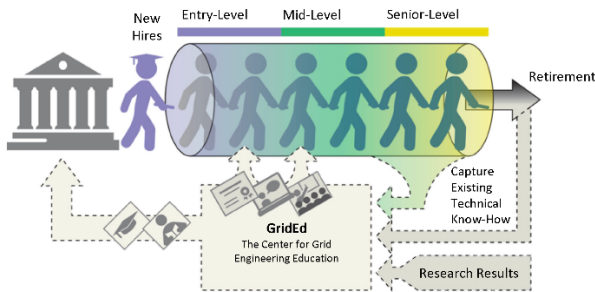


# Educating a Digital Power Workforce to Be GREAT with Data (GridEd Membership)



## Background, Objectives, and New Learnings

As the electric grid continues to evolve, there will be increasing presence and reliance on renewable and other distributed energy resources (DER), a major transformation to digital technologies (data science; artificial intelligence; information, communications/ control; and cyber security) and more price-sensitive and responsive loads. This will change old operating norms and present new requirements and challenges in the quest to achieve efficient and reliable delivery of electricity. Educating power industry workforce in new practices, devices, and paradigms is needed. However, a knowledge gap exists for professional engineers entering the workforce today regarding their ability to master these transformational technology trends.

In response, EPRI formed a consortium with utilities and universities around the US known as GridEd – The Center for Grid Engineering Education (<http://grided.epri.com>). GridEd utilizes electric utility industry R&D results with power engineering educational expertise and significant leverage from the U.S. Department of Energy’s (DOE) Grid Engineering for Accelerated Renewable Energy Deployment (GEARED) and Solar Training and Education for Professionals (STEP) initiatives.

## Project Highlights:

- Spearhead the development of a training & education (T&E) process for the future grid
- Develop professional T&E materials for retraining and expanding the knowledge base of the existing workforce
- Emphasize the intersection of digital and physical processes to establish a flexible and resilient grid of the future
- Establish unique relationships among EPRI, its university partners, and the electric utility industry

GridEd is sustaining features of the five-year GEARED /STEP initiative by establishing an ongoing enterprise for workforce development of the power delivery and utilization sector in the electric utility industry. With this continuation, EPRI is expanding its technical reach with GridEd’s new Grid-Ready Energy Analytics Training (GREAT) with Data initiative which leverages funding from the new DOE project on workforce development known as Digital Adaptation Training for Distributed Energy Resources on the Grid. GridEd’s Great with Data initiative will work with utilities and universities across the US to train a utility workforce at the intersection of digital technologies and the electric power system to formulate the OT (Operational Technology)/IT (Information Technology) paradigm.

One way to address the needs of the electric industry and close the training gap is to create training and educational (T&E) products that enhance the knowledge of current and incoming industry professionals. Training a cadre of engineers and data scientists will poise the industry for continued success. The result will be educational material in many forms suited to train existing electric industry professionals as well as educate university students. Assistance from human resource (HR) professionals will help shape complete workforce development plans.

## Benefits

Growing a workforce that is trained in these new technologies can be achieved through annual membership in either of two GridEd collaborative models:

### Tier 1: Standard GridEd Membership

- A seat on the technical and human resource (HR) advisory boards to guide the content of the collaborative.
- Invite two universities (known as Affiliates) to join the collaborative through train the trainer workshops, student project sponsorships, and other engagements.
- Qualify for 36 hours of prepaid seats each year in short courses and five (5) hours of selected computer-based training (CBT) modules.
- Priority to host standard catalog short courses, seminars, and workshops at a facility of choice.
- Qualify for discounts in professional training short courses, CBT courses, adding additional "affiliate" universities, and other special activities as described within *GridEd Training Courses and Activities* (a second GridEd supplemental) – PID: 3002015367.

### Tier 2: Premier GridEd Membership

- Access to *all* Tier 1 Benefits
- Full access to *all* CBT modules
- Qualify for *180 hours of prepaid seats* each year in select short courses or host a short course for up to 25 people

## Project Approach and Summary

GridEd is expanding its scope with the GREAT with Data award from DOE. The new Partner university team consists of Stony Brook University, University of California Riverside, Virginia Polytechnic Institute, and Washington State University. An additional partner university will be added.

EPRI intends to draw from partners' research results, including participating electric utilities, universities, and EPRI's research programs to develop training materials. The team will utilize R&D results in areas such as DER integration, energy storage, electric vehicles, demand response, customer behavior and rates, energy efficiency, power quality and distribution system engineering. In addition, team resources in data science, AI, information and communication technologies, and cyber security from the digital side will be used. Our Partner universities will contribute their power engineering and digital and teaching expertise. Participating utilities will act as advisors/reviewers to help define technical issues and

direct/evaluate the project's quality and impact. The project also includes expanded opportunities in HR initiatives and execution through regional training centers.

## Deliverables

- *Professional T&E*: Training courses and materials
- *University Curriculum*: Partner universities will create and offer digital power engineering curriculum
- *Human Resources Leading Practices*: Develop and share techniques for advancing workforce development

## Price of Project

The pricing plan follows metrics as measured by distribution throughput (GWhrs). There are three price categories: 1) small utilities – 20,000 GWWh/year or below; 2) large utilities above 20,000 GWWh/year; and 3) utilities without a distribution metric or non-utilities. The project can use Self-Directed Funding (SDF) or Tailored Collaboration (TC) funds.

- Tier 1: \$25k/year (large utilities); \$10k/year (small utilities); \$25k/year (alternative price)
- Tier 2: \$50k/year (large utilities); \$30k/year (small utilities); \$50k/year (alternative price)
- Option - Additional Affiliate Universities: \$10k each

## Project Status and Schedule

This project is seeking a five (5) year commitment (2019–2024) beginning January 1, 2019. It is intended to operate for five (5) years in tandem with the EPRI-led U.S. Department of Energy GREAT with Data project.

## Who Should Join

Participants interested in advancing the T&E of their current staff, preparing future power engineers for their company, or industry leaders who want to assure leadership in the electric industry should join.

## Contact Information

For more information, contact the EPRI Customer Assistance Center at 800.313.3774 ([askepri@epri.com](mailto:askepri@epri.com)).

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