



Pacific Northwest Center of Excellence for Clean Energy

Education Taskforce Meeting

Washington State Labor Council

3rd Floor Conference Room #330

906 Columbia Street SW, Olympia, WA

Call to Order & Welcome, Ryan Fedie, Taskforce Chair, Bonneville Power Administration

Adoption of April 19, 2012 Minutes (Action Item). Minutes from the April 19th meeting held at NorthWestern Energy, Billings, MT were presented for adoption. Ryan Fedie called for a motion. Ryan Davis moved to adopt the minutes. Alan Hardcastle seconded. Unanimously approved.

Ryan Fedie called for a motion to accept the agenda. Alan moved to accept the agenda as presented. Bob Topping seconded. Unanimously approved.

Committee Chair, Ryan Fedie called the meeting to order. He welcomed Deborah Buterbaugh, Federal Project Officer for the U.S. Department of Energy (DOE). Deborah is conducting a site visit for the Centralia College/PNCECE Pacific Northwest Smart Grid Workforce Development Project. Ryan thanked the PNCECE team for creating a seamless agenda.

Introductions/Attendance:

Jamie Krause, PNCECE

Monica Brummer, PNCECE

John Hofman, Centralia College graduate

Karen DeVenaro, Seattle City Light

Dennis Skarr, Veterans Conservation Corps

Stella Podmore, Incremental Systems

Robin Podmore, Incremental Systems

Barbara Hins-Turner, PNCECE

Deborah Buterbaugh, U.S. Dept. of Energy/NETL

Ryan Fedie, Bonneville Power Administration

Mike Hanson, Avista

Diane Quincy, Avista

Jillene McKinstry, Gonzaga University

Bob Topping, Chemeketa Community College

Brian Dale, Veterans Conservation Corps

Kevin Schneider, Pacific Northwest National Lab

Ron Wheadon, Cascadia College

Michael Wehling, Puget Sound Energy

Mike Fort, ESTEC/Idaho State University

Ryan Davis, Regional Education & Training Center

Alan Hardcastle, Washington State University Energy Program

Mark Fischer, WA Dept. of Veterans Affairs

Kairie Pierce, Washington State Labor Council

Jeff Hammarlund, Portland State University

Pete Saflund, The Saflund Institute

Training Substation Progress Report – Mike Hanson, Manager Craft Training, Avista Utilities

Avista is involved in 3 DOE Smart Grid grants: 1) a DOE Investment grant; 2) one of eleven Pacific NW Demonstration projects; and 3) the PNCECE Workforce Development grant. Avista became involved in these projects to further system improvements; reduce costs; improve reliability of service to customers.

- Investment grant: Replacement of older (higher loss) transformers. Reduced outage time. Currently in last phase of the grant.

- Pullman Demonstration Project. 5 year grant. Upgrade facilities and automate distribution systems. Installing technologies and tools for customers (meters) to monitor and manage energy usage.
- Smart Grid Workforce Training Grant: Building a Training Substation with smart grid technology in place. Avista is developing training that can be shared through the web portal and across the region to support Smart Grid technology. Avista is integrating Safe City into feeders to address demand side components. They are developing curriculum modules for the project's regional training partners. First module "Introduction to Substations" is complete and available to all training partners. Training Substation goals: Completion date – August 2012. Substation "live" by September 2012. Substation is located at the Jack Stewart Training Center – Avista's 15 acre site in North Spokane.

Avista's Partnership with Spokane Community College for the Pre-Apprentice Line Program

Avista's pre-apprentice line school targets occupations: Line workers, Relay/Control Techs, Operators, Mechanics, Electricians, Meter Techs and Ground Workers. Teaching basic concepts advanced to smart grid technologies.

Avista has incorporated Smart Grid Technologies into the Pre-Apprenticeship Line School program.

Program statistics:

- 2 classes per year Summer & Winter
- 150 applicants per year
- 45 selected per class
- 4 month program
- 49 college credits through Spokane Community College upon successful completion
- Graduated 107 students in three classes
- 74 students placed in utility craft related positions.
- Most recent class graduated in April.

The program averages 80 – 85% placement with utilities throughout the west and NW in many crafts including outside line construction and communications and fiber.

Avista is moving selected basic training online including Introduction to Substations. Current Transformer and Potential Transformer are new modules that should be moved forward to the Curriculum Committee for review by the end of July. Avista is considering options for blended learning. Mike explained the importance for hands on training, application of theory, how to plan and troubleshoot on their own to keep themselves and coworkers safe on the job.

There is a culture change for senior craft workers as training is placed online. Younger workers embrace the technology. Ron Wheadon asked Avista how they determine what is appropriate for online learning and what needs to be hands-on/classroom instruction. He suggested this information be shared with the colleges through the Center of Excellence. The Curriculum Development Subcommittee could take this up at their 2 day retreat on August 22 & 23 at Pend Oreille PUD, Newport, WA. Karen DeVenaro noted that Seattle City Light could use a Train the Trainer for teaching instructors how to teach online courses.

