hearing records certified to the Commission |
| November 30, 2020 | If necessary, EDCs file EE&C Plans |
| March 2021 | If necessary, Commission rules on EE&C Plans |
| June 1, 2021 | Phase IV EE&C Programs begin |

#### Comments

IECPA request suspending the Phase IV planning process for at least 270 days given uncertainties resulting from the COVID-19 pandemic. IECPA Comments at 2. Similarly, the Industrial Customers request suspending implementation of Phase IV for at least a year, citing a need to update demand forecasts used by the SWE and an inability to implement on-site measures. Industrial Customers Comments at 2 and 5-12, Reply Comments at 4-6. The OCA suggests pausing Phase IV plan development, updating potential studies, and continuing with Phase III wherever safe to do so by targeting achievement of savings at the same pace as done in Phase III until Phase IV can commence. OCA Comments at 3, Reply Comments at 2-3.

Conversely, CAUSE-PA asserts that rather than delay planning for future programming, now is the time to get to work planning robust energy efficiency programs capable of producing appreciable bill savings and reducing unnecessary energy usage over the long term, citing an increase in low-income households and the ability of Act 129 to aid in economic recovery. CAUSE-PA Comments at 4. CERES also states that they strongly believe that any recommendation to suspend or delay the implementation of Phase IV EE&C program requirements should be rejected, citing the economic benefits energy efficiency programs bring to customers and the jobs supported by program implementation. CERES also highlights Act 129’s economic benefits and ability to help the state reach its goals relating to climate change. CERES Comments at 2. PA-EEFA states that the COVID-19 pandemic increases the need for Act 129 programs. PA-EEFA Comments at 4.

FirstEnergy, Duquesne, EAP, AB Energy et al., SEF, KEEA, and PA-EEFA all oppose suggestions to delay Phase IV implementation. Duquesne opines that delaying Phase IV would result in additional costs for implementation and evaluation, as well as confusion amongst customers. KEEA also cites additional costs and policy questions resulting from the applicability of the most recent TRM order. KEEA recommends that if implementation of Phase IV is delayed, that the Commission clarify whether major policy changes to the TRC, TRM, and demand response program apply during an interim period. PA-EEFA states that given the current uncertainty surrounding the impact of COVID-19, it does not make sense to delay Phase IV. Instead, PA-EEFA opines that EDCs should incorporate emerging data and protocols regarding COVID-19 during the development period of Phase IV plans. Additionally, PA-EEFA expresses that simply continuing with Phase III for another year is not plausible because Phase III programs are not feasibly given health and safety restrictions. FirstEnergy Reply Comments at 4 and 10-12; Duquesne Reply Comments at 2-3; EAP Reply Comments at 1-2 and 4; AB Energy et al. Letter at 1-2; SEF Reply Comments at 2-3; KEEA Reply Comments at 4-6; and PA-EEFA Reply Comments at 2-5.

#### Disposition

We view IECPA’s comments and those made by other stakeholders regarding potential future impacts of COVID-19 and suspending the Phase IV planning process as premature, noting that there is significant uncertainty regarding the length of time in which COVID-19 will continue to impact EDCs’ programs and the wider economy. This uncertainty, paired with the Phase IV start date, which is still over a year away, supports the Commission’s finding that now is not the appropriate time to engage in speculative estimates of future COVID-19 impacts on Phase IV of Act 129. We maintain our position that this timeline balances the needs of all stakeholders; therefore, the Commission directs staff to proceed as outlined above.

### Standards to Ensure that a Variety of Measures are Applied Equitably to all Customer Classes

The Act requires the Commission to establish standards to ensure that each EDC’s EE&C Plan includes a variety of measures and that each plan will provide the measures equitably to all customer classes. 66 Pa. C.S. § 2806.1(a)(5).[[73]](#footnote-74) The Act defines “energy efficiency and conservation measures” at 66 Pa. C.S. § 2806.1(m).

In Section A.3: Prescription of Low-Income Measures and Carve-Out of this Order, the Commission proposed a specific carve-out for the low-income sector. Beyond this requirement, we believe that EDCs should develop plans to achieve the most lifetime energy savings per expenditure. The Commission finds that EDCs must offer a well‑reasoned and balanced set of measures that are tailored to usage and to the potential for savings and reductions for each customer class. Furthermore, we find that the overall limitation on cost recovery and the specific limitation tying costs to a benefited class (discussed later in this Order) ensures that offerings will not be skewed toward or away from any particular class. There is no single set of measures that will fit all EDCs and the myriad mix of customer classes. It is entirely possible that the most cost‑effective programs may not come proportionally from each customer class.

The Commission finds that all classes of customers will benefit from a general approach because it has the best potential to impact future energy prices. For Phase IV of Act 129, the Commission proposed not to require a proportionate distribution of measures among customer classes. However, the Commission proposed that each customer class be offered at least one program. The Commission notes that, as in prior phases, the initial mix and proportion of programs should be determined by the EDCs, subject to Commission approval. The Commission expects the EDCs to provide a reasonable mix of programs for all customers. The burden is on an EDC to explain and justify its distribution of measures among its customer classes if such distribution is challenged.

#### Comments

The Industrial Customers and IECPA suggest that the Commission exclude large C&I customers from the Act 129 EE&C Programs as they believe the SWE analysis is not based on a thorough analysis of the large C&I customer sector. The Industrial Customers also believe that the SWE analysis failed to address necessary cost assumptions, and that the Commission lacks the evidentiary record to conclude it is just and reasonable to continue requiring large C&I customers to pay Act 129 surcharges. Industrial Customers Comments at 2, 6, and 12-16, Reply Comments at 6-8, IECPA Comments at 3.

FirstEnergy, Duquesne, OCA, and KEEA oppose suggestions to allow large C&I customers to opt-out of Act 129. FirstEnergy and OCA express that an opt-out would go against the intention of Act 129 and would make the current savings targets unreasonable. FirstEnergy Reply Comments at 4 and 12-13, OCA Reply Comments at 10. Duquesne highlights that C&I customers have received 187,000 MWh of energy savings and $9.4 million in incentives through previous phases of Act 129. Duquesne Reply Comments at 7. KEEA expresses that Act 129 does not permit an opt-out and highlights that three previous legislative sessions have rejected bills to allow for a C&I opt-out of Act 129. KEEA Reply Comments at 7-8.

#### Disposition

We reject the Industrial Customers’ and IECPA’s continued requests for an exemption of large C&I customers from the Act 129 EE&C Program. Act 129 does not contain a provision to exclude a certain customer class from the EE&C program. Furthermore, the Act 129 definition of an EE&C measure requires that the cost of the acquisition or installation of the measure must be directly incurred in whole or in part by the EDC in order for its associated savings to apply to the required reductions. *See* 66 Pa. C.S. §2806.1(m).[[74]](#footnote-75) We agree with Duquesne that the large C&I sector has seen significant benefits in rebate dollars received and kilowatt-hours saved in various phases of Act 129.

The SWE has clearly determined that cost-effective potential exists, regardless of rate class, for the EDC service territories. Therefore, the EDCs are required, by Act 129, to provide EE&C Programs that include measures for all customer classes.

### Process to Make EE&C Plan Changes and Recommendations for Additional Measures

The Act requires the Commission to establish procedures through which recommendations can be made as to additional measures that will enable an EDC to improve its plan. 66 Pa. C.S. § 2806.1(a)(6). Furthermore, the Act permits the Commission to direct an EDC to modify or terminate any part of an approved plan if, after an adequate period for implementation, the Commission determines that a measure included in the plan will not achieve the required consumption reductions in a cost‑effective manner. 66 Pa. C.S. § 2806.1(b)(2). Below is the Commission’s proposed procedure for recommending additional measures that enable an EDC to improve its plan. First, it must be noted that interested parties will have an opportunity to make recommendations during the plan approval process described earlier in this Order.

Regarding approved plans, the Commission’s proposed procedure would permit EDCs and other interested stakeholders, as well as the statutory advocates, to propose plan changes in conjunction with the EDC’s annual report filing required by the Act at 66 Pa. C.S. § 2806.1(i)(1). These annual reports are to be served on the Office of Consumer Advocate, the Office of Small Business Advocate and the Commission’s Bureau of Investigation and Enforcement. The Commission would also post the annual reports on a web page dedicated to the EE&C Program. The Commission and any interested party could make a recommendation for plan improvement or object to an EDC’s proposed plan revision within 30 days of the annual report filing. EDCs will have 20 days to file replies, after which the Commission would determine whether to rule on the recommended changes or refer the matter to an Administrative Law Judge (ALJ) for hearings and a recommended decision in accordance with 52 Pa. Code §§ 5.41 (relating to petitions generally) and 5.572 (relating to petitions for relief).

EDCs and stakeholders may petition at any time, for changes to approved plans, wherein an EDC or stakeholder petitions the Commission to rescind and amend its prior order approving the plan in accordance with 52 Pa. Code §§ 5.41 (relating to petitions generally) and 5.572 (relating to petitions for relief). This process does not apply to minor plan changes, as described below, wherein the Commission has delegated to staff, the authority to review and approve.

The Commission, in an order adopted on June 9, 2011, at Docket No. M‑2008‑2069887,[[75]](#footnote-76) expedited the review process for approving minor EE&C Plan changes proposed by EDCs. The Minor Plan Change Order defined what a minor change is and delegated authority to staff to approve, modify or reject the proposed minor changes. The Commission continued the EE&C Plan approval processes described in the Minor Plan Change Order in Phase II, with one modification. In Phase II, the Commission allowed the following minor EE&C Plan changes to be reviewed under the expedited review process:

* The elimination of a measure that is underperforming; is no longer viable for reasons of cost-effectiveness, savings or market penetration; or has met its approved budgeted funding, participation level or amount of savings;
* The transfer of funds from one measure or program to another measure or program within the same customer class;
* Adding a measure or changing the conditions of a measure, such as is eligibility requirements, technical description, rebate structure or amount, projected savings, estimated incremental costs, projected number of participants or other conditions so long as the change does not increase the overall costs to that customer class;
* A change in vendors for existing programs that will continue into Phase II; and
* The elimination of programs which are not viable due to market conditions.[[76]](#footnote-77)

For Phase IV, the Commission proposed the continued utilization of this process for the expedited review of minor EE&C Plan changes proposed by EDCs.

#### Comments

The Industrial Customers request the removal of rebate structures from the list of expedited review process as changes to rebate structures can result in vastly different compensation levels for customers implementing the same measures based on the timing of their application to the EDC, implicating intraclass cost subsidization and fairness issues that should be subject to more robust comment and review. Industrial Customers Comments at 25-26.

#### Disposition

The Commission finds that the objections to the minor plan change process are unpersuasive and inappropriate. The minor plan change process does not preclude the Industrial Customers from raising these concerns when such a change is requested by an EDC. Therefore, we adopt with this Order the minor plan change process used in Phase III for Phase IV without modification.

## Plan Effectiveness Evaluation Process

The Act requires the Commission to establish an evaluation process that monitors and verifies data collection, quality assurance and the results of each EDC EE&C Plan and the program as a whole. *See* 66 Pa. C.S. § 2806.1(a)(2). While Section 2806.1(b)(1)(i)(C) requires each plan to include an explanation as to how quality assurance and performance will be measured, verified and evaluated, it is apparent that Section 2806.1(a)(2) requires the Commission to monitor and verify this data. This evaluation process is to be conducted every year, as each EDC is to submit an annual report documenting the effectiveness of its EE&C Plan, energy savings measurement and verification, an evaluation of the cost‑effectiveness of expenditures and any other information the Commission requires. *See* 66 Pa. C.S. § 2806.1(i)(1).

### Statewide Evaluator

The Commission judges that to have credible impact and process evaluations available, a SWE must be selected and used in a fashion similar to prior phases. The SWE will provide expertise in evaluations and remain independent from EDC evaluators. Therefore, in preparation for Phase IV, the Commission proposed to competitively solicit for services to evaluate the EDC programs and identify whether further cost-effective savings can be obtained in future EE&C programs. A Request for Proposal (RFP) would be issued requiring that submitted proposals contain provisions for evaluation framework development; annual audits of EDC programs; MPS(s) on EE and peak demand reduction; and an early 2027 review of the entire Phase IV program. In order to prepare for the year beginning June 1, 2021, the Commission proposed a contract period of March 1, 2021 through February 28, 2027. By starting in March 2021, the SWE would have an opportunity to develop plans and prepare for its responsibilities that begin June 1, 2021. As in Phase III, the Commission proposed that the Phase IV SWE contract be funded by a proration from the EDCs. As no comments were received on this topic, the Commission adopts with this Order the SWE selection process, role and responsibilities, and funding mechanism as proposed.

### Technical Reference Manual

The Commission will continue to utilize the TRM to help fulfill the evaluation process requirements contained in the Act. The TRM was initially adopted by the Commission in the Alternative Energy Portfolio Standards Act (AEPS Act) proceedings at Docket No. M‑00051865 (order entered October 3, 2005). However, as the TRM was initially created to fulfill requirements of the AEPS Act, it had to be updated and expanded to fulfill the requirements of the EE&C provisions of Act 129. As such, the Commission initiated a process to update and expand the TRM to provide for additional energy efficient technologies, under Docket No. M‑00051865. The Commission provided updated editions of the TRM in 2009, 2010, 2011, 2012, 2013, 2014 and 2015 to incorporate changes and improvements that were based on more recent research and data, as well as the needs and experiences of the EDCs. In its 2009 TRM Update Order, the Commission stated that the TRM updating process will occur annually, with a final revised TRM due by December 31 for use effective June 1 of the following year.[[77]](#footnote-78) In Phase II of the EE&C Program, the Commission maintained this annual updating process.[[78]](#footnote-79)

For Phase III, the Commission adopted the 2016 TRM for the entirety of Phase III. The Commission reserved the right to implement a mid-phase TRM update if an update was deemed necessary, such as in instances where major market or technology transformations affect the EE&C Programs and associated savings values. The Commission proposed in the Tentative Order that the 2021 TRM be applicable for the entirety of Phase IV. However, we reserve the right to implement a mid-phase TRM update if we deem it necessary.

