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File #: 193598

February 23, 2022

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Petition of PPL Electric Utilities Corporation for Approval of its Act 129 Phase IV Energy Efficiency and Conservation Plan - Docket No. M-2020-3020824

Dear Secretary Chiavetta:

Pursuant to Paragraph 41 of the Joint Petition for Partial Settlement approved in the above-captioned proceeding, enclosed for filing on behalf of PPL Electric Utilities Corporation are descriptions of the Deep Energy Retrofits Pilot Program and the Net Zero Energy Homes Pilot Program.

Copies of this filing will be provided as indicated on the enclosed Certificate of Service.

Respectfully submitted,



Devin Ryan

DTR/dc
Enclosures

cc: Certificate of Service

CERTIFICATE OF SERVICE
(Docket No. M-2020-3020824)

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

VIA E-MAIL

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Date: February 23, 2022



Devin T. Ryan

2/16/2022

PPL ELECTRIC UTILITIES DEEP ENERGY RETROFITS PILOT

Summary

The Deep Energy Retrofits Pilot will identify barriers to customer participation in comprehensive measure packages and test several delivery approaches intended to mitigate these barriers and encourage higher homeowner participation and trade ally adoption.

PPL Electric Utilities will develop the network of pilot Trade Allies and facilitate collaborative partnerships to expand the market for comprehensive measure installation. Tactics will include a market survey to assess barriers and define potential solutions to improve participation, as well as updates to the package of incentives offered to customers and contractors participating in the program. Throughout the pilot implementation phase, we will also identify and address barriers within the customer journey and perform direct outreach among key customer segments and contractor types to identify opportunities for wider participation.

The planning and implementation will start in the last quarter of Program Year 13. Outreach activities will take place at the very beginning of Program Year 14 with field implementation occurring between September 2022 and October 2023. Final analysis and reporting will be delivered by the end of February 2024. A more detailed schedule is included at the end of this document.

Goals

During this pilot, we expect to accomplish the following goals:

- Identify barriers to participation in comprehensive measures.
- Test the potential to address barriers with 3-5 new approaches for increasing comprehensive measure adoption. Examples include:
 - Enhanced Incentives,
 - Customer engagement and messaging updates,
 - Trade ally coordination.
- Engage new audiences of non-traditional participant types, such as landlord/rental property owners via direct outreach.
- Educate and support the Trade Ally network and engage new audiences of non-traditional contractor types via direct outreach.

Performance and Participation

The performance of the pilot will be measured according to the following criteria:

- The market survey data characterizes barriers to comprehensive measure adoption within the market among both customers and contractors (quantitative/qualitative).
- The pilot approaches adequately address identified barriers with consideration to both customer and contractor experience and motivations (quantitative/qualitative).
- The pilot approaches result in new contractor enrollments and collaborative contractor partnerships supporting comprehensive measure adoption (quantitative).
- The pilot direct outreach activities provide actionable findings for increasing participation among renters and landlords/property owners, as well as key contractor types (quantitative/qualitative).



Data Collection

The following data will be collected to guide pilot deployment, assess the performance of piloted approaches, and inform actionable recommendations to follow the pilot:

- Market survey data (customer and contractor),
- Conversion and measure participation rates during the pilot period,
- New contractor enrollments, contractor partnerships established,
- Market intelligence from direct engagement activities with landlord/rental property owners and new contractor segments.

Final Report

At the end of the pilot period, we will review and assess all pilot activities. We will present our key findings, including challenges encountered during the pilot, as well as recommendations on potential program implementation. The team is prepared to work with our evaluator, Cadmus, during the evaluation of the pilot as necessary. We will use our Residential Program Conservation Service Provider, CLEAResult, to implement the pilot.

Estimated Budget

Phase	Estimated Cost
Pre-Launch/Planning	\$ 86,000
Outreach/Engagement	\$ 41,000
Implementation	\$ 176,000
Incentives	\$ 159,000
Final Analysis and Reporting	\$ 38,000
Total	\$ 500,000



Schedule

PPL Deep Energy Retrofit Pilot Schedule																										
TASK	2022												2023												2024	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Pre-Launch/Planning																										
Project Kickoff																										
Market Research Coordination Planning																										
Schedule and Plan Development																										
MILESTONE: Review/Approval of Plan and Budget																										
Secondary Research																										
Market Research/Pre-Pilot Survey																										
Finalize Offer and Data Collection Plan																										
Outreach/Engagement																										
Partner Outreach and Enrollment																										
Implementation																										
Pilot Offer Deployed in Market, Comprehensive Measure Delivery																										
Data Collection Activities, Post-Installation Inspection and Interviews																										
Conversion and Interview Data Tracking/Analysis																										
Regular Reporting on Pilot Activities/Data Analysis																										
Final Analysis and Reporting																										
MILESTONE: Data Analysis Completed																										
Final Report Drafting																										
MILESTONE: Draft Report Delivered to PPL																										
PPL Draft Review, Feedback																										
MILESTONE: Final Report Delivered to PPL																										

2/16/2022

PPL ELECTRIC UTILITIES NET ZERO ENERGY HOMES PILOT

Summary

The Net Zero Energy Homes Pilot will provide financial and technical support to construct 1-3 net zero energy homes, demonstrating the successful implementation of residential new construction net zero standards in PPL Electric Utilities territory. The demonstration homes will be highlighted as case studies and used to host education and awareness events, spurring interest in affordable net zero construction, and growing the market's technical capacity to support future net zero and high-performance homes. We will work with participating builders to incorporate advanced building techniques, emerging technologies, and measures with potential to affect PPL's future efficiency, demand, and clean energy goals.

