

American Public Power Association

DEEDdigest

JULY 2019 EDITION

DEED Webinars: Hear first-hand from public power innovators about their DEED supported projects

Planning for Electric Vehicles in Your Community

As electric vehicles gain traction, they have begun to present challenges to utilities related to planning, operations, and customer engagement activities. In an effort to address this increasing impact, American Municipal Power, Inc. (AMP) and the Smart Electric Power Alliance (SEPA) partnered to create the Public Power EV Planning Toolkit. This toolkit provides preliminary planning economic analysis support in assessing municipal EV Fleet options and potential impacts on the residential distribution system under various EV charging patterns. This webinar will dive into a demo of the Excel-based toolkit, as well as show how the guidebook functions within the tool. Your utility will be able to access and easily customize this toolkit to reflect your specific service territory.

This webinar will be most valuable to utility personnel involved in business intelligence, energy services, distribution planning, and economic development.

Join us on **Wednesday, August 14th at 2:00 PM EST** to hear from the staff at AMP and SEPA that planned and executed this toolkit.



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](#).

This webinar's speakers include:

- **Erin Miller**, Director of Energy Policy and Sustainability, American Municipal Power, Inc.
- **Chris Schroeder**, Vice President, Smart Electric Power Alliance
- **Ted Davidovich**, Utility Planning Manager, Smart Electric Power Alliance

[Register Now](#)

Grant Cycle Open, Internship Cycle Opening Soon!



Apply for student internship funding

The Fall Internship Application Cycle will be **opening on August 1st!** The deadline to apply is October 15, 2019. An intern is often a good way to obtain "free" manpower to help develop and implement programs or initiatives at your utility. If you have a project that is more of the standard system upgrade/normal maintenance activity/capital improvement project, applying for **\$4,000** to put an intern to work can be a good way to receive funding when it is not appropriate for a DEED grant. More information is available [here](#) and in the [DEED Scholarship Guide for Utilities](#).

Grant funding cycle currently open

The fall grant cycle is open until **August 15, 2019**. [DEED members](#) may apply for **up to \$125,000 in grant funding** for their innovative utility projects. Grants target projects that improve utilities by increasing efficiency, reducing costs, investigating new technologies, offering new services, and improving practices to better serve customers. For more information, view DEED's [funding page](#), and our past webinars [Tips when Applying for a DEED Grant](#) and [Maximizing your DEED Membership Benefits](#). Please also contact your region's [DEED board director](#) and APPA staff to obtain guidance on your project idea.

To get started and gain access to the intern or grant applications, email DEED@PublicPower.org.

2019 Recipients of DEED's Energy Innovator Award

Three of DEED's Energy Innovator Award (EIA) recipients were honored at the American Public Power Association's National Conference on Tuesday, June 11th in Austin, TX.



Fayetteville Public Works Commission was recognized for developing an innovative way to locate electrical faults in its electricity distribution system. This has allowed the

Nebraska Public Power District implemented the "Pathways to a Technical Future" program to educate kindergarten through college age students in energy and public power careers

The **City of Palo Alto Utilities'** Home Efficiency Genie program provides residents with free energy efficiency advice by phone and a subsidized, comprehensive in-home assessment for energy

utility to limit outage durations, reduce callouts, and enhance the quality of life for its community. [Read more.](#)

through a STEM curriculum. NPPD helped teachers and administrators work with local utilities, businesses, and other community members to integrate Pathways concepts into their systems. [Read more.](#)

and water efficiency. The program was designed to address the fact that while most customers want to optimize the comfort and efficiency of their homes, they often don't know where to start. [Read more.](#)

Dig Deeper with DEED: SOLAR

Planning on submitting a DEED grant or internship involving solar for the fall cycle? Related **completed** grants include:

- Sacramento Municipal Utility District's grant, [Community Solar - Best Models for Public Power](#)
- City Utilities of Springfield's grant, [Demonstration of Community Energy Storage Incorporating Renewable Resources](#)
- Braintree Electric Light Department's grant, [Floating Solar Array Study Evaluation](#)
- NC State University - Energy Solutions' grant, [Integrated Vehicle Energy Storage and Solar Project](#)
- APPA's grant, [Solar Engagement Options for Public Power](#)
- Rancho Cucamonga Municipal Utility's grant, [Solar Photovoltaic Play & Learn Demonstration Project](#)
- Pasadena Water & Power's grant, [Solar-Powered Heat Pump Pilot Project](#)
- Town of Front Royal's scholarship, [Cost Effective High Efficiency Solar Cells](#)
- Chicopee Electric Light Department's scholarship, [Design and Implementation of a Solar Panel Tracker](#)
- University of North Carolina, Charlotte's scholarship, [Development and analysis of a high-efficiency concentration solar power plant](#)
- City of Riverside Public Utilities' scholarship, [Improving Dye-Sensitized Solar Cells: A ZnO Nanowire/TiO₂ Nanoparticle Core-Shell Photoelectrode](#)
- Iowa Association of Municipal Utilities' scholarship, [IAMU Energy Services Intern](#)
- City of Moreno Valley Electric Utility's scholarship, [Investigation of a High Voltage Electric Field on the Soiling Rate of PV Panels](#)

Curious for more? Check out some of our **current** solar focused projects:

- WPPI Energy's grant, [Increasing Low-to-Moderate Income Household's Access to the Benefits of Rural Public Power Community Solar Programs](#)
- Los Angeles Department of Water and Power's grant, [Further Development and Performance Improvement of a Photo-rechargeable Battery](#)
- Clarksville Department of Electricity's grant, [Developing and Evaluating Localized Photovoltaic Adoption Models](#)
- City of Tallahassee Electric Utility's scholarship, [Investigation of Solar Impacts on the Electric System](#)
- City of Moreno Valley's scholarship, [Investigation of Inducing Electrostatic Bias as Practical Method of Soiling Prevention on PV Panels](#)
- Lincoln Electric System's scholarship, [Combined Stochastic Wind and Solar Power Bidding in the Southwest Power Pool Market](#)

Recently Completed Projects

Three grants and two scholarships wrapped up in the month since our last newsletter. Visit the DEED Project Database for a repository of 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-401 ERMU Partners with City of Elk River and Local Businesses to Provide Fast EV Charging as Part of Green Step Cities Initiative

G-402 Small System Maintenance Manager

Massena Electric Department (MED) set out to create a simple software solution for Small Systems

Elk River Municipal Utilities (ERMU) partnered with the City of Elk River to increase local and statewide awareness of the benefits of electric vehicles, Time-Of-Use (TOU) rates, and learn from experience about public charging systems and associated rates. This project aimed to promote the market transformation toward electric vehicles by educating the public about range anxiety, the benefits of public charging infrastructure, and incorporating electric vehicles in fleet operations. In addition, this program wanted to address increasing participation in the in-home, time-of-use program, and provide greater support to the community through increased Payment In Lieu of Taxes (PILOT). The project team created a Fleet Guide, and customer rebate application, which can be found here: [READ MORE](#).

to track recurring assets and one-time maintenance actions in four different areas: Facilities, Vehicles, System and Safety. MED aimed to provide a tool to move beyond notebooks and spreadsheets for monitoring and recording these tasks and create reminders so that they were not missed. The software was created to be flexible within the boundaries of small systems and not built to a single operator's specification. The final report, abstract, and user guide are available on the project page on the DEED Project Database here: [READ MORE](#)

G-403 Non-Communicating Automatic Feeder Restoration

Kerryville Public Utility Board (KPUB) sought to automate restoration in their rural areas, in order to reduce outage duration for feeders on the outskirts of the service territory. To accomplish this, KPUB identified two feeders with above average reach travel times to deploy an automatic restoration scheme to reduce outage duration for the corresponding customers. This project determined it was possible to deploy a solution with standard equipment that only had a minor control difference that could address this concern. The project deliverables and schematic can be found on the DEED Project Database here: [READ MORE](#).

S-248 Transmission, Substation, and Distribution Infrared Inspection Program

Beaches Energy Services (BES) hired an intern, Mason Hardee, a student studying electrical engineering at University of North Florida, to evaluate and analyze existing tools that are used for infrared inspections and to assess any inefficiencies of such systems. Mason gathered information about BES' existing electrical network to identify any areas of potential problems. In accordance with identifying issues, he also provided recommendations to improving the inspection process in either systematic changes or equipment changes. [READ MORE](#)

S-249 Generating Power from Rainfall

Silicon Valley Power sponsored a student research grant for Shreyes Nallan, an electrical engineering student at Santa Clara University aiming to prove that rainfall can be a sustainable power source. Shreyes conducted three experiments to determine how the water could be best transformed to power. The final experiment, where he created a mechanism to utilize the high dielectric constant of water to produce large capacitance spikes, to then be converted to voltage, proved to be most successful. [READ MORE](#)

DEED Student's at the Association's National Conference

Two DEED students, **Naushita Sharma** (far right), civil, environmental and sustainable engineering student at Arizona State University, and **Elizabeth Scharre** (middle), electrical engineering student at Purdue University attended the Association's 2019 National Conference in Austin, TX.

Naushita was sponsored by **Salt River Project** to conduct research aiming to understand the potential benefits of shifting the fuel mix in heating systems from natural gas to electric in

Phoenix area households. [Read more about her research here.](#)

Elizabeth is currently working as **Flora Utilities'** GIS Development intern, where she has been mapping sewage, water, and electric utilities for the Flora area. She has assisted Flora Utilities' transition from hand drawn maps to their GIS system. [Read more about her internship here.](#)



From left to right: **Mike Hyland**, Senior Vice President, Engineering Services, American Public Power Association; **Elizabeth Scharre**, Flora Utilities; **Naushita Sharma**, Salt River Project

2018: A Year in Review for DEED

Read [DEED's 2018 Accomplishments](#) flyer to learn about how DEED has continued to grow to support its membership. The flyer includes a list of 2018's completed grants and scholarships and some interesting DEED statistics.

EPA's Guidebook for Energy Efficiency Evaluation, Measurement, and Verification

EPA's new [Guidebook for Energy Efficiency Evaluation, Measurement, and Verification](#) draws from and builds on decades of state, local, and private-sector experience quantifying and verifying savings from energy efficiency projects and measures.

Contact

DEED@publicpower.org

202.467.2945



© 2018 : American Public Power Association
2451 Crystal Drive, Suite 1000, Arlington, VA 22202
202.467.2900

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