In addition, in the 2021 TRM Final Order, the Commission adopted a new process for incorporating codes, standards, and ENERGY STAR specifications that change during Phase IV without undertaking a full TRM update.[[79]](#footnote-80) Each year of the phase, the SWE will track code updates to federal standards, ENERGY STAR specifications, and state-adopted building energy codes. Based on the extent of code updates that occur, the SWE will recommend whether to open the TRM for a code refresh for the following program year. Code updates that are not finalized and in effect before July 1 of a program year will not be considered for inclusion in the TRM in that update cycle. Changes to the TRM proposed by the SWE through this process will be limited to updating values directly related to codes, standards, and ENERGY STAR specifications. Any modification to the Phase IV TRM would become effective on June 1 of the calendar year following the comment and review process.

#### Comments

The Environmental Stakeholders, KEEA, and Ecobee support adjustments to the TRM. Environmental Stakeholders and KEEA suggest that electric-to-fossil fuel switching is not necessary for cost-effective implementation, is inconsistent with Pennsylvania State and Municipal Public Policies towards decarbonization, and inconsistent with market and technology trends supporting building electrification. Environmental Stakeholders Comments at 1, Reply Comments at 6. KEEA requests that the Commission prevent the allowance of electric-to-fossil fuel switching in the TRM in circumstances when there is no total energy efficiency improvement as this is an inappropriate use of Act 129 dollars. KEEA Comment at 19-21. Ecobee requests inclusion of demand savings for smart thermostats in the TRM. Ecobee Comments at 1.

#### Disposition

The Commission disagrees with suggestions to prevent electric‑to‑fossil fuel switching. The measures were adopted as part of the 2021 TRM and they are eligible measures for Phase IV. The Commission notes that, historically, these measures are rarely adopted, having accounted for less than one quarter of one percent of verified savings through PY10 of Phase III. The Commission also notes that the fossil fuel equipment is required to have efficiency levels that are greater than or equal to the applicable ENERGY STAR requirement.

The Commission agrees with Comments made by Ecobee that the 2021 TRM does not include peak demand savings for ENERGY STAR®-certified connected thermostats. We direct the SWE to investigate and modify the 2021 TRM via errata if the exclusion of peak demand savings is determined to be erroneous as it would be unfair to EDCs in pursuit of their Phase IV peak demand reduction target.

### EDC and SWE Reports

In Phases I and II the Commission required the EDCs to submit quarterly reports, a preliminary annual report, and a final annual report. In Phase III the Commission removed the requirement for quarterly reports, opting only for semi-annual, preliminary annual and final annual reports. The Commission judged that the EDCs and participating stakeholders have maintained a well-functioning system of providing and receiving feedback from each other to aid in the implementation of successful EE&C Programs in Phase III. We concluded that it was unnecessary to continue requiring preliminary annual reports in addition to the final annual reports. Therefore, in an effort to streamline the reporting process, we proposed eliminating the preliminary annual report. In addition, the Commission has an interest in providing reports to the public in a much timelier fashion. This can be accomplished by the EDCs submitting their final annual reports closer to the end of each program year. Therefore, we proposed that the EDCs submit their final annual reports by August 30 of each year, 90 days after the end of the program year. Similarly, we proposed that the EDCs submit their semi‑annual reports by January 15 of each year. The final annual report will include reported savings for the program year, a cost-effectiveness evaluation (TRC Test), a process evaluation, as well as items required by Act 129 and Commission orders. An example of the proposed EDC and SWE reporting schedule is outlined in ***Table 24*** for PY13 (June 1, 2021 through May 31, 2022) and PY14 (June 1, 2022 through May 31, 2023).

**Table 24: Proposed EDC and SWE Reporting Schedule**

|  |  |
| --- | --- |
| Date | Milestone |
| June 1, 2021 | Beginning of program year 13 (PY13) |
| January 15, 2022 | PY13 EDC Semi-annual Report – report regarding the first six months of PY13 |
| February 28, 2022 | PY13 SWE Semi-annual report – report summarizing and auditing EDC PY13 Semi-annual Reports |
| June 1, 2022 | Beginning of program year 14 (PY14) |
| August 30, 2022 | PY13 EDC Final Annual Report - reported savings for PY13, a cost-effectiveness evaluation (TRC Test), a process evaluation, as well as items required by Act 129 and Commission orders |
| October 30, 2022 | PY13 SWE Final Annual Report – report summarizing and auditing EDC PY13 Final Annual Reports |
| January 15, 2023 | PY14 EDC Semi-annual Report – report regarding the first six months of PY14 |
| February 28, 2023 | PY14 SWE Semi-annual report – report summarizing and auditing EDC PY14 Semi-annual Reports |
| June 1, 2023 | Beginning of program year 15 (PY15) |
| August 30, 2023 | PY14 EDC Final Annual Report - reported savings for PY14, a cost-effectiveness evaluation (TRC Test), a process evaluation, as well as items required by Act 129 and Commission orders |
| October 30, 2023 | PY14 SWE Final Annual Report – report summarizing and auditing EDC PY14 Final Annual Reports |

#### Comments

The Industrial Customers, EAP, and PECO support streamlining the EDC reporting processes by eliminating the preliminary annual report. Industrial Customers Comments at 16, EAP Comments at 12, PECO Comments at 10. CAUSE-PA supports adjusting timelines for EDC reporting to allow stakeholders to conduct more meaningful analysis of the program. CAUSE-PA Comments at 19. PECO opposes the earlier submission date for the final annual report. Instead, PECO recommends retaining the November 15 submission date to allow EDCs time to complete gross savings verification. PECO Comments at 10. CAUSE-PA recommends creating a working group to standardize reporting requirements for low-income customers; the OCA supports this recommendation. CAUSE-PA Comments at 19-20, OCA Reply Comments at 8. In addition, CAUSE-PA supports the comments made by the Housing Alliance of PA on multifamily tracking and suggests better tracking of geographic information of provided services. CAUSE-PA Comments at 19-20. Duquesne rejects recommendations to increase reporting requirements on the basis that they increase the administrative burden and cost. Duquesne Reply Comments at 6-7.

#### Disposition

The Commission agrees with PECO that a submission date of August 30 may not provide enough time for EDCs to complete the verification of gross savings but declines to retain the November 15 deadline. We direct the EDCs to file final annual reports on September 30 of each year, 120 days after the end of the program year. We also direct the SWE to submit final annual reports on November 30 of each year. We find this strikes a balance between providing reports to the public in a timelier fashion with EDC gross savings verification requirements (**Table *25***). The final annual report will include reported savings for the program year, a cost-effectiveness evaluation (TRC Test), a process evaluation, and items required by Act 129 and Commission orders. The EDCs are to submit these reports to the Commission’s Secretary’s Bureau at each EDC’s respective Phase IV Docket Number (to be provided upon the submission of Phase IV EE&C Plans). Additionally, the EDCs are to post these reports on their respective websites. In addition, the Commission will continue to post EDC reports on its website.

**Table 25: Proposed EDC and SWE Reporting Schedule**

|  |  |
| --- | --- |
| Date | Milestone |
| June 1, 2021 | Beginning of program year 13 (PY13) |
| January 15, 2022 | PY13 EDC Semi-annual Report – report regarding the first six months of PY13 |
| February 28, 2022 | PY13 SWE Semi-annual report – report summarizing and auditing EDC PY13 Semi-annual Reports |
| June 1, 2022 | Beginning of program year 14 (PY14) |
| September 30, 2022 | PY13 EDC Final Annual Report - reported savings for PY13, a cost-effectiveness evaluation (TRC Test), a process evaluation, as well as items required by Act 129 and Commission orders |
| November 30, 2022 | PY13 SWE Final Annual Report – report summarizing and auditing EDC PY13 Final Annual Reports |
| January 15, 2023 | PY14 EDC Semi-annual Report – report regarding the first six months of PY14 |
| February 28, 2023 | PY14 SWE Semi-annual report – report summarizing and auditing EDC PY14 Semi-annual Reports |
| June 1, 2023 | Beginning of program year 15 (PY15) |
| September 30, 2023 | PY14 EDC Final Annual Report - reported savings for PY14, a cost-effectiveness evaluation (TRC Test), a process evaluation, as well as items required by Act 129 and Commission orders |
| November 30, 2023 | PY14 SWE Final Annual Report – report summarizing and auditing EDC PY14 Final Annual Reports |

The Commission finds that a working group is unnecessary to standardize reporting for low-income customers, nor does it agree that additional tracking of geographic information of program participation is necessary. However, as noted in Sections A.3 and A.4 of this Order, the Commission does direct the EDCs to continue to report savings achieved for the GNI sector in Phase IV and to report savings achieved in multifamily housing, both for the low-income carve-out and for the portfolio of programs.

## Benefit - Cost Analysis Approval Process

Act 129 requires an analysis of the costs and benefits of each EE&C Plan, in accordance with a TRC Test approved by the Commission. *See* 66 Pa. C.S. § 2806.1(a)(3). The Act also requires an EDC to demonstrate that its plan is cost‑effective using the TRC Test and that the plan provides a diverse cross-section of alternatives for customers of all rate classes. *See* 66 Pa. C.S. § 2806.1(b)(1)(i)(I). The Act defines “total resource cost test” as “a standard test that is met if, over the effective life of each plan not to exceed 15 years, the net present value of the avoided monetary cost of supplying electricity is greater than the net present value of the monetary cost of [EE]conservation measures.” 66 Pa. C.S. § 2806.1(m).[[80]](#footnote-81) The purpose of using the TRC Test to evaluate the EDCs’ specific programs is to track the relationship between the benefits to the Commonwealth and the costs incurred to obtain those benefits. The TRC Test has historically been a regulatory test. Sections 2806.1(c)(3) and 2806.1(d)(2), 66 Pa. C.S. §§ 2806.1(c)(3) and (d)(2), as well as the definition of the TRC Test in Section 2806.1(m), 66 Pa. C.S. § 2806.1(m), provide that the TRC Test be used to determine whether ratepayers, as a whole, received more benefits (in reduced capacity, energy, transmission, and distribution costs) than the implementation costs of the EDCs’ EE&C Plans.

### 2021 TRC Test Order

The 2021 TRC Test Final Order[[81]](#footnote-82) was adopted at the December 19, 2019 Public Meeting at Docket No. M‑2019‑3006868. The 2021 TRC Test Final Order provides comprehensive guidance on all aspects of Act 129 benefit-cost calculations for Phase IV of Act 129. The Phase IV EEPDR and DDR Potential Studies were conducted using the benefit-cost methodology detailed in the 2021 TRC Test Final Order. EDCs and their evaluation contractors shall follow the directives of the 2021 TRC Test Final Order when developing EE&C plans for Phase IV of Act 129 and for reporting TRC Test results in Phase IV final annual reports.

The 2021 TRC Test Final Order included a companion Avoided Costs Calculator (ACC) tool. The ACC implements the calculations called for in the 2021 TRC Test Final Order to develop twenty-year forecasts of the avoided cost of electric energy, capacity, and natural gas. The Commission proposed that EDCs use the ACC when developing their Phase IV forecasts of avoided costs and submit a complete ACC as an addendum to their Phase IV EE&C Plans.

The Commission notes that the 2021 TRC Test Final Order is adopted and considered final. Comments pertaining to the TRC Test calculation methodologies will not be considered as part of this proceeding. However, we invite stakeholders to submit comments regarding the application of the 2021 TRC Test Final Order to determine the proposed consumption and peak demand reduction requirements, Phase IV EE&C Plan development, and Phase IV reporting requirements.

#### Comments

CAUSE-PA requests that the Commission investigate the potential for Act 129 low-income programs to reduce universal service and uncollectible expenses, as this is not covered by the 2021 TRC Test Final Order. CAUSE-PA Comments at 20-21. The Environmental Stakeholders recommend that beneficial electrification measures be permitted in Phase IV. To evaluate the cost-effectiveness of these measures, the Commission should adopt a cost-benefit analysis based on energy savings, rather than electricity savings alone. Environmental Stakeholders Comments at 17-19.

#### Disposition

The Commission agrees with CAUSE-PA that low-income programming has the potential to reduce universal service and uncollectible expenses, particularly if EDC programs target more comprehensive measures within the low-income sector. In preparation for the next TRC Test Order, we will direct the Phase IV SWE to study, in collaboration with the EDCs, the impact of Act 129 low-income programs on arrearages and collections. The results of this analysis will be used to determine whether such a benefit should be added to the Pennsylvania TRC Test.

The Environmental Stakeholders correctly identify the limitations of the current TRC Test Order with respect to beneficial electrification. However, we note that the Act 129 legislation calls for reductions in electric consumption. Beneficial electrification measures have become increasingly popular among environmental advocates since 2008 as parties look toward climate goals and the increasing penetration of carbon-free renewable electric generation. Should the scope of Act 129 programs be broadened to pursue increases in electric consumption that achieve net reductions in emissions, we will direct the SWE to determine what changes to the Pennsylvania TRC Test would be necessary to accurately reflect the benefit-cost ratio of such initiatives.

