



## APRIL 2019 EDITION

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

### Increase Residential Customer Engagement at Your Utility

The utility industry strives to engage their customers beyond the payment process. In an effort to strengthen the relationship between the consumer and energy provider, Cleveland Public Power (CPP) and Brilliancy Incorporated embarked on a 24-month pilot program to increase residential customer engagement in their community. The pilot has enabled CPP to collect critical household information and demographic data which aids in making business decisions. It has allowed the consumer to monitor their energy use, while simultaneously allowing CPP to track and monitor changes in participant consumption, identify applications of consumer usage in addition to collecting participant energy data. This webinar will detail the data management tool as well as highlight the improvements with the provider-consumer relationship. Your utility will be able to access this toolkit, evaluate data, and implement incentives and rewards that increase consumer engagement in marketing, billing, online consumer experiences, and overall customer satisfaction.

This webinar will be most valuable to utility personnel involved in the work of engaging their customers (e.g. IT, key accounts, data analytics, business intelligence, energy services, customer support, marketing and communications).

Join us on **Tuesday, May 14th at 2:00 PM EST** to hear from staff at CPP and Brilliancy Incorporated that planned and executed this toolkit.

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](#).

## Recently Completed DEED Projects

Two scholarships have wrapped up 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 accomplished. Discover how you can replicate the success of research projects and get ideas for projects you can conceive and submit for DEED funding.

### **S-244 Investigation of a High Voltage Electric Field on the Soiling Rate of PV Panels**

The City of Moreno Valley Electric Utility sponsored a student research grant that focused on photovoltaic solar panels. The research aimed to determine and compare the soiling rate between solar panels with and without a high voltage electric bias. This research can be applied to utility scale solar farms that utilize high voltage arrays. Ryo Huntamer, a mechanical engineering graduate student at the University of California - Riverside, led this research and presented his findings at the Association's Engineering & Operations Conference April 1-3, 2019 in Colorado Springs, CO (shown on the right).

[READ MORE.](#)



### **S-245 Improve High Temperature Reliability of Gallium Nitride (GaN) & Trap Density in Novel Gallium Oxide (GA2O3)**

North Carolina State University FREEDM Center sponsored Faisal Azam, a North Carolina State University electrical engineering graduate student, to conduct research on the performance and reliability of Gallium Nitride (GaN) power devices. In an effort to reduce transmission losses on transformers, his research grant sought to replace transformers with compact Solid State Transformers (SST). This exchange helped build more reliable and efficient high power, high voltage SST. [READ MORE.](#)

## 2019 Recipient of DEED's Award of Continued Excellence: Austin Energy



From left to right: **Coleman Smoak**, Chair, American Public Power Association, General Manager at Piedmont Municipal Power Agency, SC; **Liz Jambor**, DEED Board Chair, Manager of Data Analytics & Business Intelligence at Austin Energy, TX; **Kathleen Garrett**, Director of Environmental Services at Austin Energy, TX; and **Mike Hyland**, Senior Vice President of Engineering Services at the American Public Power Association

At the Association's Engineering & Operations Conference in Colorado Springs on April 1st, **Austin Energy** was recognized for its commitment to the DEED program and its ideals, including support of research, development and demonstration, improving efficiency, renewable resources, and support of public power. Read the APPA article, [Austin Energy earns Association award for R&D excellence](#), to learn more about Austin Energy's history with the DEED program and its unwavering efforts to inspire the public power industry.

## DEED Board Deliberates on Spring 2019 Grant and Scholarship Applications in Colorado Springs, CO



Back row: **Mike Noreen**, Region 2; **Michele Suddleson**, DEED Program Director; **Liz Jambor**, Board Chair, Region 4; **Kenny Roberts**, Region 10; **Josh Byrnes**, Region 3  
Front row: **Alex Hofmann**, APPA Senior Director of Energy and Environmental Services; **Christopher Roy**, Region 8; **Rachel Huang**, Region 6; **Darryl Strother**, Region 5; **Kyle Roadman**, Region 9; **Allen Johnson**, Board Vice Chair, Region 1; **Brian Coate**, Region 7; **Janet Araque**, DEED Program Assistant; **Todd Dlouhy**, E&O Vice Chair; **Monte Cooper**, E&O Chair

The DEED Board gathered at the tail end of the Association's annual Engineering & Operations Conference on April 3-4 in Colorado Springs, CO to discuss the grant and scholarship applications submitted during the 2019 Spring funding cycle. Projects approved at this meeting will be shared in the May DEED Digest.

## DEED Students at the Association's Engineering & Operations Conference on April 1-3, 2019 in Colorado Springs, CO

Along with Ryo Huntamer, Julia Conger also attended the Association's Engineering & Operations Conference April 1-3, 2019 in Colorado Springs, CO. Read below to learn about her research.

Julia Conger, an electrical engineering student at the University of Texas at Austin, is currently interning with Austin Energy to expand upon the Austin Sustainable and Holistic Integration of Energy Storage and Solar PV (SHINES) project. This internship analyzes the advantages of providing reactive power via energy storage systems. Thus far, Julia has analyzed SHINES power quality measurements, energy market data, and customer impacts. Her final report is expected this summer. [READ MORE.](#)



## View the Updated DEED Policy Manual

The American Public Power Association's Board of Directors approved updates to the [DEED Policy Manual](#) following the Legislative Rally in late February of this year. Among other changes, the new policy manual expands the pool of students that can apply for scholarships, now including part-time students as well as full-time students.

## Dig Deeper with DEED: Battery Storage

Planning on submitting a DEED grant or internship on battery storage for the upcoming fall cycle? Related grants and scholarships include:

- Rancho Cucamonga Municipal Utility's grant, [Battery Energy Storage System and Micro-grid Demonstration of an Optimization Based Control Strategy](#)
- New York Power Authority's grant, [1MW NAS Battery Energy Storage Project for Peak Shaving at Long Island Bus](#)
- City Utilities of Springfield's grant, [Demonstration of Community Energy Storage Incorporating Renewable Resources](#)
- City Water, Light & Power's student research grant, [Assessing the Impact of Plug-In Electric Vehicle \(PEV\) Charging on Transformer Loading](#)

Curious for more? Check out some of our **current** battery storage related projects:

- New York Power Authority's grant, [Analytics Using StorageVET](#)
- Braintree Electric Light Department's technical design project, [Battery Storage Simulation](#)
- Austin Energy's internship, [Energy Storage Intern](#)
- Burbank Water and Power's student research grant, [Electric Vehicle Load Prediction and Charging Scheduling for Grid Services and Cost Reduction](#)

## Presenting the Association's Safety Tracker

A recent APPA article, [Association's new tracker aims for better safety benchmarking](#), highlights the new [eSafety Tracker](#), a DEED funded grant. The eSafety Tracker is intended to ease the collection of data “back and forth and do a better job” of tying things like training, safety meetings, job site briefings, near misses and accidents together to see if there is a pattern that emerges, if there are ways to make improvements and to determine if “we’re getting good data or do we just think we’re getting good data.”

## City of Palo Alto Utilities' *Thermal Microgrid* Feasibility project

A recent APPA article, [Palo Alto Utilities uses DEED grant to assess microgrids](#), highlights the results of the City of Palo Alto Utilities' recently completed grant, [Leveraging Experience from Stanford and EDF to Develop Information and Tools for Thermal Microgrid Feasibility Assessments](#). Partnered with EDF Innovation Lab and staff at Stanford University, the team created tools to support municipal utilities in evaluating the feasibility of deploying microgrids that use thermal services in their communities.

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