

American Public Power Association

DEEDdigest

Upcoming Webinar FREE to DEED Members

Engaging Communities for Energy & Water Savings

Low-income households face high costs of energy and water consumption, primarily because they inhabit older and less efficient houses. Gainesville Regional Utilities (GRU) tackled this problem directly through a team approach involving researchers at the University of Florida and the Community Weatherization Coalition (CWC). They worked together in targeted neighborhoods to formally outline the successful approach that the CWC has developed over the years, measure and verify the impact that energy audits have had to date, develop a community-based social marketing campaign, carry out enhanced audits and compare their results, calculate carbon offsets from home energy audits, and produce materials to document results and best practices for home energy & water audits.

Join DEED on **Thursday, November 29 at 2:00 PM** eastern time to hear from staff at GRU and the CWC that planned and executed this project.

[Register Now](#)



DEED Webinars

A chronological listing of DEED webinars is posted for DEED member only access [here](#).

DEED webinars are provided free to DEED members. To find out if you are a DEED member, [click here](#).

Nominate a Colleague to Serve on Our Board- Region 9 Deadline Extended

Shape the direction of public power R&D - Apply for open DEED board seat!

The Association seeks nominations to fill an opening on the [DEED board of directors](#). The director will represent DEED members in **Region 9 (Alaska, Idaho, Montana, Oregon, and Washington)**. Eligible candidates are utility, joint action agency, state/regional association, and federal service contract personnel at DEED member organizations. Read more in [this Memo](#) and use the below nomination form to apply by November 30, 2018.

[Nominate for Region 9](#)

DEED Awards: Your Utility Deserves Recognition!



DEED members are encouraged to apply for the 2019 Award of Continued Excellence (ACE) and the Energy Innovator Award (EIA). The Award of Continued Excellence recognizes a DEED member utility with demonstrated commitment to DEED and its ideals. The Energy Innovator Award recognizes a utility program or project that demonstrates advances in the development or application of creative, energy-efficient techniques or technologies that provide better service to electric customers or increase utility operations efficiency or resource efficiency.

Applications are due for both awards by January 31, 2019. For more information and to learn about past award winners, visit the [ACE and EIA information page](#). Questions? Contact Michele Suddleson at (202)467-2960 or e-mail DEED@PublicPower.org.

DEED Projects Approved for Funding at Fall Board Meeting

The board met at the end of September to vote on a new round of grants. Read below for descriptions on the 10 approved projects.

CG-2187 Customer Clustering using AMI tool for Small Public Utilities

\$13,232.00 to Algona Municipal Utilities

In project G-392, a previously DEED funded project, Algona Municipal Utilities, with the help of the Electrical Power Research Center at Iowa State University, were able to develop a tool that utilities could use to mine customer AMI data. This partnership now aims to upgrade the tool to assist utilities with limited staff resources to explore smart meter data and better characterize and model the variability of load behaviors of different customer classes. They hope to help smaller utilities with limited staff resources by producing an Excel and GUI-based software tool with machine-learning customer load analysis functions and a user manual with application examples. [READ MORE](#)

CG-2190 Efficient Electrification of Indoor Food Production

CG-2189 Property Energy Plan: A Public Utility Tool to Reduce Energy Use and Costs in the Commercial Sector

\$49,340.00 to Burlington Electric Department

In Vermont, the Burlington Electric Department developed a Project Energy Plan (PEP) with help from Burlington 2030 District, that includes an energy efficiency measuring system to help reduce energy and increase savings. They believe by further developing and implementing the PEPs in the commercial sector, currently the biggest consumer of energy in Burlington, this technology will aid in reducing greenhouse gas emissions. BED will provide a template for the 25 new Property Energy Plans (PEP) they are creating and case studies they are implementing that share commercial property owners' ability to reduce overall energy use. [READ MORE](#)

CG-2191 EV Police Car

\$125,000 to Missouri River Energy Services

Using a shipping container-base "farm-in-a-box," Missouri River Energy Services aims to study opportunities for indoor food production (IFP) - an agricultural technology to combat the expected 27% increase in the world's population by 2050. MRES plans to use this as an educational tool by placing a 320 square-foot specialized container at the Children's Museum of South Dakota. The research will include power and water usage data, discussion of possible variability, and installation challenges and opportunities. [READ MORE](#)