### Net-to-Gross Adjustment

An often-raised consideration for determining the cost-effectiveness and real impacts of EE programs is whether adjustments to gross energy savings should be made using a Net-to-Gross (NTG) ratio. An NTG adjustment would adjust the cost‑effectiveness results and reported MWh and MW savings so that the results would only reflect those EE gains that are attributed to, and are a direct result of, the EE program in question. Three common factors addressed through the NTG adjustment are “free ridership,” “spillover,” and “market effects.” The Uniform Methods Project (UMP)[[82]](#footnote-83) provides the following relevant definitions:

**Free ridership**: Program savings attributable to free riders (program participants who would have implemented a program measure or practice in the absence of the program).

**Spillover**: Additional reductions in energy consumption or demand that are due to program influences beyond those directly associated with program participation.

**Market Effects**: A change in the structure of a market or the behavior of participants in a market that is reflective of an increase in the adoption of EE products, services, or practices and is causally related to market intervention(s).

An NTG adjustment also excludes the incremental participant costs paid by free riders, since those costs would have been incurred absent the program. For Pennsylvania, the NTG adjustment would reflect only those costs and benefits attributable to Act 129 programs. An NTG adjustment would give EDCs and their evaluation contractors an estimate of savings achieved as a direct result of program expenditures by removing benefits and costs that would have occurred absent the EE&C Program.

During the planning for Phase I and II of the Act 129 programs, the primary discussion pertaining to NTG was whether or not NTG adjustments should be used to determine compliance and/or targets, or whether or not it is more appropriate to use NTG solely for program design, program modifications and planning. At the beginning of Phase I of Act 129, there was an absence of NTG data specific to Act 129 programs and, therefore, the Commission did not require NTG adjustments for the first program year.[[83]](#footnote-84) Subsequently, the 2011 TRC Test Order directed EDCs to conduct NTG research; to collect data necessary to determine the NTG ratio for their programs and to apply the ratio when determining the cost-effectiveness of future modifications of existing programs.[[84]](#footnote-85) The results of this research were to be reported to the SWE and utilized by the EDCs to determine when a measure or program should be removed from the EE&C portfolio because it is no longer cost-effective.

For all prior Phases, any NTG research that was completed was used only for program design, program modifications and implementation; it was not used to adjust the gross verified energy savings that are used for compliance purposes. In addition, during Phase I, the SWE completed a thorough review of how other states use NTG information for planning, evaluation and compliance and recommended that NTG research be used to plan and modify Act 129 programs. The SWE also recommended that MWh and MW savings targets should be based on gross savings.[[85]](#footnote-86)

The Commission’s Phase II Implementation Order directed that NTG research be used to direct program design and implementation, but not for compliance.[[86]](#footnote-87) The Phase II Implementation Order noted that there is no requirement in Act 129 that mandates that savings be determined on a net basis.[[87]](#footnote-88) The Commission thereby determined that the EDCs would continue to use net verified savings in their TRC Test for program planning purposes and that compliance in Phase II be determined using gross verified savings.[[88]](#footnote-89) The Commission’s Phase III Implementation Order maintained the same position on the use of NTG research as in previous phases.[[89]](#footnote-90)

For Phase IV of Act 129, the Commission proposed maintaining the practice used in the prior phases where NTG research results are used for modifications to existing programs, as well as for planning purposes for future phases. Furthermore, we proposed that compliance in Phase IV be determined using gross verified savings. Additionally, we proposed that the EDCs include in their EE&C Plans net TRC ratios, as well as gross TRC ratios, based on the best available estimates of NTG research for a given program type. We recognized that prospective NTG adjustments would be speculative but conclude that adequate data should be available after a decade of EE&C program implementation and evaluation to produce a reasonable projection. The inclusion of NTG-based TRC ratios would provide all stakeholders with additional information regarding the effectiveness of EE&C measures and programs. No alternative proposals or comments opposing the proposed handling of the Net-to-Gross Adjustment for Phase IV of Act 129 were submitted by stakeholders. Therefore, for Phase IV of Act 129, NTG adjustments will be handled as proposed in the Tentative Order. EDCs will continue to conduct NTG research for planning purposes and report both gross and net TRC ratios in their annual reports and EE&C plans. However, compliance with the directive to offer a cost-effective portfolio will continue to be based on the gross TRC ratio.

## Process to Analyze How the Program and Each Plan will Enable EDCs to Meet Consumption and Peak Demand Reductions Requirements, and How to Ensure Compliance

The Act requires the Commission to conduct an analysis of how the program, as a whole, and how the EDC’s individual EE&C Plans, in particular, will enable an EDC to meet or exceed the required consumption and peak demand reductions. *See* 66 Pa. C.S. § 2806.1(a)(4). Each EDC’s EE&C Plan must include specific proposals to implement measures to achieve or exceed the required reductions. *See* 66 Pa. C.S. § 2806.1(b)(1)(ii).

The Act also requires the Commission to establish procedures to ensure compliance with the consumption and peak demand reduction requirements. 66 Pa. C.S. § 2806.1(a)(9). Regarding the requirements for determining compliance with the Act 129 reduction requirements, each EDC subject to the Act must include in its PY17 (June 1, 2025 through May 31, 2026 – the final year of Phase IV) report, information documenting their consumption and peak demand reductions for June 1, 2021 through May 31, 2026. This filing must provide total savings and savings by class of customer. To be in compliance with the Act, an EDC must demonstrate that, during the June 1, 2021 through May 31, 2026 period, its plan produced total energy savings equal to the consumption reduction target established in Section A: Proposed Additional Reductions in Electric Consumption of this Order.

We noted that after-the-fact measurement and verification of energy and peak demand savings remains critical to ensure that an EDC has properly implemented its EE&C Plan, that the projected savings metrics remain accurate, that non-controllable factors such as economic growth or contraction and weather have not skewed results, and that the savings are the result of the EE&C Plan. The Commission would analyze the program as a whole and individual EDC plan effectiveness in meeting or exceeding the goals through the initial review process as described in Section D: Plan Effectiveness Evaluation Process of this Order.

Finally, as discussed previously, the Commission intends to issue an RFP to retain the services of a SWE to perform the annual and end of phase independent evaluation of each EDC plan, develop standardized evaluation protocols, update the TRM, and consolidate plan performance data across all EDC service territories. The SWE would work with the Commission staff and interested parties in the development of the evaluation methods, protocols, data collection formats and databases. The costs for the SWE contracts with the Commission would be recovered from the EDCs consistent with Section 2806.1(h) of the Act. 66 Pa. C.S. § 2806.1(h). As no comments were received on this topic, the Commission adopts the procedures to ensure compliance with the consumption and peak demand reduction requirements as proposed.

## Procedures to Require Competitive Bidding and Approval of Contracts with CSPs

The Act requires the Commission to establish procedures to require EDCs to competitively bid all contracts with CSPs.[[90]](#footnote-91) The Act further requires the Commission to establish procedures to review all proposed contracts with CSPs prior to execution of the contract.[[91]](#footnote-92) The Act gives the Commission power to order the modification of proposed contracts to ensure that plans meet consumption reduction requirements.[[92]](#footnote-93)

EDCs are reminded that CSPs covered by the competitive bidding and contract approval procedures in this section are those that provide consultation, design, and administration and management or advisory services to the EDC. All entities that provide services directly to customers or the public in general, such as equipment installers or suppliers, are not to be included in the EDC’s competitive bidding process.

The Commission proposed maintaining the status quo by requiring EDCs to file CSP RFP competitive bidding procedures and to bid all CSP contracts [without exception] for Phase IV.

### Competitive Bidding

In Phase III, the Commission required EDCs to file their respective RFP procedures for review and approval. The Commission adopted the following minimum criteria for the CSP competitive bidding review process for Phase III:

* Assurance that EDCs will issue RFPs to all qualified registered CSPs using the current posting of the CSP register on the Commission’s website.[[93]](#footnote-94)
* Effort to acquire bids from “disadvantaged businesses” (i.e., minority-owned, women-owned, persons-with-disability-owned, small companies, companies located in Enterprise Zones, and similar entities) consistent with the Commission’s Policy Statements at 52 Pa. Code §§ 69.804, 69.807 and 69.808.
* Selection criteria and weight assigned to each factor for bid review and selection of overall best bid/proposal (i.e., no requirement to select the lowest qualified bid), that consider:
  + Quality of prior performance;
  + Timeliness of performance;
  + Quality of the proposed work plan or approach;
  + Knowledge, background and experience of the personnel to be utilized; and
  + Other factors as deemed relevant.

The Commission proposed adopting the same minimum criteria for the CSP competitive bidding review process in Phase IV. If Commission staff has not commented upon or disapproved the proposed RFP process within 15 days of its filing, the EDC is permitted to use that process. In order to expedite contractual arrangements relating to proposed CSP contracts, EDCs are encouraged to file their proposed RFP process by August 30, 2020.

#### Comments

EAP, PPL, and PECO all request amendments to the competitive bidding process. EAP states that the Commissions’ requirement to rebid all CSP contracts will unnecessarily increase costs and may cause program inefficiencies in the transition from Phase III to Phase IV. EAP and PPL suggest that the Commission should provide authority to the Bureau of Technical Utility Services (TUS) to waive this requirement based on reasonable cause. EAP Comments at 12-14, PPL Comments at 18-19. PECO proposes that entities providing infrastructure or services that support Act 129 functions and other utility functions be excluded from the bidding and contract approval requirements. PECO also suggests that EDCs should be permitted to reuse their approved Phase III RFP process, if desired, to avoid additional filings with the Commission. PECO Comments at 10-11. KEEA and The CEO support the EDCs proposals allowing EDCs to retain vendors without competitive bidding. KEEA Reply Comments at 10, CEO Reply Comments at 3.

The Industrial Customers support the proposed competitive bidding procedures for CSPs. The Industrial Customers Comments at 16. In reply comments, both KEEA and FirstEnergy oppose the Industrial Customer’s request to require disclosure per measure. KEEA Reply Comments at 10, FirstEnergy Reply Comments at 5-6 and 17-18.

#### Disposition

The Commission finds the arguments against rebidding all CSP contracts unpersuasive. EAP’s assertion that rebidding is unnecessary and will add unnecessary costs is speculative. While we recognize that there will likely be additional administrative costs, those costs may be offset by lower contract costs and the avoided costs from renegotiating existing contracts. We find it significant that this EE&C Program has been operating since 2009 and that enough time has elapsed for new CSPs and technology to enter the market, providing additional value that will remain untapped unless they are given an opportunity to bid. In addition, it is our opinion that rebidding the CSP contracts will provide up-to-date costs for implementing the various programs, over a five-year period. For these reasons, we will require EDCs to rebid all CSP contracts for Phase IV. The Commission also approves EDC use of their approved Phase III RFP process, if desired.

### Approval of Contracts

The Act requires each EDC to include in its plan a contract with one or more CSPs selected by competitive bid to implement all or part of the plan as approved by the Commission.[[94]](#footnote-95) This section of the Act establishes that CSPs can perform some or all functions of an EE&C Plan, to include management of the entire plan. Similar to Phases II and III, in the Tentative Order the Commission proposed requiring the EDCs to provide detailed justifications for why it did or did not use a CSP to perform EE&C Plan functions.[[95]](#footnote-96)

It is imperative that EDCs timely file all proposed CSP contracts and contract amendments with the Commission for review prior to the pre-established effective date. The minimum criteria the Commission proposed to utilize for reviewing and approving EDC proposed CSP contracts in Phase IV is the same as established in the Phase III Implementation Order.[[96]](#footnote-97) Following is the proposed minimum criteria for the EDC proposed CSP contract review process for Phase IV:

* Consistent use of standard format contract agreement with legible font size, comprising cover sheet, signatory page, table of contents, headers and sub-titles, page numbers, paragraph numbering, and conventional identification of tables and charts. EDC filing of purchase orders in lieu of the CSP proposed contract agreement will be rejected.
* Separate cover sheet to provide a summary of the following information:
  + Full company name of contractor and CSP registration Docket Number;
  + Brief description of statement of work (SOW);
  + Name of EE&C Plan Program associated with proposed contract and explanation if SOW addresses the Program in its entirety or in part;
  + Estimated total contract cost and statement regarding incentives and rebates, their amount and explanation if total cost includes incentives and rebates;
  + Estimated targeted energy savings associated with contract;
  + Timeframe and duration of contract from start date to completion; and
  + Statement relating to the number of bids that were received, justification for selection of CSP contractor/subcontractor if based on receipt of less than three bids for any particular program, and identification and explanation for non-selection of low-bid CSP, if applicable.
* Assurance that the CSP’s work product in the EDC’s plan will meet the requirement for reduction in demand and consumption.
* Legal issues, enforceability, and protection of data privacy and ratepayer funds for poor performance or non-compliance, and similar issues.
* Maintenance of CSP registration and liability insurance throughout contract duration.
* Maintenance of CSP registration for all CSP subcontractors with an annual contract cost that equals or exceeds ten percent of the CSP’s total annual contract cost to perform services pursuant to an EDC EE&C Plan.
* Adequate provisions and procedures for monitoring quality assurance, auditing and verification that relate to interactions with the customer and interface with the EM&V consultant and the SWE, to include the following at a minimum:
  + CSP contractor/subcontractor agrees to fully cooperate with and make program data available to the Company, Company Program Evaluation CSP (if applicable), the SWE and the Commission upon request; and
  + CSP contractor/subcontractor agrees to retain all program data and records for five years.
* Clearly stated language that contractual payments will be performance-based for measures implemented or otherwise installed.
* Assurance that measures installed, customer privacy and other processes are conducted in accordance with EE&C Plan and laws, regulations and Commission Orders relating to the Program’s customer interactions and rate of progress.
* Certification that the proposed CSP is not an EDC affiliate.
* Provision that EDC will immediately terminate the CSP contract agreement and timely notify the Commission if over the course of the contract agreement an EDC/CSP merger, acquisition or similar business partnership should occur.
* CSPs agree that employees and contractors who will enter a customer’s home or have personal contact with a customer will undergo criminal and other pertinent background checks.

