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May 19, 2022

Eaton Comments to the National Association of State Energy Officials (NASEO) on the Request for Information regarding Implementation Options for Home Energy Performance-Based Whole House Rebate Program and High-Efficiency Electric Home Rebate Program

Eaton appreciates the opportunity to respond to the Request for Information (RFI) on implementation options for Home Energy Performance-Based Whole House Rebate Program and High-Efficiency Electric Home Rebate Program, specifically providing comments under category two – program elements. Eaton is a diversified industrial manufacturer serving both the energy and transportation sectors. Eaton is fully committed to supporting the energy transition towards a sustainable, carbon-neutral economy. As a global power management company, Eaton is dedicated to improving people's lives and the environment with power management technologies that are more reliable, efficient, safe, and sustainable. Eaton currently employs over 27,000 employees across the United States and operates facilities in more than 35 states, including over 70 manufacturing sites.

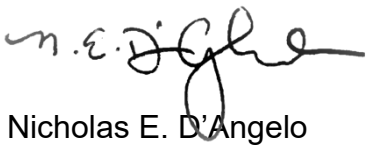
Eaton has invested in advancing state-of-art electrical power distribution products to support residential electrification and assist in lowering the country's carbon footprint, while helping homeowners and residents reduce energy costs. Eaton designs and manufactures residential electrical loadcenters and circuit breakers that provide reliable power breaking and circuit protection. Manufactured in Lincoln, IL, where Eaton employs over 700 employees, the main function of a loadcenter is to take electricity supplied by the utility and distribute it throughout the home. Loadcenters are the enabling technology for broader electrification and energy efficiency improvements including appliance replacements and renewable energy integration. Loadcenter improvements will allow homeowners to maximize benefits of both rebate programs and do so safely, reliably, and sustainably.

Many of Eaton's products are available at retail sales outlets, but trusted contractors are also a primary point-of-sale for homeowners who are making electrical distribution infrastructure improvements. Through our certified contractor network, Eaton partners with over 1,000 electrical contractors across the United States. These trained and certified contractors focus on home renovation and service, positioning Eaton to move quickly in supporting rebate program deployments.

Eaton encourages State Energy Officials to consider the following key priorities when implementing rebate programs to broaden accessibility while enabling homeowners and residents to maximize energy savings and reduce carbon emissions:

- Prioritize electrical loadcenter and distribution infrastructure upgrades as the enabling technology to position homeowners to make broader investments under the programs.
- Work with qualified electrical contractors to facilitate program deployment by performing assessments of existing electrical infrastructure as the first step under rebate programs.
- Advance opportunities to integrate “smart” technologies that will expand accessibility and increase savings by allowing homeowners to meter their energy, and be positioned for investments such as Electric Vehicle (EV) charging and the integration of energy storage and renewables.
- Partner with manufacturers to engage proactively with the contractor community. Collaboration between program implementers, contractors, and product manufacturers is critical to the successful deployment of the rebate programs.
- Focus on electrical safety. In addition to the energy savings and economic benefits of upgrading an electrical system, State Energy Officials should remain focused on electrical safety by prioritizing technologies that help protect against electric shock, electrical fires, and property protection. Ensuring products meet Underwriters Laboratory (UL) requirements and are installed in accordance with the latest version of the National Electrical Code (NEC) is imperative.

Sincerely,



Nicholas E. D’Angelo
Director, Public Affairs – Electrical Sector

Please find more detailed responses to specific questions below:

Category 2: Program Elements

16. Name & Contact Information:

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19. Describe the program element that is important for State Energy Office Consideration. Be as detailed as possible.

Eaton recommends State Energy Officials prioritize electrical loadcenter upgrades to enable applicants to take full advantage of the broader appliance and energy enhancements that are eligible for rebates (and other applicable incentives) and minimize energy burden and costs, particularly in low- and moderate-income (LMI) and high energy burden households. If advanced as the primary solution under the programs, new technologies, including “smart” breakers, will allow homeowners and residents to meter major energy consuming electrical loads including heat pumps, air

conditioning units, and hot water tanks. These technologies will allow homeowners and residents to make educated decisions about energy consumption and maximize savings. Coupling intelligent electrical infrastructure with high efficiency appliances will also provide measurable data to further the program.