CG-2192 Unmanned Aircraft System (UAS) Equipped with Light Detection and Ranging (LiDAR) Technology***\$125,000 to New York Power Authority***

New York Power Authority plans to integrate light detection and ranging (LiDAR) technology into an existing in-house Unmanned Aircraft Systems (UAS) program for performing inspection of transmission Rights of Way (ROW) for vegetation management. NYPA will provide a case study of the project including a description of system equipment, field testing and processes involved, and economic evaluation so other utilities gain an understanding of the equipment and processes used. [READ MORE](#)

CG-2194 Town of Flora Infrastructure GIS Mapping***\$13,000 to Flora Utilities***

The Town of Flora in Indiana, partnered with WTH Technologies aims to move forward from hand drawn utility and town service maps to develop a single GIS map pertaining to all utility and town service infrastructure. This GIS map would be viewable via either desktop or mobile devices by town personnel, including EMS. Development of this project will increase safety, reduce response times, increase reliability, and reduce costs. [READ MORE](#)

CG-2196 Evaluating and Establishing the Feasibility of Drone Implementation: A Drone Turnkey Solution***\$54,900 to City of Westerville Electric Division***

This project aims to create a drone program that would assist staff in field inspections, vegetation management, infrared investigations, storm damage evaluations and GIS updates. The utility has the opportunity to research, develop, test, and implement a turnkey solution for municipal power utilities, that will result in all training, licensing and certifications necessary to operate a drone in a commercial capacity, and a video of the drone in use. [READ MORE](#)

\$15,000 to Comanche Public Works Authority

The City of Comanche experiences problems with excessive transfers from the Power authority to the city when covering police car replacements and operation costs. By comparing the energy consumption of electric vehicles (EVs) and traditional vehicles, Oklahoma's CPWA aims to demonstrate that EVs are a better alternative. They plan to compare idle time, mileage, fuel cost, maintenance and repair cost, and efficiencies of both vehicles. This program will be scalable for all utilities seeking EVs as an alternative. [READ MORE](#)

CG-2193 Demonstration Project to Achieve Cost Effective Reliability Improvement Using Single Phase Reclosers***\$64,400 to Florida Municipal Power Agency***

With approximately 80% of faults on systems temporary in nature, this project intends to reduce the number of sustained and momentary outages resulting from Florida's high frequency of storms. Using single phase reclosers to improve service reliability and present technical considerations, FMPA hopes to help other small utilities by providing guidance on selecting feeder circuits and recloser locations to realize the most benefit when deploying reclosers. Upon completion, the agency will provide a manual to help other utilities deploy the single-phase recloser. [READ MORE](#)

CG-2195 Applications for Data Analytics within Public Power Utilities***\$60,000 to Electricities of NC***

As utilities continue to implement new technologies that are providing billions of more data points, Electricities of NC's plans to identify and implement the best use cases for data analytics for their member utilities. Through this process, Electricities will calculate the return on investment for maintaining various use cases developed for data analytics. They aim to create a *Public Power Utility Analytics Best Practices and Implementation Guide* for utility analytics, operations analytics and customer analytics to aid utilities using AMI. [READ MORE](#)

CG-2197 EV Data Collection in a Midsized, Midwestern City***\$46,075 to Lincoln Electric System***

Partnered with FleetCarma, Lincoln Electric Systems aims to study charging and driving habits of customers with electric vehicles. LES and FleetCarma plan to deliver high-quality charging and trip data for electric vehicles and plug-in electric vehicles that experience the challenges of all four seasons, regardless of their charging locations. The

data this project collects will be most relevant to public power systems that operate in areas that experience all four seasons looking to incorporate EVs. [READ MORE](#)

DEED Projects Completed in The Last Month

One grant and two scholarships wrapped up in the past month since our last newsletter. Visit the [DEED Project Database](#) for a repository of information on hundreds of outstanding research projects funded by DEED. Search this unparalleled database to learn what other public power utilities like yours have done. Discover how you can replicate the success of research projects and get ideas for projects you can conceive and submit for DEED funding.