If the Commission Staff has not commented upon or disapproved an EDC’s proposed contract within 45 days of it being submitted to the Commission for review, then the EDC is permitted to proceed with the contract without modification. EDCs are reminded that a contract stipulation that ultimately re-directs a contract, subcontract, or any provision thereof to the EDC for any reason, requires the EDC to file an amended contract with the Commission for review.

As discussed earlier in this section, Commission approval of any EDC-proposed CSP contract or contract amendment does not constitute a determination that such filing is consistent with the public interest and that the associated costs or expenses are reasonable or prudent for the purposes of cost recovery. These issues will be addressed by the Commission in any appropriate plan approval and cost recovery proceedings.

#### Comments

The Industrial Customers support the Commission’s proposal to require EDCs to provide justification regarding their choice to use or not use a CSP to perform EE&C plan functions and suggest that the Commission should consider cost-effectiveness in their evaluation of the EDC’s justification. Additionally, they request that the Commission clarify the nature of cost recovery proceedings. Finally, the Industrial Customers recommend that the CSP contract review process be public and transparent. Industrial Customer Comments at 26-27.

CAUSE-PA requests that the Commission provide specific criteria for the types of criminal offenses that would disqualify CSP employees and contractors from having contact with customers or entering their homes. CAUSE-PA notes that a policy based on the existence of past charges or minor convictions would disproportionately impact minority and low-income communities. CAUSE-PA Comments at 22-23.

#### Disposition

The Commission adopts the minimum criteria and process outlined in this section for Phase IV. Regarding the request made by CAUSE-PA that the Commission provide specific criteria for the types of criminal offenses that would disqualify CSP employees and contractors from having contact with customers or entering their homes, we decline to do so at this time.  Historically, the Commission has declined to provide specific criteria pertaining to criminal and other pertinent background checks. 52 Pa. Code § 111.4.  Such issues can be raised in the plan litigation proceedings.

## Participation of Conservation Service Providers

The Act establishes a requirement for the participation of CSPs in all or part of an EDC EE&C Plan.[[97]](#footnote-98) The Act requires the Commission to establish, by March 1, 2009, a registry of approved persons qualified to provide conservation services to all classes of customers, that meet experience and other qualifying criteria established by the Commission.[[98]](#footnote-99) The Act further requires the Commission to develop a CSP application and permits the Commission to charge a reasonable registration fee.[[99]](#footnote-100) The Commission initiated a separate stakeholder process to establish the qualification requirements CSPs must meet to be included in the CSP registry. On February 5, 2009, the Commission adopted an order establishing the CSP registry at Docket Number M-2008-2074154.[[100]](#footnote-101) In the *CSP Registry Order,* we established the minimum qualifications of CSPs, a CSP application, fees and life of qualification.

By Orders entered July 16, 2013 and May 8, 2015, the Commission adopted a CSP registration process and an application package that reflected the minimum requirements for registration.[[101]](#footnote-102) The Commission also directed that all CSP subcontractors with an annual contract cost that equals or exceeds ten percent of the CSP’s total annual contract cost to perform services pursuant to an EDC EE&C Plan, must also be registered as CSPs.[[102]](#footnote-103) We proposed to continue using the conditions and processes of the July 16, 2013 and May 8, 2015 Orders in Phase IV. As no comments were received on this topic, the Commission adopts the proposed CSP registration process, conditions, and processes of the July 16, 2013, and May 8, 2015, Orders for Phase IV.

## EDC Cost Recovery

The Act directs the Commission to establish a cost recovery mechanism that ensures that approved measures are financed by the customer class that receives the direct energy and conservation benefit of the measure. 66 Pa. C.S. § 2806.1(a)(11). All EDC plans must include cost estimates for implementation of all measures. 66 Pa. C.S. § 2806.1(b)(1)(i)(F). Each plan must also include a proposed cost recovery tariff mechanism, in accordance with Section 1307 (relating to sliding scale or rates; adjustments), to fund all measures and to ensure full and current recovery of prudent and reasonable costs, including administrative costs, as approved by the Commission. 66 Pa. C.S. § 2806.1(b)(1)(i)(H). In addition, each plan must include an analysis of administrative costs. 66 Pa. C.S. § 2806.1(b)(1)(i)(K).

The Act dictates that the total cost of any plan must not exceed two percent of the EDC’s total annual revenue as of December 31, 2006, excluding Low‑Income Usage Reduction Programs established under 52 Pa. Code § 58 (relating to residential Low-Income Usage Reduction Programs). 66 Pa. C.S. § 2806.1(g). Finally, all EDCs, including those subject to generation or other rate caps, must recover on a full and current basis from customers, through a reconcilable adjustment clause under Section 1307, all reasonable and prudent costs incurred in the provision or management of its plan. 66 Pa. C.S. § 2806.1(k). The following sections detail the Commission’s proposed handling of EDC cost recovery issues for Phase IV based on our interpretation of the relevant provisions of Act 129 and experience obtained during prior Phases.

### Determination of Phase IV Allowable Costs

The Act allows an EDC to recover all prudent and reasonable costs relating to the provision or management of its EE&C Plan, but limits such costs to an amount not to exceed two percent of the EDC’s total annual revenue as of December 31, 2006, excluding Low-Income Usage Reduction Programs established under 52 Pa. Code § 58. 66 Pa. C.S. § 2806.1(g). The annual and Phase IV budget limits, assuming a five-year phase, are presented in ***Table 26***.

**Table 26: EDC Annual EE&C Budget Limits Based on 2% of 2006 Revenue**

|  |  |  |
| --- | --- | --- |
| EDC | Annual Budget | Phase IV 5-Year Budget Limit |
| Duquesne Light | $19,545,952 | $97,729,760 |
| PECO | $85,477,166 | $427,385,830 |
| PPL | $61,501,376 | $307,506,880 |
| FE: Met-Ed | $24,866,894 | $124,334,470 |
| FE: Penelec | $22,974,742 | $114,873,710 |
| FE: Penn Power | $6,659,789 | $33,298,945 |
| FE: West Penn Power | $23,562,602 | $117,813,010 |

The budget values shown in ***Table 25*** are identical to prior phases of Act 129 and the calculation of dollar amounts from 2006 revenues has been addressed in previous Orders. In particular, the treatment of 2006 revenues collected by an EDC for generation service on behalf of an EGS were determined to be part of the 2006 revenue calculation[[103]](#footnote-104) and we see no reason to revisit the issue in this Order. The budget values shown in ***Table 25*** are a core input to the EEPDR Potential Study and the proposed consumption reduction requirements in Section A.2: Proposed Reductions in Consumption.

The level of costs that an EDC will be permitted to recover in implementing its EE&C Plan was established in the Phase I proceedings.[[104]](#footnote-105) For Phase IV, we proposed requiring each EDC to include a calculation of the total amount of EE&C costs it will be permitted to recover (exclusive of expenditures on Low-Income Usage Reduction Programs established under 52 Pa. Code § 58) based on the two percent limitation as set forth in the Act. This would represent the maximum level of spending on EE&C programs that would be recoverable under the EDC’s plan.

We also proposed requiring each EDC to provide a careful estimate of the costs relating to all EE&C programs and measures as set forth in its plan. All EE&C program costs can be classified as either incentive or administrative (e.g. non-incentive). Administrative costs may include capital expenditures for any equipment and facilities that may be required to implement the EE&C Plan, as well as depreciation, operating and maintenance expenses, a return component based on the EDC’s weighted cost of capital and taxes. Administrative costs would also include, but not be limited to, costs relating to plan and program development, CSP non-incentive program delivery fees, cost-benefit analysis, measurement and verification and reporting. The EDC must also provide ample support to demonstrate that all such costs are reasonable and prudent in light of its plan and the goals of the Act, keeping in mind that the total level of these costs must not exceed the two percent limitation as previously articulated.

A common critique of EDC EE&C Plans is the share of budgets that are distributed to program participants in the form of incentives. The 2021 TRC Test Final Order[[105]](#footnote-106) provided instructions regarding categorization of program costs as incentives versus administration. With these clarifications regarding categorization of costs in mind, we proposed for Phase IV that EDCs be required to submit an EE&C Plan which shows at least 50% of all spending allocated to incentives and less than 50% of all spending allocated to non-incentive cost categories. However, we proposed this requirement be limited to the Commission’s review and approval of the EE&C Plans and not as a target subjected to the penalty provisions at subsection 2806.1(f) of the Act, 66 Pa. C.S. § 2806.1(f).

As in prior Phases, we proposed for Phase IV that EDCs be permitted to recover both the ongoing costs of its plan, as well as incremental costs incurred to design, create and obtain Commission approval of the plan. However, all costs submitted for recovery in an EDC’s plan would be subject to review by the Commission to determine whether the costs are prudent and reasonable and are directly related to the development and implementation of the plan. Furthermore, EE&C measures and associated costs that are approved by the Commission would again be subject to after-the-fact scrutiny. In this regard, we note that the Act provides that:

The Commission shall direct an [EDC] to modify or terminate any part of a plan approved under this section if, after an adequate period for implementation, the Commission determines that an [EE] or conservation measure included in the plan will not achieve the required reductions in consumption in a cost-effective manner under [66 Pa. C.S. §§ 2806.1(c) & (d)].

66 Pa. C.S. § 2806.1(b)(2). Thus, plan measures and their associated costs that may be tentatively approved, would, in fact, be subject to ongoing review and possible modification or termination if it is determined that such measures are not or have not been cost effective.

Regarding the two percent limitation provision of the Act, we proposed for Phase IV to continue to use the interpretation of “total cost of any plan” as an annual amount, rather than an amount for the full, proposed five-year period. Since the statutory limitation in this subsection is computed based on annual revenues as of December 31, 2006, we concluded that it was reasonable to require that the resulting allowable cost figure be applied on an annual basis as well. In addition, we noted that the plans are subject to annual review and annual cost recovery under the Act, 66 Pa. C.S. §§ 2806.1(h) and (k). The SWE market potential studies used to inform the proposed Phase IV reduction requirements were conducted using this modeling assumption. The proposed reduction requirements would clearly not be attainable if the two percent funding limitation were spread across the entirety of Phase IV because EDCs would only have 20% of the EE&C funding assumed in the market potential studies.

While the cost of an individual EDC’s plan is limited by Act 129 to two percent of the EDC’s total annual revenue as of December 31, 2006, 66 Pa. C.S. § 2806.1(g), the SWE expense is not a cost component of the EDCs’ individual plans, but a cost the Commission incurs in implementing the program. The Commission is to recover costs related to implementing the program from the EDCs. In prior phases the Commission recovered the SWE expenses, which were not subject to the two percent cap on the cost of each plan, through a proration from the EDCs, and the EDCs were permitted to recover the expenses on a full and current basis. The Commission proposed to fund the SWE contract in the same manner for Phase IV.

Finally, with respect to the recovery of revenues lost due to reduced energy consumption or changes in demand, we noted that the Act clearly states that such revenue losses shall not be a recoverable cost under a reconcilable automatic adjustment clause. 66 Pa. C.S. § 2806.1(k)(2). The Act does provide, however, that “[d]ecreased revenue and reduced energy consumption may be reflected in revenue and sales data used to calculate rates in a distribution-base rate proceeding filed by an electric distribution company under [66 Pa. C.S. § 1308] (relating to voluntary changes in rates).”

66 Pa. C.S. § 2806.1(k)(3).

We noted that in June of 2018, Act 58 was signed into law, which amended Chapter 13 of the Code, 66 Pa. C.S. §§ 1301 *et seq*. (relating to rates and distribution systems). Specifically, Act 58 added Section 1330, 66 Pa. C.S. § 1330 (relating to alternative ratemaking for utilities), that permits the Commission to approve an

application by a utility to establish alternative rates and rate mechanisms. In particular, Section 1330(b)(1) states the following:

Notwithstanding any other provision of law, including, but not limited to, sections 2806.1(k)(2) (relating to energy efficiency and conservation program) . . ., the commission may approve an application by a utility in a base rate proceeding to establish alternative rates and rate mechanisms, including, but not limited to, the following mechanisms:

1. decoupling mechanisms;
2. performance-based rates;
3. formula rates;
4. multiyear rate plans; or
5. rates based on a combination of more than one of the mechanisms in subparagraphs (i), (ii), (iii) and (iv) or other ratemaking mechanisms as provided under this chapter.

66 Pa. C.S. § 1330(b)(1).

On April 25, 2019, the Commission adopted an Implementation Order at Docket No. M‑2018‑3003269 in which the Commission stated that Section 1330(b)(1), 66 Pa. C.S. § 1330(b)(1) requires “utilities seeking to obtain Commission approval of an alternative rate or rate mechanism under Section 1330 of the code, to do so initially through a Section 1308(d), 66 Pa. C.S. § 1308(d) (relating to voluntary changes in rates), general rate proceeding.”[[106]](#footnote-107) Accordingly, the Commission will not address or consider alternative rates or rate mechanisms permitted by Section 1330 of the Code, such as decoupling mechanisms or performance-based‑rates, in this proceeding.

#### Comments

DEP supports the Commission’s proposal to require EDCs to allocate at least 50% of spending to incentives and less than 50% of spending to non-incentives in their EE&C plans. DEP further recommends that the Commission propose a 50% maximum for spending on administrative costs. DEP Comments at 5.