We will identify and recruit builder partners from target builder types (affordable housing affiliates, builders of modestly sized starter homes) and support the design and construction teams in advancing construction practices, providing incentives and high-touch technical and field support. A project may include the following measures:

- High-efficiency HVAC and Hot water equipment (Mini-split heat pump, heat pump water heater),
- Super-Insulated shell (walls, ceiling, windows, floor),
- Advanced air sealing methods,
- Balanced ventilation with heat recovery (HRV/ERV),
- On-site renewable energy source with storage,
- EV charger or charging infrastructure,
- Smart/connected controls and devices (Thermostat, appliances, lighting, water heating).

Education and awareness events held at the demonstration homes will highlight the builder and their team of skilled subcontractors and will communicate the benefits of net zero homes to a wide range of audiences and end users ranging from school children and real estate companies to other builders and subcontractors working in and around the territory.

For this pilot, we suggest, based on the builders' build cycle, a longer pilot duration with a later start date to allow better coordination with potential builders and ensure we can work with them during the critical design phase and before the start of their building cycle. We anticipate the project to launch at the beginning of Program Year 14 and construction starting in the second half of PY14 and ending in Program Year 15. The provided timeline allows for flexibility to cover longer build cycles, but actual timeline will be dependent on demonstration home builders' construction timelines. Analysis and reporting will be finalized at the end of Program Year 15. A more detailed schedule is included at the end of this document.

Goals

During this pilot, we expect to accomplish the following goals:

- Demonstrate successful construction of Net Zero Energy/Net Zero Ready (NZE/NZR) homes in PPL territory.
- Support key builder types in advancing building processes and practices, influencing design decisions with financial incentives and high-touch field training/support.
- Document technical, financial, and business support necessary to influence builder choice to NZE/NZR practices.
- Use pilot homes to provide market benefit through case studies and targeted education/engagement events.

Performance and Participation

The performance of the pilot will be measured according to the following criteria:

- Pilot team provides a market overview of NZE/NZR projects and initiatives in PPL territory and neighboring states/territories (quantitative/qualitative).
- 1-3 demonstration homes meeting NZE/NZR specs are constructed during the duration of the pilot by 1-2 builders in PPL territory (quantitative/qualitative).
- Participating builders commit to open demonstration homes to education and awareness events, coordinate with Pilot Team to hold events as needed (quantitative/qualitative).
- 1-3 education and awareness events are held at each demonstration home (quantitative/qualitative).
- Builder experiences, technical support needs, cost/technical barriers, and recommended solutions are documented with pertinent findings in the pilot report (quantitative/qualitative).

Data Collection

The following data will be collected to inform pilot outreach and recruitment, assess the performance of the pilot design, and inform actionable recommendations to follow the pilot:

- Secondary research and new homes program data,
- Market research and survey data,
 - Who: builders, raters, and homebuyers,
 - What: barriers to entry, current practices, etc.
- Demonstration home characteristics, energy model, and field verification data,
- Design consulting, technical, and field support provided to participating builders,
- Event marketing and attendance data,
- Post-construction builder interview data,
- Home energy use and production data.

Final Report

PPL Electric Utilities will analyze all data collected during the pilot and summarize our findings. The report will include challenges and lessons learned encountered during the pilot period as well as recommendations on potential program implementation. We will work with our evaluator, Cadmus, during the evaluation of the



pilot as necessary. We will use our Residential Program Conservation Service Provider, CLEAResult, to implement the pilot.

Estimated Budget

Phase	Estimated Cost
Pre-Launch/Planning	\$ 80,000
Outreach/Engagement	\$ 31,000
Implementation	\$ 161,000
Incentives	\$ 122,000
Events & Media	\$ 66,000
Final Analysis and Reporting	\$ 40,000
Total	\$ 500,000



Schedule

PPL Net Zero Homes Pilot Schedule																													
TASK	2022												2023												2024				
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Pre-Launch/Planning																													
Project Kickoff																													
PPL Marketing/PR Coordination Planning																													
Schedule and Plan Development																													
MILESTONE: Review/Approval of Plan and Budget																													
Secondary Research																													
Market Research/Pre-Pilot Survey																													
Finalize Offer and Data Collection Plan																													
Outreach/Engagement																													
Identify and Enroll Projects																													
Implementation																													
Pre-Construction Interviews and Design Consulting																													
Marketing, Media Engagement, and Events Planning																													
Marketing, Media Engagement, and Events Delivery																													
Technical & Field Support																													
Document Field Findings/Lessons Learned																													
Project Tracking, Regular Reporting on Pilot Activities																													
Post-Construction Survey/Interviews																													
Final Analysis and Reporting																													
MILESTONE: Compile Findings/Lessons Learned																													
Final Report Drafting																													
MILESTONE: Draft Report Delivered to PPL																													
PPL Draft Review, Feedback																													
MILESTONE: Final Report Delivered to PPL																													