G-394 Floating Solar Array Study Evaluation

Braintree Electric Light Department constructed two floating solar arrays in a local pond reservoir to evaluate the practicality and feasibility of implementing this new technology. The project tested the floating solar arrays effect on water quality and whether it was able to withstand the harsh winter conditions of the Northeast. Researchers also evaluated the touted advantages of floating solar arrays including cooling effects and panels maximizing their output while limiting evaporation of water beneath the panels. [READ MORE.](#)

S-241 Reduction of Harmonic Distortion of Distributed Generation Units in Power Systems

Distributed generation units are widely used in industrial applications to power systems. In these units, voltage-sourced converters are employed to synthesize the desired output AC voltage of the unit. **Silicon Valley Power** proposed control algorithms for grid-connected voltage-sourced converters to improve the transient and steady-state performance of these distributed generation units. This reduced the harmonic distortion of the output current of the generation unit without an increase in the cost, weight, and losses of the system. [READ MORE.](#)

S-242 Senior Power Analyst Internship

Emerald People's Utility District gave a student an opportunity to learn more about the utility industry by shadowing employees, helping with employees' workloads, and exposing the intern to the way the utility runs as a unit. Throughout his time at the utility, there was an issue where the basic charge was out of line with the Cost of Service Study Analysis (COSA), giving him the opportunity to work with his supervisor to develop a rate increase and analyze the revenue and customer impacts. The intern was able to advance his knowledge of power resources and the utility industry as a whole, and hopes to become a power supply employee in the future. [READ MORE](#)

2018 DEED Survey Identifies New Top 5 Research Topics Amongst Utilities

Thank you to everyone who took the time to submit a response to the 2018 DEED Membership Survey! We received responses from 181 members covering 150 unique utilities. We learned that 92 percent of members' responding are either satisfied or extremely satisfied with the DEED program and the top three most useful DEED benefits are DEED webinars, DEED grants, and the DEED Project Database. The research areas of greatest interest are energy efficiency, distributed generation, electric vehicles, grid modernization, and storage. With your feedback, we will continue to evolve and improve the DEED program. Please click the button below to read and download the report.

[Read Now](#)

DEED Student Presented at EPRI's North American Syncrophasor Initiative Working Group Meeting on October 23-24, 2018 in Philadelphia, PA

Earlier this year, Tamara Becejac worked with Bryan



Texas Utilities to focus on the growing power outage issues related to electric grids' increasing demands. In an effort to reduce the risks associated, they proposed a synchrophasor infrastructure, which is expected to operate consistently and reliably. The research aimed to offer a systematic framework for comprehensive testing and evaluation of the PMUs and synchrophasor systems to develop a maintenance management module for phasor measurement units (PMUs) to ensure the trustworthiness of the applications relying on the continuous arrival of synchrophasor measurements. She presented her research at EPRI's North American Synchrophasor Initiative Working Group Meeting October 23-24, 2018 in Philadelphia, Pennsylvania.

Farewell to Jack & Introducing New DEED Staff Member



Welcome Janet Araque, APPA's newest DEED & Engineering Assistant! Janet graduated with her Bachelor's degree in Mechanical Engineering from Boston University in May. She's excited to have found a position that combines her passions of working with the community and engineering research & development.

We are happy to announce that Jack Miller, our prior DEED & Engineering Services Assistant has received a promotion and is now the Membership and Marketing Coordinator in the Member Services Department within APPA. Congratulations to Jack for taking this incredible opportunity!



"Our Own Flavor of Smart"

What does it mean to be a smart city? Sue Kelly, CEO of APPA, offers insight on the best way for utilities to incorporate smart technologies into their communities. Click the button below to read the full article!

[Read Now](#)

Benefits of Efficient Electrification

Rob Chapman, Vice President, Energy & Environment at the Electric Power Research Institute spoke at the

American Public Power Association's Public Power Forward Summit in Austin, Texas about the possible benefits of efficient electrification. This article highlights how the power industry is well on its way to becoming "greener," not just for the sake of the environment, but also to serve society. Click the button below to access the full article.

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