CAUSE-PA supports the Commission’s decision to not address alternative rates or rate mechanisms, since these rate structures would require additional detailed evaluation. CAUSE-PA Comments at 23-24.

PECO, OCA, and Oracle express concerns about the proposed incentive and non‑incentive spending allocation. PECO recommends removing this proposal, stating that it would restrict plan design and discourage measures that do not include an incentive component, such as educational and behavioral measures. PECO further suggests that if the proposal is not removed, it should be amended to only apply to direct program costs and requests clarification regarding the categorization of direct installation costs. PECO Comments at 11-12. OCA and Duquesne argue that low-income programs could be negatively impacted by the proposed spending allocation since low income programs generally have lower levels of incentives. OCA and Duquesne suggest that low-income programs should be excluded when evaluating the incentive spending allocation. OCA Comments at 19-20, Duquesne Reply Comments at 5-6.

Oracle states that behavioral measures, such as Home Energy Reports, generate savings without providing incentives and should be exempt from the incentive spending allocation. Oracle Comments at 4. PPL agrees with PECO that EDCs should not be required to allocate at least 50% of all spending to incentives and less than 50% to non-incentive costs. PPL expresses similar concerns as Oracle that the proposed limit on non-incentive spending could create a disincentive for program components that target nonfinancial barriers, as well as measures that do not require capital investments, such as education efforts and behavioral measures. PPL recommends the Commission eliminate this requirement in its Final Implementation Order. PPL Reply Comments at 18-19. PA‑EEFA agrees with the comments from PECO and Oracle and further states that cost‑ratio requirements should not cause EDCs to limit the use of innovative, cost‑effective programs. PA-EEFA recommends that the imposition of a cost-ratio should be based on empirical evidence that it will lead to a better value for ratepayers. PA-EEFA Reply Comments at 9.

IECPA requests that the Commission further limits the amount of investment that can be allocated to non-incentive or administrative costs. IECPA Comments at 3-5. The Industrial Customers agree with the IECPA and find that the Commission’s proposal to require EDC EE&C Plans to allocate at least 50% of funds to incentives is just and reasonable. The Industrial Customers Reply Comments at 16. KEEA disagrees with IECPA’s recommendation that the non-incentive limit should be further limited. KEEA asserts that some non-incentive costs are program costs and agrees with PECO’s suggestions that the allocation may discourage non-incentive programs, such as behavioral and educational programs. KEEA Reply Comments at 9-10.

The Industrial Customers recommend that payments to CSPs for other services other than incentives should be publicly available and classified as administrative costs for reporting purposes. Industrial Customers Comments at 26-27. IECPA expresses concerns regarding allocation of administrative costs by billed kWh or peak kW and suggests that such allocation burdens larger customers with an unfair share of administrative costs. IECPA Comments at 5.

#### Disposition

Stakeholder comments were mixed in response to our proposal to require at least 50% of EE&C plan spending to come from incentives and less than 50% to be attributed to non-incentive cost categories. In response to PECO’s request for clarification and reply comments on the matter, we note that the 2021 TRC Test Final Order defines directly installed equipment costs, as well as the labor cost to install the equipment, as incentives.[[107]](#footnote-108) Low-income programs often follow a direct-install program delivery model, so we disagree with OCA’s position that the residential low-income sector would be disadvantaged by this provision. Similarly, we note that the 2021 TRC Test Final Order makes no distinction about cost classification based on whether a cost is incurred by an EDC or its CSP. The cost-effectiveness tables in the Phase III EDC annual report template includes separate entries for non-incentive costs incurred by the EDC and its CSP(s) and we intend to require this same granular reporting for Phase IV of Act 129.

The Commission is not persuaded by PECO’s and Oracle’s suggestions to exclude certain cost components from the calculation of the incentive to non-incentive ratio. We note that this requirement is at the portfolio level and not at the program or sector level. This high-level portfolio design requirement is intended to encourage a broad policy preference for incentive-based spending, while still allowing EDCs the flexibility to offer programs with non-incentive costs greater than 50% – such as Home Energy Reports. We also reject IECPA’s suggestion to lower the maximum percentage of an EE&C Plan budget, which may be allocated to non-incentive cost categories or to allocate non-incentive costs via a different cost recovery mechanism from incentive costs.

### Application of Excess Phase III Budget

In Section A.5: Accumulating Savings in Excess of Reduction Requirements of this Order, the Commission proposed that savings generated in Phase III that are in excess of an EDC’s consumption reduction target be applied towards that EDC’s Phase IV consumption reduction target. The issue of savings in excess of the targets also raises issues regarding Phase III and Phase IV budgets. Specifically, if an EDC has excess savings that carry into Phase IV, the Commission must decide whether that EDC should then have a reduced budget for Phase IV as it needs to acquire fewer savings to meet its consumption reduction targets. Additionally, if an EDC has achieved its Phase III target with budget left over, the Commission must decide how that excess budget should be handled (e.g. used in Phase IV or paid back to ratepayers).

The Commission proposed in its Tentative Order to allow the EDCs the full Phase IV budget, regardless of Phase III spending and consumption reduction target attainment. This proposal was consistent with the proposed targets, which are the product of the Phase IV acquisition costs ($/MWh and $/MW) determined by the EEPDR Potential Study and the full two percent spending limit for each EDC. The Commission recognizes that the EDCs are at risk of potential penalties should they fail to meet their targets and a reduction in budget without a commensurate reduction in targets would significantly increase this risk. Additionally, the Commission recognizes the importance of a smooth transition from Phase III to Phase IV and the importance of the EDCs’ specific programs not going dark. As such, the Commission believes it would be more beneficial to all parties, including ratepayers, for the EDCs to be allowed to spend Phase III budgets to attain savings in excess of compliance targets, which could then be used in Phase IV for compliance, without a commensurate reduction in Phase IV budgets.

The Commission recognizes that program measures installed and commercially operable on or before May 31, 2021, as well as CSP or administrative fees related to Phase III are considered Phase III expenses. As such, the Commission proposed allowing EDCs to utilize their Phase III budgets past May 31, 2021 to account for program measures installed and commercially operable on or before May 31, 2021, and to finalize CSP, EM&V, and reporting expenditures related to Phase III.

The Commission proposed that EDCs begin Phase IV utilizing solely their Phase IV budgets. We judge that it is not sound policy to continue spending Phase III budgets in Phase IV on Phase IV plan implementation when those monies could be refunded back to the appropriate rate classes. To clarify, we proposed that on June 1, 2021, the EDCs would only use Phase III budgets to close out program delivery, EM&V, and reporting obligations for measures installed and commercially operable on or before May 31, 2021. The EDCs would not be allowed to use Phase III funds for Phase IV plans.

Similarly, the Commission proposed that an EDC be allowed to continue spending Phase IV budgets on their EE&C Program even if that EDC attains its consumption reduction and peak demand reduction goals before May 31, 2026. Again, we proposed allowing EDCs to utilize their Phase IV budgets past May 31, 2026, solely to account for those program measures installed and commercially operable on or before May 31, 2026, and to finalize the CSP and administrative fees related to Phase IV. Upon the completion of EDC accounting for Phase IV, the Commission proposed that its Bureau of Audits reconcile Phase IV funds collected by the EDCs compared to Phase IV expenditures and direct the EDCs to refund all over-collections to the appropriate rate classes. To clarify, we proposed that on June 1, 2026, the EDCs would only use Phase IV budgets to finalize any measures installed and commercially operable on or before May 31, 2026, and to finalize any contracts and other Phase IV administrative obligations. The EDCs would not be allowed to use Phase IV funds for any potential Phase V plans.

#### Comments

DEP supports the Commission’s proposal to allow EDCs to use their Phase III budgets to account for program measures installed before May 31, 2021, and to finalize other expenditures related to Phase III. DEP encourages the Commission to continue to suggest methods for EDCs to effectively spend Phase III and IV budgets to obtain energy savings. DEP Comments at 4-5.

PA-EEFA, CAUSE-PA, CERES, and KEEA all suggest that the Commission should reconsider the use of excess Phase III budgets and stress the importance of using unspent funds on achieving additional energy savings. PA-EEFA, CAUSE‑PA, CERES, and KEEA recommend that the Commission require EDCs to propose budgets that maximize savings within the budget caps, rather than allowing EDCs to achieve savings targets without using all of the budget. PA-EEFA, CAUSE‑PA, CERES, and KEEA also suggests that the Commission should direct EDCs to continue to implement programs as long as there are funds available and sufficient customer demand. PA-EEFA, CAUSE‑PA, CERES, and KEEA does not support the Commission’s proposal to refund unspent Phase III budgets to ratepayers and suggests that EDCs should be able to carryover remaining budgets to Phase IV, stating that excess funds can be used for health and safety upgrades that are needed for comprehensive measures. PA-EEFA Comments at 9-10 and 19-20, CAUSE-PA Comments at 24-26, CERES Comments at 4, KEEA Comments at 7-12.

FirstEnergy disagrees with recommendations to allow excess Phase III budgets to be used on Phase IV programs and supports the Commission’s proposal for EDCs to begin Phase IV using only their Phase IV budgets. FirstEnergy Reply Comments at 3 and 7-8. IECPA also opposes stakeholder recommendations to carryover Phase III budgets to fund Phase IV programs, referencing comments from PA-EEFA and KEEA, and agrees with the approach proposed by the Commission. IECPA Reply Comments at 4-6. The Industrial Customers disagree with CAUSE-PA’s suggestion to allow EDCs to carryover unspent Phase III budgets to Phase IV and support refunding excess budgets to ratepayers. The Industrial Customers Reply Comments at 11-12. EAP and PPL opposes CAUSE-PA’s recommendation for excess Phase III budgets to be carried over to Phase IV to offset health and safety measures. PPL states that this would violate the Public Utility Code by increasing Phase IV budgets above the 2% cap and that health and safety measures are not appropriate expenditures under an EE&C plan because they cannot be classified as an energy efficiency and conservation measure. EAP Reply Comments at 3, PPL Reply Comments at 16-18. Similarly, Duquesne asserts that health and safety measures are not energy efficiency measures and funding them with EE&C budgets conflicts with Act 129. Duquesne Reply Comments at 9.

The Industrial Customers oppose KEEA’s recommendation that the Commission should require EDCs to invest excess budget into supplementary programs, asserting that Act 129 provides a clear cap for spending, but does not require complete expenditure of budgets. The Industrial Customers also disagree with KEEA’s argument that additional EE measures will provide greater benefits than customer refunds. The Industrial Customers state that refunds are more beneficial than additional EE measures because they provide concrete benefits to customers which can be spent at their discretion and provide relief from financial hardships brought on by the current economic crisis. The Industrial Customers support the Commission’s decision to not allow Phase III funds to be used for Phase IV plans and suggest that the Commission should reduce Phase IV budgets depending on the level of Phase III spending and attainment, stating that this would be consistent with the separate energy efficiency and conservation objectives of Act 129. Industrial Customers Comments at 16 and 27-28, Reply Comments at 11-12.

#### Disposition

Our decision not to create a mechanism that allows carryover of peak demand savings from EE from Phase III to Phase IV limits the applicability of comments from the Industrial Customers regarding Phase IV budgets. Regardless of an EDC’s MWh attainment in Phase III and subsequent carryover toward Phase IV consumption reduction targets, all EDCs must meet the Phase IV PDR target with projects installed and funded within Phase IV. To meet these targets, EDCs will need at their disposal the full funding level modeled by the SWE in its EEPDR Potential Study.

For Phase IV of Act 129, we will not adopt the suggestions put forth by PA‑EEFA, CAUSE-PA, CERES, or KEEA, as they are contrary to the EE&C Plan limitations on costs found in Section 2806.1(g) of the Code, 66 Pa. C.S. 2806.1(g). For Phase IV of Act 129:

* EDCs will have access to the full Phase IV budget, regardless of Phase III spending and consumption reduction target attainment.
* On June 1, 2021, EDCs will only use Phase III budgets to close out program delivery, EM&V, and reporting obligations for measures installed and commercially operable on or before May 31, 2021. EDCs may not use Phase III funds for Phase IV plans.
* EDCs may continue spending Phase IV budgets on their EE&C Program even if they attain their consumption reduction and PDR targets before May 31, 2026.

### Rebate Application Deadlines

Applications for EE&C measure rebates are typically submitted following the installation of the efficient equipment. For administrative efficiency, and to limit the use of EE&C program funds on measures that were not influenced by the EE&C Program, it is beneficial for rebate applications to be submitted and processed within a finite period following the in-service date of the measure. During the proceedings for many of the EDCs’ Phase II EE&C Plans, the Commission recognized the need for such deadlines and directed the EDCs to amend their Plans accordingly.[[108]](#footnote-109)

We proposed in our Tentative Order that the EDCs be required to develop deadlines for their programs within their Phase IV EE&C Plans. We proposed that the EDCs have the flexibility to determine whether such deadlines should differ at the end of the phase, but that all deadlines must be outlined in the EE&C Plans. The Commission will still retain the authority to approve or deny the proposed deadlines as part of the EE&C Plan proceedings. We suggested that the EDCs consider 180 days as a maximum length of time for an application to be submitted as we believe any longer may affect reporting and reconciliation timeframes. The Commission proposed that, if an EDC includes a deadline longer than 180 days in their EE&C Plan, that the EDC has the burden to provide clear and reasonable rationale for the longer timeframe. The timeline for EDC Final Annual Reports proposed in Section D.3: EDC and SWE Reports may affect EDC planning on this topic as the earlier due date for EDC Final Annual Reports would shorten the amount of time available to EDC evaluation contractors.

