Better Buildings Alliance Plug and Process Loads Technology Research Team

April 2020

Team Updates

- We've welcomed two new additions to the Technology Research Team – Amy LeBar and Robin Tuttle!

  Amy is a Research Engineer at the National Renewable Energy Laboratory (NREL) with research focuses Plug and Process Loads (PPLs) and building energy modeling. She is also part of team developing a platform for energy modeling of the U.S. commercial building stock.

  Robin is a Project Controller at NREL and is a LEED Green Associate and Project Management Professional. Prior to NREL, she worked at Boston Government Services (BGS) where she provided the U.S. Department of Energy specialized project support.

- We hosted a webinar in January titled *How Much Energy are Your Devices Consuming? Plug Load Disaggregation and the Future of Device Energy Savings.* In this webinar, Bennett Doherty (NREL) discussed plug load disaggregation and Bruce Nordman (Lawrence Berkeley National Laboratory) presented his team's work on device energy reporting. The full recording, and past webinars, can be found on the PPL team's On Demand Webinar Library webpage.

- Speaking of our website, we recently updated the content and format for easier access to publications and webinars! Now you can stay informed with new research, top solutions (including case studies, fact sheets, and more), and access past webinars at any time. PPL Team Quarterly Updates are also now available online. Check out the improvements here!

- Be sure to check out the Two-Page Summary of our latest case study on office building plug load disaggregation. With thousands of devices in today's large buildings, individually monitoring every plug load becomes a nontrivial task. To address this, we proposed a method for combining a limited amount of smart plug metering with a device inventory to develop a disaggregated breakdown of device-level power consumption.

- The database of utility incentives and rebates for PPL solutions on our webpage has been updated. PPL incentives are sorted into five categories: vending machine controllers, computer power management, advanced power strips, plug load occupancy sensors, plug load ENERGY STAR equipment, and custom incentives. As of March 2020, 131 utilities are offering a total of 319 incentives across 36 states. Similar to previous years, the majority of the utility incentives are focused around vending machine controls (172 incentives) and computer power management (61 incentives). To find out what PPL incentives are available in your electric utility territory, download the Plug Load Efficiency Utility Incentives spreadsheet, which can be filtered by utility, state and PPL category.

Upcoming Webinars and Events

- We will be hosting a webinar on **April 30th at 1:00pm ET/11:00am MT** titled *Automatic Receptacle Controls: Adjusting to New Code Requirements for Plug Load Controls.* The webinar will include two presentations from industry experts, Harold Jepsen (Legrand) and Kelly Cunningham (PG&E). They will present on the current code requirements for automatic receptacle controls, review how different stakeholders have adjusted to the new requirements, and discuss what future code cycles may hold. Register here for the webinar!

- The **2020 Better Buildings, Better Plants Summit is transitioning to a virtual leadership symposium, held during the same week (June 8-11)**. The virtual leadership symposium will feature a series of timely webinars and peer exchanges beginning with an Opening Plenary on Monday, June 8. View the full schedule here. **Register today to sign up for individual sessions, meet-ups, and workshops!** All are free to attend.

Research Spotlight

- The Oregon Department of Energy and the Department of Administrative Services developed a Statewide Plug-Load Strategy in January 2019. The resulting document provides a framework that can be tailored to a building's unique set of equipment and operations. Their strategy focuses on five key components of plug load management over the plug load's lifespan: portfolio management, planning & specifications in procurement, review and adjust settings/configuration before use, optimize use, and outreach and education. Additionally, the State of Oregon adopted one of the most advanced energy codes in the country in October 2019 (ASHRAE 90.1-2016). The code has strong requirements on plug load control in commercial buildings. The Department of Administrative Services also recently adopted a revised statewide Energy and Resource Conservation Policy, which directs agencies to implement several components of the Plug-Load Strategy.

- The Integrated Lighting Campaign (ILC) will be launching in June! With the advances in connectivity and control of building equipment, plug loads and HVAC systems can be integrated with lighting systems. Occupancy sensor data from lighting can be used to turn off plug load devices when spaces are vacant, resulting in greater energy savings. The ILC is looking for interested parties (e.g., building managers/owners, utilities, manufacturers, and others) who have integrated, or are considering integrating, lighting systems with other building end uses, such as plug loads or HVAC systems to join the Campaign. The ILC is also looking for building owners that have integrated such systems to share their experiences. Please send an e-mail to integratedlighting@pnnl.gov if you are interested in joining, learning more, or if you are working on projects that integrate controls of these building end uses. You may also contact Felipe Leon of Pacific Northwest National Laboratory (felipe.leon@pnnl.gov) if you have any questions.

Contact Us

- Are you working on any plug and process load research or have data to share? Would you like to be more involved with the Plug and Process Load Technical Team? If so, we'd like to hear from you! Contact us at ppl@waypoint-energy.com.

All the best,

Kim Trenbath (BBA PPL Technical Lead), Bennett Doherty, Amy LeBar, and Robin Tuttle, National Renewable Energy Laboratory
Katie Vrabel & Carly Burke, Waypoint Energy