Eaton also recommends that programs focus on the integration of “smart” technologies that will enable homeowners and residents to leverage energy efficient technology advancements, namely EV charging. By installing EV smart breakers directly into a home’s electrical loadcenter, homeowners will be positioned as EV ready, helping to drive charging accessibility in LMI communities and opening long-term opportunities for bidirectional charging by allowing car batteries to serve as a secondary power source to the home. By promoting the installation of load metering and “smart” breakers (widely available in the market today), State Energy Officials can equip homeowners and residents with resources to monitor energy consumption and leverage data. Eaton also recommends State Energy Officials promote electrical loadcenter products that enable utility demand response to maximize potential economic benefits by providing improved energy management and increased savings. A focus on technology will help provide implementers with the information needed when making determinations on eligible program paths and electrical distribution products that have built-in revenue grade metering will assist in providing the accurate energy consumption information needed to forecast continued usage and savings.

In parallel, Eaton encourages State Energy Officials to work with equipment manufacturers to ensure ease of technology deployment and availability. Qualifying electrical loadcenters, including circuit protection products, should be listed by catalog number by each state (as code changes per state) and be subject to testing. Lastly, products that follow the strict guidelines of UL should be required as installed products under the program.

Electrical safety should be a core consideration for State Energy Officials in the design and implementation of the rebate programs. As such, electrical safety and code compliance should be incorporated into each rebate program. Ensuring homeowners and residents are provided with the appropriate life and property protections is critical in highly electrified built environments. Products should be UL listed and installed to the latest version of the NEC. State Energy Officials should also partner with manufacturer-certified contractors who have completed the training required to suggest code compliant solutions that will assist with energy consumption.

In order to ensure the successful implementation of the programs and broad accessibility, Eaton suggests State Energy Officials collaborate closely on all points-of-sale. In addition to retail outlets, providing information and tools for contractors and distributors will be important as these are primary points-of-sale for residential electrical infrastructure including loadcenters and wiring. It will also be important for State Energy Officials and implementers provide resources to contractors and trusted service providers so they understand how to market the programs to homeowners. Eaton encourages State Energy Officials to work with manufacturers who can assist with these efforts.

Additionally, as the first step under rebate programs, State Energy Officials should consider embedding a required assessment of homes' existing electrical power distribution infrastructure by a qualified electrical contractor. This approach will facilitate program deployment by providing homeowners and residents with a better understanding of their ability to make upgrades and the infrastructure needed to take full advantage of eligible upgrades under the programs.

Eaton recommends State Energy Officials work with manufacturers to support qualifying installation initiatives under the programs. Eaton maintains a network of over 1,000 Eaton certified electrical contractors nationwide. These contractors are focused on residential renovation and service, and provide homeowners with unsurpassed service. Eaton recommends that State Energy Officials leverage manufacturer-sponsored contractors as a resource. These programs ensure that contractors are trained in the products and solutions offered by the company and manufacturers' programs will make sure that homeowners focus on safety, reliability, and efficiency.

Lastly, State Energy Officials should also consider programs that support retrofits to existing buildings and new construction. Rebate programs can benefit each in different ways. Upgrading electrical systems provides economic benefits and enables a focus on safety. Ensuring Arc Fault Circuit Interrupter (AFCI) and Ground Fault Circuit Interrupter (GFCI) protections are provided as part of new installations and upgrades for electrical loadcenters will help prevent house fires and protect residents from electric shock in more highly electrified homes. For new construction, programs should focus on future-proofing the residence for continued electrification and energy efficiency investments over time by including the necessary power distribution infrastructure for EV charging, energy storage, and the integration of renewable energy resources. A focus on intelligent electrical distribution technology will help accomplish this goal. Lastly, as the United States electrifies the need for surge protection increases. Adding more electronics to the home increases the homeowners' investment and level of connection to the electrical ecosystem. Transient electrical events can damage equipment quickly and be very expensive. Rebate programs should require surge protection devices be installed as part of electrical loadcenter upgrades to protect the substantial investments made by the homeowner and those funded by the programs.