Lastly, we proposed that EDCs include clear deadlines on all rebate forms and applications to ensure that participating customers are aware of the deadlines associated with the program. We proposed that program delivery CSP contracts clearly delineate responsibilities for maintaining up-to-date forms and website information in the event of rebate deadline changes. No opposing comments were received on this proposal. Accordingly, for Phase IV of Act 129, rebate application deadlines shall be handled as proposed in the Tentative Order.

* EDCs are required to develop deadlines for the maximum number of days between a measure in-service date and rebate application date for each program. These deadlines should be clearly presented within each Phase IV EE&C Plan.
* EDCs shall include clear deadlines on all rebate forms.
* Program delivery CSP contracts will clearly delineate responsibilities for maintaining up-to-date forms and website information in the event of rebate deadline changes.

### Allocation of Costs to Customer Classes

The Act requires that all approved EE&C measures be financed by the customer class that receives the direct energy and conservation benefit of such measures. *See* 66 Pa. C.S. § 2806.1(a)(11). In order to ensure that all approved EE&C measures are financed by the customer classes that receive the benefit of such measures, it will be necessary to first assign the costs relating to each measure to those classes to whom it benefits. Therefore, once the EDC has developed an estimate of its total EE&C costs as directed above, we proposed that the EDC be required to allocate those costs to each of its customer classes that will benefit from the measures or programs to which the costs relate. Those costs that demonstrably and exclusively relate to measures or programs that have been dedicated to a specific customer class should be assigned solely to that class. Those costs that relate to measures or programs that are applicable to more than one class, or that can be shown to provide system-wide benefits, should be allocated using reasonable and generally acceptable cost of service principles as are commonly utilized in base rate proceedings.[[109]](#footnote-110) Administrative costs should also be allocated using reasonable and generally acceptable cost-of-service principles.

Regarding the assignment of EE&C costs to low-income customers, the Act requires EE&C measures to be financed by the same customer class that will receive the direct energy and conservation benefits from them. 66 Pa. C.S. § 2806.1(a)(11). The Act does not provide for the exclusion of low-income customers from EE&C cost recovery, and in any event, it would be difficult to determine a way to exclude such customers from the allocation of EE&C costs within their customer class. Although we have great concern for the difficulties experienced by low‑income customers in paying their energy bills, we proposed in the Tentative Order that such customers are not exempted from contributing toward the recovery of fairly allocated EE&C costs. We point out that low‑income customers will stand to benefit financially from well-designed EE&C measures implemented by the EDCs. Moreover, such customers can take advantage of the many programs currently available to help low-income and payment-troubled customers pay their energy bills.

#### Comments

IECPA support the requirement to assign program costs to the customer classes that receive direct benefits from the program. IECPA also request that the Commission clarify that administrative costs are to be allocated on a per-customer basis. IECPA Comments at 3-5. OCA opposes IECPA’s suggestion to allocate administrative cost on a per-customer basis, stating that this is not consistent with cost-causation principles. OCA Reply Comments at 5-6.

CAUSE-PA requests that the Commission reconsider its decision to require CAP customers to pay an EE&C rider charge, stating that it would reduce costs for both CAP customers and other residential customers that pay for the CAP program. CAUSE-PA Comments at 26-27. OCA opposes CAUSE-PA’s suggestion to exclude CAP and confirmed low-income customers from EE&C rider charges, stating that it is not possible to identify all low-income customers and unidentified low-income customers would have to absorb the additional costs. OCA supports designing programs to reach as many low‑income customers as possible and encouraging their participation in EE&C programs. OCA Reply Comments at 6. PECO also opposes CAUSE-PA’s recommendation and agrees with the Commission that it is reasonable for low-income customers to contribute to EE&C costs. PECO disagrees with CAUSE-PA’s statement that it would reduce costs for other residential customers, since costs are assigned at the class level and would be the same with or without CAP customer participation. PECO Reply Comments at 9-10. PPL also disagrees with CAUSE-PA’s proposal and argues that excluding CAP customers from EE&C riders would violate the Public Utility Code. PPL Reply Comments at 14-15. Similarly, Duquesne states that CAUSE-PA’s recommendation conflicts with Act 129 and would make them ineligible from receiving program benefits under the terms of the statute. Duquesne Reply Comments at 9-10.

#### Disposition

For Phase IV of Act 129, EDCs shall allocate costs to customer classes as proposed in the Tentative Order. Energy efficiency is a low-cost resource so all ratepayers in the Commonwealth benefit from Act 129 programming in the form of reduced energy costs. The Commission declines to exclude any category of customer from EE&C surcharges as it is contrary to the Act. In response to the IECPA request, we clarify that administrative costs are to be allocated to customer classes using reasonable and generally acceptable cost-of-service principles. We reiterate that cost allocation should occur at the class level as allocation of the costs down to the customer-level would require an unacceptable level of administrative complexity and cost.

### Bidding Peak Demand from Energy Efficiency Resources into the PJM Capacity Market

Peak demand savings from qualified EE resources may be bid into the PJM capacity market as supply alongside traditional generators if those projects meet the criteria and requirements set by PJM.[[110]](#footnote-111) The issue of whether EDCs should be required to bid qualified resources into the PJM FCM must be addressed for Phase IV. Additionally, if those resources are to be bid into the PJM FCM, the disposition of revenues from resources that clear the auctions must be addressed.

In prior Phases, we have not required EDCs to bid the peak demand reductions into PJM’s FCM, but allowed EDCs the flexibility to voluntarily bid them in. In such cases, we ordered that the EDC be required to allocate the revenue received from successful bidding of resources to the customer class from which the savings were acquired.[[111]](#footnote-112)

In preparation for the 2021 TRC Test Order the Commission requested the SWE to review how peak demand reductions from other states in organized markets like PJM and ISO-New England are handled. **Table *27*** provides a list of states in these markets with EE&C programs and our understanding of how peak demand reductions from at least a subset of their programs are treated in those states. Pennsylvania appears to be in the minority on this issue, which suggests further consideration of the advantages and disadvantages of the status quo position is warranted.

**Table 27: EE Forward Capacity Market Participation by State**

|  |  |
| --- | --- |
| States Where EE Programs are Bid into FCM | States Where EE Programs are Not Bid into FCM |
| Maryland | Pennsylvania |
| Maine | Kentucky |
| Illinois (ComEd) | Indiana |
| Connecticut | New Jersey (under consideration) |
| Massachusetts |  |
| Rhode Island |  |
| Vermont |  |
| New Hampshire |  |
| Delaware |  |
| Washington D.C. (DC SEU) |  |
| Ohio |  |

The EEPDR Potential Study estimates that the associated PDR programs will generate over 800 MW of incremental annual coincident PDR statewide. We recognize that not all the measures and programs included in the study or an EDC’s EE&C plan would be well-suited to bidding into PJM’s FCM. Additionally, the 2021 TRM utilizes a summer peak demand definition, while PJM’s FCM uses a definition of peak that includes both summer and winter. However, the Commission asserts that certain measure categories like C&I lighting would be well-suited to FCM bidding based on the expected contribution to Phase IV EE&C plans and a review of the 8760 load shapes[[112]](#footnote-113) developed by the SWE as part of the 2014 Commercial and Residential Light Metering Study.[[113]](#footnote-114) The Commission believes C&I lighting programs will be large and homogenous enough that the FCM proceeds will more than offset the incremental M&V costs associated with FCM resources.

The Commission proposed that for Phase IV the EDCs be required to nominate at least a portion of the expected PDRs from their EE&C Plans. We proposed that the proceeds from resources that clear in the PJM FCM be used to reduce Act 129 surcharges and collections for customer classes from which the savings were acquired, via the reconciliation for over-under collections process proposed in the following section. Resources that clear in the PJM FCM and are not installed or determined to under-perform by PJM are subject to deficiency charges[[114]](#footnote-115) from PJM. We proposed that any such PJM deficiency charges be handled symmetrically with FCM proceeds and be borne by the relevant customer class. We encouraged the EDCs to carefully consider their nomination levels and adopt a conservative bidding strategy to limit the likelihood of deficiency charges or nominated resources not clearing. Lastly, we proposed that each EDC clearly identify in their Phase IV EE&C Plan the programs, measure categories, or solutions from which they intend to nominate PDR into PJM’s FCM along with the projected MW totals to be bid by year.

We anticipated that stakeholders would suggest that proceeds from PJM FCM bids should be used to increase EE&C plan budgets rather than reduce collections from ratepayers. Our proposal to use FCM proceeds to offset customer payments to the EDCs will place downward pressure on EE&C cost recovery collection levels, which is a common concern among stakeholders in the non-residential sector.

#### Comments

FirstEnergy supports the Commission’s proposed peak demand bidding requirements but recommends against requiring the EDCs to provide specific projections and details in their EE&C plans. FirstEnergy states that these estimates would be highly speculative and contribute to unnecessary administration and costs. FirstEnergy suggests that EDCs be required to include a description of the strategy and approach of offering resources into the PJM FCM in their Phase IV EE&C Plans. FirstEnergy also suggests adopting a revenue-sharing mechanism that allows customers and utilities to receive revenues from PJM participation. FirstEnergy Comments at 4 and 10-13. OCA opposes FirstEnergy’s suggestion to allow EDCs to share in the proceeds from bidding in the PJM FCM. OCA states that this would qualify as an incentive mechanism and needs to be addressed in the context of a base rate case and that the Commission stated they would not address alternative rates or ratemaking mechanisms in this docket. OCA Reply Comments at 10. The Industrial Customers and IECPA also recommend against FirstEnergy’s suggestion for the Commission to adopt revenue-sharing mechanism for EDCs, citing that no details were provided on how this would operate. Industrial Customers Reply Comments at 14, IECPA Reply Comments at 9-10.

KEEA suggests that EDCs should not be required to bid C&I energy efficiency capacity into the PJM FCM, stating that EDCs are better positioned to maximize customer benefits by bidding residential capacity. KEEA also suggests that FCM proceeds should be reinvested into additional energy efficiency programs and not used to offset cost recovery collections. KEEA Comments at 18-19. The Industrial Customers and IECPA disagree with KEEA’s suggestion that revenues from bidding in the FCM should fund pilot programs and agree with the Commission that they should be used to offset program costs for C&I customers. Industrial Customers Reply Comments at 13‑14, IECPA Reply Comments at 7-9.

OCA, PECO, and Maxwell Lighting & Energy all recommend that the Commission remove the mandatory bidding requirement. OCA states that the bidding requirement would make class-based cost allocation difficult and that potential capacity deficiency penalties would reduce funds available for spending on energy efficiency measures. OCA Comments at 20-21. PECO expresses concern that bidding into the FCM would carry risks that could impact ratepayers and that EDCs should have the flexibility to manage these risks within their EE&C plans. PECO Reply Comments at 10-11. Duquesne agrees with OCA’s concerns regarding the potential impact of deficiency penalties on program costs. Duquesne also notes that six commenters from diverse entities expressed opposition towards the mandatory bidding requirement and recommends that the Commission eliminate this requirement. Duquesne Reply Comments at 4. Maxwell Lighting & Energy recommends that the Commission keep the current rules and procedures in place, stating that other companies can provide capacity more effectively than EDCs. Maxwell Lighting & Energy further states that there is no evidence that EDCs have become better equipped for participation than they have been in previous phases, so the current practices are appropriate and maximize ratepayer value. Maxwell Lighting & Energy Comments at 1-2.

#### Disposition

As discussed in Section B.2 of this Order, we direct EDCs to nominate a portion of the expected peak demand savings in their Phase IV EE&C Plans into PJM’s FCM. Cost recovery from the customer class providing the capacity will be adjusted to reflect the proceeds or penalties from this activity. The Commission also directs the Phase IV SWE to update the EDC Annual Report template to include table entries for FCM proceeds.

We find the suggestion made by FirstEnergy persuasive and will not require detailed breakdowns by measure, program, customer class, and year. Instead, as suggested by FirstEnergy, EDCs may limit EE&C Plan content to a description of the strategy and approach of offering resources into the PJM capacity market. However, we note that nomination of peak demand savings to PJM will require EDCs to develop specific projections (e.g. bids) so the description should include an estimated number of MW and a trajectory of that MW total over time. We agree with PECO that there is an element of risk associated with FCM that must be weighed carefully. Our determination for Phase IV reflects our position that EDCs are best positioned to manage the risks and rewards on behalf of their ratepayers. While EDCs have significant flexibility to manage these risks within their EE&C plans, the EDCs no longer have the option to avoid nominations entirely.

PECO requests a specific provision regarding possible deficiency charges an EDC may face in the event a resource does not provide the required capacity. Like our position that FCM proceeds should not act as a de facto increase in EDC budgets, the Commission clarifies that FCM penalties should not be treated as a de facto reduction in EDC budget. To summarize, the 2% spending cap is a limit on EE&C Plan expenditures. To the extent that those expenditures generate proceeds or penalties, those proceeds or penalties should be reflected in cost recovery, but the 2% spending cap is unaffected.

### Cost Recovery Tariff Mechanism

The Act allows all EDCs to recover, on a full and current basis from customers, through a reconcilable adjustment clause under 66 Pa. C.S. § 1307, all reasonable and prudent costs incurred in the provision or management of its plan. The Act also requires that each EDC’s plan include a proposed cost‑recovery tariff mechanism, in accordance with 66 Pa. C.S. § 1307 (relating to sliding scale of rates; adjustments), to fund all measures and to ensure a full and current recovery of prudent and reasonable costs, including administrative costs, as approved by the Commission.

The Commission proposed the use of a standardized reconciliation that will enable the EDCs and ratepayers to compare the cost recovery of program expenditures of all EDCs on an equal basis. We also concluded that it is beneficial to the EDCs and ratepayers that, with the implementation of Phase IV, the annual surcharge should be based on the projected program costs that the EDC anticipates will be incurred over the surcharge application year to attain the conservation targets.

