

Electricity Advisory Committee

MEMORANDUM

TO: Honorable Patricia Hoffman, Assistant Secretary for Electricity Delivery and Energy Reliability, U.S. Department of Energy

**FROM: Electricity Advisory Committee (EAC)
Richard Cowart, Chair**

DATE: September 24, 2014

RE: Status and Recommendations for Electricity Delivery Workforce

Introduction

In October, 2012 the EAC submitted a paper to the Secretary of the U.S. Department of Energy recommending actions that DOE should take to address significant forecasted transition of the electric delivery workforce in the United States in the foreseeable years. Driving this change are many technology breakthroughs aimed at addressing a growing and aging population, rising cost of energy, increasing environmental awareness and concerns and escalating cyber-security needs.

In September 2013, this Workforce Work Group (WG) submitted a memo to the EAC stating the importance of following the DOE ARRA projects on workforce training and education. The 2013 CEWD National Energy Education Network (NEEN) meeting was mentioned as the progress of several of the ARRA projects were reported there. A recommendation was made that the educational and training materials produced by these projects should be made available through a web portal. The memo also stated that the WG will continue to investigate the range of activities that was focused on the alleviating the shortage in the energy workforce.

In this memo, the activities of this WG since September 2013 is reported and further recommendations made.



EAC
Electricity Advisory Committee
U.S. DEPARTMENT OF ENERGY

Recent Activities

Several phone conferences were held by the WG and representatives of Department of Labor (DoL), National Science Foundation (NSF) and the Office of EERE in DOE also attended to provide information on workforce and training issues.

Titilayo Ogunyale of DOE Office of OE was a regular attendee of these phone conferences and reported that the web portal for the ARRA training and education projects have been set up. However, the uploading of the education and training materials to this web portal was voluntary as this was not a required deliverable in the original contracts. However, the final reports from these projects can be made available publicly. She also reported that most of these ARRA projects are completed and OE has no plans or budget to continue to support such projects afterwards.

The Solar program in EERE is now supporting several educational projects. These are more narrowly tailored to solar energy whereas the ARRA projects covered a wider area of all electrical energy. Also this program was a one-time effort and there are no present plans to continue to fund more projects in this area.

The Department of Labor has various training and education programs that cover many STEM areas but they do not necessarily target electrical energy in particular. The National Science Foundation has a broad mandate on STEM education and education has to be an integral part of all their research programs. NSF has had targeted educational initiatives in the electric energy engineering. Also, all their research projects in electric power engineering must contain an educational component.

Observations

It is clear that a lot of good work was done on the ARRA workforce training and education projects. New curricula and educational materials were developed both for technician training and engineering education in the electric power and energy fields. It is not clear if these materials will be available widely or even that the existence of this material will be widely known. An even bigger question is whether any of this material will be adopted for use even in the institutions that developed the material as many of these institutions do not seem to have developed a pathway to sustain and use these materials.

It is clear that no particular agency or an office within an agency has ownership of the issues associated with the development of the workforce in electric power and energy. NSF has a broad mandate on STEM education and DOE has a more targeted focus on energy related issues but not necessarily on the education and training.

Recommendations

The Workforce Work Group recommends that:

- DOE create a response to the OCT 2012 paper and the Oct 2013 memo providing an update on the recommendations.
- OE should take the lead to coordinate power and energy workforce activity across federal departments including, though not limited to DOE, NSF, Department of Education, and Department of Labor.
- Provide resources for OE to take a lead workforce coordinating role.
- Inventory existing programs across federal agencies that provide material and resources for the private power and energy industry sector.
- Define and create a portal to be used as a repository for workforce materials across federal agencies that includes content and curriculum from the ARRA workforce training grants.
- Develop a division of responsibility that clarifies ownership and accountability across federal agencies for various aspects of workforce development programs to address power and energy needs. This is needed to coordinate activity and make goals and objectives actionable.
- DOE OE completes the final report assembling information and findings from ARRA Smart Grid Workforce Training Grants and makes it generally available.