The development of the surcharge using the projected program costs rather than the authorized budget amount will mitigate over- or under-recoveries of costs during the surcharge application period. Additionally, we find that actual expenses incurred should be reconciled to actual revenues received. Furthermore, for transparency purposes, the 1307(e) reconciliation statement should clearly identify PJM FCM proceeds as cost reductions and PJM FCM deficiency charges as cost increases. A reconciliation methodology based upon actual expenditures is pursuant to Section 1307(e) of the Public Utility Code, 66 Pa. C.S. § 1307(e) and allows for the provision of interest on over- or under-recoveries. We concluded that these measures will mitigate the over- or under-recovery of costs during the surcharge application period. As such, consistent with our determination in the Phase III Final Implementation Order,[[115]](#footnote-116) the Commission proposed for Phase IV to not require the provision of interest on over- or under‑recoveries.

To further standardize the filing process, we proposed that the EDCs file by May 1, the annual rate adjustment for the rate to become effective June 1. Concurrent with the annual rate adjustment, the EDCs would submit, in a separate filing, the annual reconciliation statement thirty days following the end of the reconciliation period in accordance with Section 1307(e) of the Public Utility Code, 66 Pa. C. S. § 1307(e).

The Commission agrees with comments filed on this topic in prior proceedings that surcharges should be combined into a single surcharge and tariff with the implementation of Phase IV. In order to transition from Phase III, ending May 31, 2021, to Phase IV, beginning on June 1, 2021, we proposed that each EDC reconcile its total actual recoverable EE&C Plan expenditures incurred through March 31, 2021, with its actual EE&C Plan revenues received through March 31, 2021.[[116]](#footnote-117) In addition, each EDC should include, as part of the calculation of the Phase IV rates to become effective June 1, 2021, as clearly identified separate line items, projections of the expenses to finalize any measures installed and commercially operable on or before May 31, 2021; expenses to finalize any contracts; and other Phase III administrative obligations. The Phase III rate that becomes effective June 1, 2020 will remain effective through May 31, 2021. The revenues and expenses of the remaining two months of Phase III (i.e., April 2021 and May 2021); expenses to finalize any measures installed and commercially operable on or before May 31, 2021; expenses to finalize any contracts; and other Phase III administrative obligations should be included, as clearly identified separate line items, in the reconciliation for the period April 1, 2021 through March 31, 2022.

We proposed that the standardized reconciliation process and the calculation of the annual surcharge will be set forth by each EDC in a supplement or supplements to the EDC’s tariff to become effective June 1, 2021, be accompanied by a full and clear explanation as to their operation and applicability to each customer class. The EE&C rates are subject to continuous Commission review and audit as well as reconciliation reports in accordance with Section 1307(e) of the Public Utility Code, 66 Pa. C.S. § 1307(e). Lastly, we proposed that under no circumstances will an EDC be permitted to recover, in the automatic adjustment clause, any EE&C Plan-related costs that have been claimed and permitted recovery in base rates. As no comments were received on this topic, the Commission adopts the cost recovery tariff mechanism as proposed.

## Additional Matters

Several parties raised a range of issues pertaining to the COVID-19 pandemic that we summarize and address here. All parties had an opportunity to address these matters in reply comments if they wished.

### COVID-19

EAP, FirstEnergy, PECO, and PPL request that the Commission incorporate a process into the Phase IV Implementation Order for adjusting reduction targets within Phase IV if the targets prove unobtainable due to the COVID-19 pandemic. EAP Comments at 4, PPL Comments at 1, PECO Comments at 1, FirstEnergy Comments at 15-16. The OCA and KEEA suggest that the EDCs engage contractors and stakeholder groups to discuss any necessary changes to the program design and delivery required to maintain achievement of savings given the COVID-19 pandemic. OCA Comments at page 3, KEEA Comments at 3. The PA-EEFA recognizes that EDCs have made appropriate decisions to suspend or minimize in-person program activities based on the need for social distancing and hopes that the EDCs are already developing methods to continue to achieve savings during and after the pandemic. PA-EEFA Comments at 4. CERES recommends the Commission prioritize projects that are in-progress or scheduled as well as encourage EDCs to focus on projects in largely vacant government, school, and commercial facilities. CERES Comments at 4.

In reply comments the OSBA expresses that it does not oppose establishing a method to adjust targets as long as the Commission includes goals and penalties in the individual EDC programs when those are developed. OSBA Reply Comments at 2-3. SEF opposes the EAP suggestion to develop a process for EDCs to petition to change targets given COVID-19 but requests that if such a process is created that it prohibits expedited review and require evidentiary hearings. SEF Reply Comments at 3-4. KEEA also expresses that if such a flexibility mechanism is instated, it should be treated as a last resort and have a clear process with stakeholder participation and firm criteria and high standards for adjusting targets. KEEA Reply Comments at 6-7.

**Resolution –**

We view IECPA’s and others’ comments regarding potential future impacts of COVID-19 and incorporating a process into the Phase IV Implementation Order for adjusting reduction targets within Phase IV as speculative and premature. Accordingly, we decline to establish a process to revise the targets at this time.

# CONCLUSION

With this Implementation Order, the Commission establishes the fourth phase of the energy efficiency and conservation program that requires electric distribution companies with at least 100,000 customers to adopt and implement cost‑effective plans to reduce energy consumption and peak demand consumption within this Commonwealth. This Implementation Order sets the required reductions for each electric distribution company, as well as guidelines for implementing the fourth phase of the energy efficiency and conservation program; **THEREFORE,**

**IT IS ORDERED:**

1. That the Commission establishes the Phase IV energy efficiency and conservation program as outlined in this Implementation Order.

2. That the Commission tentatively adopts the electric distribution company specific consumption reduction targets set forth in this Implementation Order. These consumption reduction targets will become final for any covered electric distribution company that does not petition the Commission for an evidentiary hearing by July 6, 2020.

3. That the Commission tentatively adopts the electric distribution company specific peak demand reduction targets set forth in this Implementation Order. These peak demand reduction targets will become final for any covered electric distribution company that does not petition the Commission for an evidentiary by July 6, 2020.

4. That if an electric distribution company files a petition for an evidentiary hearing, the matter will be referred to the Office of Administrative Law Judge for hearings with the record being certified to the Commission by October 23, 2020. Any party seeking to intervene in any such proceeding must file a Petition for Intervention with 10 days of an electric distribution company’s filing a petition for an evidentiary hearing.

5. That electric distribution companies with at least 100,000 customers adhere to the schedule for submission and filing requirements for energy efficiency and conservation plans identified in this Implementation Order.

6. That the Commission staff shall have delegated authority to review and approve electric distribution company proposed conservation service provider bidding processes, as set forth in Section I of this Implementation Order. Such staff determination shall be the final determination of the Commission unless appealed to the full Commission within 20 days, per 52 Pa. Code § 5.44.

7. That the Commission staff shall have delegated authority to review and approve minor energy efficiency and conservation plan changes in accordance with the procedures set forth in Section C of this Implementation Order and this Commission’s June 10, 2011 Final Order a Docket Number M-2008-2069887.

8. That any directive, requirement, disposition or the like contained in the body of this Implementation Order that is not the subject of an individual Ordering Paragraph, shall have the full force and effect as if fully contained in this part.

9. That a copy of this Implementation Order shall be served upon the Office of Consumer Advocate, the Office of Small Business Advocate, the Commission’s Bureau of Investigation and Enforcement and the jurisdictional electric distribution companies subject to the Energy Efficiency and Conservation Program requirements.

10. That the Secretary shall deposit a notice of this Implementation Order with the Legislative Reference Bureau for publication in the *Pennsylvania Bulletin*.

11. That this Implementation Order be published on the Commission’s public website at <http://www.puc.pa.gov/filing_resources/issues_laws_regulations/act_129_information/energy_efficiency_and_conservation_ee_c_program.aspx>.

**BY THE COMMISSION**

Rosemary Chiavetta

Secretary

(SEAL)

ORDER ADOPTED: June 18, 2020

ORDER ENTERED: June 18, 2020

1. *See Energy Efficiency and Conservation Program* Implementation Order, at Docket No. M‑2008‑2069887, (Phase I Implementation Order), entered January 16, 2009. [↑](#footnote-ref-2)
2. *See Implementation of Act 129 of 2008 – Total Resource Cost (TRC) Test* Order, at Docket No. M‑2009-2108601, entered June 23, 2009. [↑](#footnote-ref-3)
3. *See Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – Technical Reference Manual Update* Order, at Docket No. M-00051865, entered June 1, 2009. [↑](#footnote-ref-4)
4. *See Energy Efficiency and Conservation Program Implementation Order*, page 24, at Docket Nos. M‑2012‑2289411 and M‑2008‑2069887, entered Aug. 2, 2014. [↑](#footnote-ref-5)
5. *Id.* at 32, 33, 42 and 43. [↑](#footnote-ref-6)
6. *See Phase III Final Implementation Order,* page 12, at Docket No. M-2014-2424864, entered June 19, 2015. [↑](#footnote-ref-7)
7. *See Pennsylvania Act 129 - Phase IV Energy Efficiency and Peak Demand Reduction Market Potential Study Report,* submitted by Optimal Energy, Inc., *et. al.*, February 28, 2020.

   *Pennsylvania Act 129 - Phase IV Demand Response Potential Study*,submitted by Demand Side Analytics, Inc., *et. al.*, February 2020. [↑](#footnote-ref-8)
8. *See Release of the Act 129 Statewide Evaluator Energy Efficiency and Peak Demand Reduction Market Potential and Demand Response Potential Studies and Stakeholder Meeting Announcement* Secretarial Letter, at Docket No. M-2020-3015229, served March 2, 2020. [↑](#footnote-ref-9)
9. *See Energy Efficiency and Conservation Program* Tentative Implementation Order, at Docket No. M‑2020-3015228 (entered March 12, 2020) (hereinafter Tentative Implementation Order). [↑](#footnote-ref-10)
10. *See* *EEPDR Potential Study* at page 1. [↑](#footnote-ref-11)
11. *See Pennsylvania Act 129 2018 Residential Baseline Study*, submitted by NMR Group, Inc., February 12, 2019. <http://www.puc.pa.gov/Electric/pdf/Act129/SWE-Phase3_Res_Baseline_Study_Rpt021219.pdf>. [↑](#footnote-ref-12)
12. *See Pennsylvania Act 129 2018 Non-Residential Baseline Study*, submitted by Demand Side Analytics *et al.*, February 2019. <http://www.puc.pa.gov/Electric/pdf/Act129/SWE-Phase3_NonRes_Baseline_Study_Rpt021219.pdf>. [↑](#footnote-ref-13)
13. *See Release of the Statewide Evaluator Baseline Studies* Secretarial Letter at Docket No. M-2019-3006866 (served February 14, 2019). <http://www.puc.pa.gov/pcdocs/1606178.docx>. [↑](#footnote-ref-14)
14. *See the 2021 TRC, Avoided Cost Calculator* at <http://www.puc.pa.gov/pcdocs/1648144.xlsx>. [↑](#footnote-ref-15)
15. *See the 2021 TRC Test Final Order,* Docket No. M-2019-3006868 at <http://www.puc.pa.gov/pcdocs/1648126.docx>*.*  [↑](#footnote-ref-16)
16. *See* *EEPDR Potential Study* at page 2. [↑](#footnote-ref-17)
17. *Id.* [↑](#footnote-ref-18)
18. *See* *EEPDR Potential Study* at page 3. [↑](#footnote-ref-19)
19. *See* *EEPDR Potential Study* at page 3. [↑](#footnote-ref-20)
20. *See* *EEPDR Potential Study* at page 3*.* [↑](#footnote-ref-21)
21. *See* 66 Pa. C.S. § 2806.1(c). [↑](#footnote-ref-22)
22. Budgets are limited to an amount not to exceed two percent of the EDC’s total annual revenue as of December 31, 2006, excluding Low Income Usage Reduction Programs established under 52 Pa. Code § 58. 66 Pa. C.S. § 2806.1(g). [↑](#footnote-ref-23)
23. *See EEPDR Potential Study* at page 3. [↑](#footnote-ref-24)
24. *See Phase II Implementation Order* at page 23; *Phase III Implementation Order* at page 50. [↑](#footnote-ref-25)
25. *See EEPDR Potential Study* at page 3. [↑](#footnote-ref-26)
26. *See Phase III Implementation Order* at page 61. [↑](#footnote-ref-27)
27. *See* 2021 TRC Test Final Order at 17. <http://www.puc.state.pa.us/pcdocs/1648126.docx> [↑](#footnote-ref-28)
28. *See* 66 Pa. C.S. § 2806.1(b)(1)(i)(G) and *Phase II Implementation Order* at page 54. [↑](#footnote-ref-29)
29. *See Phase II Implementation Order* at page 54; *Phase III Implementation Order* at page 69. [↑](#footnote-ref-30)
30. *See Phase II Implementation Order* at page 54; *Phase III Implementation Order* at pages 69-70. [↑](#footnote-ref-31)
31. *See Pennsylvania Act 129 - Phase IV EEPDR Study Report,* submitted by Optimal Energy, Inc., *et. al.*, February 28, 2020. [↑](#footnote-ref-32)
32. *See Report of the Act 129 Low-Income Working Group* at Docket No. M-2009-2146801, Table 1 at page 6, that was adopted by the Commission in an April 27, 2010 Secretarial Letter at the same Docket. [↑](#footnote-ref-33)
33. *See Phase II Implementation Order* at pages 53-58; *Phase III Implementation Order* at pages 61-70. [↑](#footnote-ref-34)
34. The Commission notes that we are not proposing a low-income carve-out for the peak demand reduction requirements. [↑](#footnote-ref-35)
35. *See Phase II Implementation Order* at page 45. [↑](#footnote-ref-36)
36. *See Phase III Implementation Order* at page 72. [↑](#footnote-ref-37)
37. *See Pennsylvania Act 129 - Phase IV EEPDR Potential Study Report,* submitted by Optimal Energy, Inc., *et. al.*, February 28, 2020. [↑](#footnote-ref-38)
38. *See* *Pennsylvania Act 129 2018 Non-Residential Baseline Study*, submitted by Demand Side Analytics, et al. February 14, 2019 pages 106-107. [↑](#footnote-ref-39)
39. *See Phase II Implementation Order* at pages 58-60. [↑](#footnote-ref-40)
40. *Id.* at 25-26; *Phase III Implementation Order* at page 83. [↑](#footnote-ref-41)
41. *See Phase II Implementation Order* at pages 30-32. [↑](#footnote-ref-42)
42. *See Phase III Implementation Order* at page 86. [↑](#footnote-ref-43)
43. *See Phase II Implementation Order* at page 85; *Phase III Implementation Order* at page 108. [↑](#footnote-ref-44)
44. *See Phase III Clarification Order* pages 13-14. Public Meeting of August 20, 2015 at Docket No. M‑2014-2424864 [↑](#footnote-ref-45)
45. *See* <https://www.pjm.com/-/media/committees-groups/subcommittees/las/20181127/20181127-item-04-peak-shaving-forecast-adjustments.ashx> [↑](#footnote-ref-46)
46. *See* *Demand Response Potential Study* at page 11. [↑](#footnote-ref-47)
47. *See 2021 TRC Test Final Order* at page 96. [↑](#footnote-ref-48)
48. *See* *Demand Response Potential Study* at page 16. [↑](#footnote-ref-49)
49. <https://www.papowerswitch.com/> [↑](#footnote-ref-50)
50. *See EEPDR Potential Study* at page 3. [↑](#footnote-ref-51)
51. *See* *EEPDR Potential Study* at page 57. [↑](#footnote-ref-52)
52. *See* *EEPDR Potential Study* at pages 57-58. [↑](#footnote-ref-53)
53. *See* *EEPDR Potential Study* at page 58. [↑](#footnote-ref-54)
54. *See* *EEPDR Potential Study* at pages 57-58. [↑](#footnote-ref-55)
55. *See* *2021 Technical Reference Manual, Volume 1*, page 10 at <http://www.puc.pa.gov/pcdocs/1630967.docx> [↑](#footnote-ref-56)
56. *See* PJM 2020 Load Forecast Report. <https://www.pjm.com/-/media/library/reports-notices/load-forecast/2020-load-report.ashx> [↑](#footnote-ref-57)
57. <http://www.puc.state.pa.us/Electric/xls/Act129/SWE-Light_Metering_Study-AppendixB-Commercial_Load_Shapes.xlsx> [↑](#footnote-ref-58)
58. 2021 TRC Test Final Order at page 96. [↑](#footnote-ref-59)
59. *See Phase I Implementation Order* at page 9. [↑](#footnote-ref-60)
60. *See* <https://www.pjm.com/-/media/library/reports-notices/load-forecast/2019-load-report.ashx>. The values in the Load Forecast Report were further processed by the SWE to account for EDCs that do not serve an entire PJM zone. [↑](#footnote-ref-61)
61. *See 2021 Technical Reference Manual, Volume 1* at page 10. [↑](#footnote-ref-62)
62. *See 2021 Technical Reference Manual, Volume 1* at page 5. [↑](#footnote-ref-63)
63. *See* <https://www.pjm.com/-/media/documents/manuals/m18b.ashx> [↑](#footnote-ref-64)
64. See PECO PY10 Final Annual Report at page 106. <http://www.puc.pa.gov/pcdocs/1645979.pdf> [↑](#footnote-ref-65)
65. *See Energy Efficiency and Conservation Program Implementation Order*, at Docket No. M‑2008‑2069887 (entered January 16, 2009) (*Initial Implementation Order*) at page 10. [↑](#footnote-ref-66)
66. OTS is a reference to the Commission’s former Office of Trial Staff. As of August 11, 2011, OTS was eliminated and its functions and staff transferred to the newly created Bureau of Investigation and Enforcement. *See Implementation of Act 129 of 2008; Organization of Bureaus and Offices*, Final Procedural Order, entered August 11, 2011, at Docket No. M-2008-2071852, at pages 4-5. [↑](#footnote-ref-67)
67. *See Phase I Implementation Order* at pages 12-13. [↑](#footnote-ref-68)
68. *See Phase II Implementation Order* at page 61; *Phase III Implementation Order* at pages 89-91 [↑](#footnote-ref-69)
69. The timing of Commission approval of a Public Meeting agenda item is tentative and may change at any time at the Commission’s discretion, unless a statutorily mandated timeline is associated with that agenda item. [↑](#footnote-ref-70)
70. This proposed date reflects the Commission’s intent to submit this Order by the deadline necessary for publishing in the March 28, 2020 issue of the *Pennsylvania Bulletin*. It does not reflect deadlines/timelines binding on the Legislative Reference Bureau. [↑](#footnote-ref-71)
71. The proposed filing deadline for Petitions for Evidentiary Hearings is 15 days following the entry date of the Final Implementation Order, which would be July 3, 2020, if the Final Implementation Order is entered on June 18, 2020. Because July 3, 2020 is a holiday, we propose July 6, 2020 as the filing deadline. [↑](#footnote-ref-72)
72. Such filings are at the EDCs’ discretion. [↑](#footnote-ref-73)
73. The program must include “standards to ensure that each plan includes a variety of energy efficiency and conservation measures and will provide the measures equitably to all classes of customers.” [↑](#footnote-ref-74)
74. *See Phase II Implementation Order* at 89. [↑](#footnote-ref-75)
75. *See Energy Efficiency and Conservation Program*, Final Order at Docket No. M-2008-2069887 (entered on June 10, 2011) (Minor Plan Change Order). [↑](#footnote-ref-76)
76. *See Phase II Implementation Order* at page 91. [↑](#footnote-ref-77)
77. *See Implementation of the Alternative Energy Portfolio Standards Act of 2004: Standards for the Participation of Demand Side Management Resources – Technical Reference Manual Update*, TRM Annual Update Order, Page 17, (*2009 TRM Update Order*) at Docket No. M-00051865, entered June 1, 2009. [↑](#footnote-ref-78)
78. *See Phase II Implementation Order* at pages 72-75. [↑](#footnote-ref-79)
79. *See 2021 TRM Final Order* at pages 6-8. <http://www.puc.pa.gov/pcdocs/1631001.docx> [↑](#footnote-ref-80)
80. After November 30, 2013, and every five years thereafter, we are to evaluate the costs and benefits of the program established under 66 Pa. C.S. § 2806.1(a) and of approved EE&C plans using a total resource cost test or a cost-benefit analysis of our determination. 66 Pa. C.S. § 2806.1(c)(3). [↑](#footnote-ref-81)
81. <http://www.puc.pa.gov/pcdocs/1648126.docx> [↑](#footnote-ref-82)
82. Violette, Daniel and Pamela Rathbun, “Chapter 21: Estimating Net Savings: Common Practices,” in *The Uniform Methods Project: Methods for Determining Energy Efficiency Savings for Specific Measures.* Prepared for the National Renewable Energy Laboratory, October 2017. <https://www.nrel.gov/docs/fy17osti/68578.pdf> [↑](#footnote-ref-83)
83. *See Implementation of Act 129 of 2008 – Total Resource Cost (TRC) Test* Order, at Docket No. M‑2009-2108601 (2009 TRC Test), entered June 23, 2009,at page 27. [↑](#footnote-ref-84)
84. *See Implementation of Act 129 of 2008 – Total Resource Cost (TRC) Test - 2011 Revisions* Final Order, at Docket No. M-2009-2108601 (2011 TRC Test Order), entered August 2, 2011, at page 25. [↑](#footnote-ref-85)
85. *See* Pennsylvania Statewide Evaluation Team, report titled “Net Savings: An Overview,” prepared by the Pennsylvania Phase I Statewide Evaluation Team, October 2011. In this 2011 report, the Phase I SWE “recommended that NTG studies be conducted for Act 129 EE&C programs for the purposes of acquiring data to improve program effectiveness and electricity savings.” The report recommended using verified gross savings to set kWh and kilowatt (kW) savings goals and to determine whether these goals have been attained. The SWE did not recommend using net savings to determine if program goals/savings targets have been attained, or to determine if a utility should get a financial incentive reward or penalty. [↑](#footnote-ref-86)
86. *See Phase II Implementation Order* at pages 82-83. [↑](#footnote-ref-87)
87. *Id.* at 82. [↑](#footnote-ref-88)
88. *Id.* at 83. [↑](#footnote-ref-89)
89. *See* *Phase III Implementation Order* at page 107. [↑](#footnote-ref-90)
90. *See* 66 Pa. C.S. § 2806.1(a)(7). [↑](#footnote-ref-91)
91. *See* 66 Pa. C.S. § 2806.1(a)(8). [↑](#footnote-ref-92)
92. *Id*. [↑](#footnote-ref-93)
93. The CSP registry is available on the Commission’s website at <http://www.puc.pa.gov/utility_industry/electricity/conservation_service_providers_registry.aspx> [↑](#footnote-ref-94)
94. See 66 Pa. C.S. § 2806.1(b)(1)(i)(E). [↑](#footnote-ref-95)
95. *See Phase II Final Implementation Order* at pages 93-94 and *Phase II Final Implementation Order* at page 125. [↑](#footnote-ref-96)
96. *See Phase III Implementation Order* at pages 126-127. [↑](#footnote-ref-97)
97. *See* 66 Pa. C.S. § 2806.1(a)(10). [↑](#footnote-ref-98)
98. *See* 66 Pa. C.S. § 2806.2(a). [↑](#footnote-ref-99)
99. *See* 66 Pa. C.S. § 2806.2(b). [↑](#footnote-ref-100)
100. *See Implementation of Act 129 of 2008 Phase 2 – Registry of Conservation Service Providers*, Final Order at Docket No. M-2008-2074154 (entered February 5, 2009) (*CSP Registry Order*). [↑](#footnote-ref-101)
101. *See Implementation of Act 129 of 2008 – Registry of Conservation Service Providers,* Final Order(2013 and 2015 CSP Registry Orders) at Docket No. M-2008-2074154, entered on July 16, 2013 and May 8, 2015. [↑](#footnote-ref-102)
102. *See 2013 CSP Registry Order* at 8-10. [↑](#footnote-ref-103)
103. *See Phase III Implementation Order* at pages 133-134. [↑](#footnote-ref-104)
104. *See Phase I Implementation Order* at pages 32-36. [↑](#footnote-ref-105)
105. *See 2021 TRC Test Final Order* at pages 73-75 and 77-78 [↑](#footnote-ref-106)
106. *See Implementation of Act 58 of 2018 Alternative Ratemaking for Utilities*, Implementation Order at Docket No. M‑2018‑3003269 (entered April 25, 2019) at 9-10. [↑](#footnote-ref-107)
107. *See 2021 TRC Test Order* at pages 74-75. [↑](#footnote-ref-108)
108. *See Petition of Duquesne Light Company for Approval of its Energy Efficiency and Conservation Phase II Plan* Opinion and Order, at Docket No. M-2012-2334399, entered March 14, 2013, at page 48. *See Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company for Consolidation of Proceedings and Approval of Act 129 Phase II Energy Efficiency and Conservation Plans* Opinion and Order, at Docket Nos. M‑2012‑2334387, *et al.*, entered March 14, 2013, at pages 41-42. *See Petition of PECO Energy Company for Approval of its Act 129 Phase II Energy Efficiency and Conservation Plan* Opinion and Order, at Docket No. M-2012-2333992, entered February 28, 2013, at pages 38-39. *See Petition of PPL Electric Utilities Corporation for Approval of its Act 129 Phase II Energy Efficiency and Conservation Plan* Opinion and Order, at Docket No. M-2012-2334388, entered March 14, 2013, at page 85. [↑](#footnote-ref-109)
109. As the General Assembly declared in its Act 129 policy statement “[i]t is in the public interest to adopt [EE&C] measures and to implement energy procurement requirements designed to ensure that electricity obtained reduces the possibility of electric price instability, promotes economic growth and ensures affordable and available electric service to all residents.” [↑](#footnote-ref-110)
110. *See PJM Manual 18B: Energy Efficiency Measurement and Verification*. <https://www.pjm.com/-/media/documents/manuals/m18b.ashx> [↑](#footnote-ref-111)
111. *See Phase III Implementation Order*. Pages 142-144 [↑](#footnote-ref-112)
112. *See* <http://www.puc.pa.gov/Electric/xls/Act129/SWE-Light_Metering_Study-AppendixB-Commercial_Load_Shapes.xlsx> [↑](#footnote-ref-113)
113. *See* <http://www.puc.pa.gov/pcdocs/1340978.pdf> [↑](#footnote-ref-114)
114. *See* *PJM Manual 18* pages 157-158. <https://www.pjm.com/-/media/documents/manuals/m18.ashx> [↑](#footnote-ref-115)
115. *See Phase III Implementation Order* at page 149. [↑](#footnote-ref-116)
116. Due to the timing of the filing, the reconciliation statement will contain 10 months of revenues and expenses. The remaining two months of Program Year 12 will be reconciled with the Program Year 13 revenues and expenses. [↑](#footnote-ref-117)