Centralia College Kiser Natural Outdoor Learning Lab (KNOLL) – Outdoor Clean Energy Lab, John Hofman, Centralia College Graduate & Centralia City Light Intern

John noted that the college unveiled the KNOLL project in June. [The outdoor clean energy lab recognizes Rufus Kiser, long time forestry, botany and zoology instructor who gave the college's forestry program its

credibility and reputation for excellence. A major feature of the KNOLL is that it holds plant life that is representational of all ecological regions of the state.] To complete the clean energy element of the learning lab, Centralia College graduate John Hofman started research on wind turbine products to find a Washington state manufacturer. He researched wind sustainability on the KNOLL site. Donations of time and materials from Centralia City Light include fee waivers. Travers Electric installed the electrical materials for the Energy Ball; and Lewis County Economic Development Council provided the solar panels for the Mark and Laura Johnson Alternative Energy Kiosk. Funds from the Mark & Laura Johnson Trust were dedicated by the Johnson's for the purchase of the wind turbine. Power generated will be used to operate the lighting system on the KNOLL and surplus power will be returned to the grid. The goal for completing the KNOLL project is to have the wind turbine connected to grid by June 28, 2012.

Incremental Systems, Robin Podmore, CEO

Robin recognized the veterans attending the Taskforce meeting. He talked about the Power4Vets program, funded through a DOE Smart Grid award, and the military structure for training. Robin introduced the Power Simulator and provided an overview of the online training system. The system runs on the cloud and is available 24/7 to students. Jillene McKinstry, Gonzaga University added how the simulator allows undergrad students at Gonzaga to see the broader picture of where their own specialty training fits. IncSys is able to capture and record the best practices from other trainers.

Power4Vets program – Robin discussed the program for recruiting and training vets and why vets have exceptional skills that transition well into System Operator positions. IncSys has a full time placement specialist and a full time recruiter.

IncSys will provide free license access to academic partners for three years under the DOE grant. IncSys is currently working with 14 community colleges and universities across the country to offer simulator training. Academic partners can review and test the Power Simulator modules to see what fits into their program curriculum. Colleges are using team-based simulations in the classroom to demonstrate key concepts and power system dynamics.

Robin gave an overview and history of Institute for Electrical and Electronics Engineers (IEEE) and the Outreach and New Initiatives Committee. Robin has recruited Barbara Hins-Turner to assist in the development of a national outreach plan to community colleges that markets the benefits of IEEE membership for community college students in energy, electrical, electronics and engineering programs.

Bob Topping shared that high school students in Oregon have designed a solar lighting project, using QuikSigma principals, for a local community center in Oregon using the same concepts that IEEE members are applying Haiti – to “light up the world.”

Sustaining the Regional Partnership

Barbara shared the efforts of the Center of Excellence to sustain the regional partnership. She discussed the coordination between PNCECE, Incremental Systems and Idaho State University/Energy Systems Technology Education Center (ESTEC).

Mike Fort, Nuclear Operations Program Coordinator from Idaho State University introduced ESTEC and its operating partners, Idaho State University; Idaho National Labs; and Partners for Prosperity. He provided an overview of the ESTEC programs, Electrical Engineering Tech; Instrument Control Engineering Tech; Mechanical Engineering Tech; Wind Engineering Tech, Instrumentation and Automation; Nuclear Operations; and Renewable Energy Technology. He highlighted the lab environment and simulator training components.

Mike described the DOL TAACCCT grant partnership and proposal; a collaboration between Idaho State University, PNCECE and IncSys. Mike outlined the strategies behind the POWER Careers program. Barbara added that with Robin's encouragement PNCECE looked across the region at where the strong energy programs were located—programs that could benefit from expansion of the Power Simulator. ESTEC agreed to take the lead on the grant project.

Mike Hanson asked how we can assess students to the extent we can predict not only program success but success on the job before they have invested time and resources in a program where they will not be successful in a real world setting.

Communications Update, Monica Brummer, Project/Communications Specialist, PNCECE

Monica provided a summary of the PNCECE website content and demonstrated how to navigate the site. She unveiled the interactive Career Lattice that flowed from the research completed by Washington State University Extension Energy Program. Monica also informed the group that PNCECE is the process of filming a demand-side energy efficiency video that will be complete by the end of July 2012. The next step is to make the Education Matrix created by Edmonds Community College more user-friendly

Curriculum Development Subcommittee Update, Bob Topping, Chemeketa Community College

Bob talked about the development of the Module Matrix: how it represents existing curriculum and identifies what will be needed in the way of training to address smart grid. Additionally, he highlighted how project partners are developing modules and offering master trainer classes—where seasoned instructors teach other how to teach what they already know.

Get Into Energy Week, Kairie Pierce, Director of K-12 Outreach, Washington State Labor Council

Kairie gave an update on Careers in Energy Week, October 15 – 19, 2012. She will be convening a planning group on Friday, June 22 before the Energy and Construction Best Practices Summit to discuss ideas for this year's events that will be held in locations throughout the state.

Smart Grid Manufacturing Taskforce Update, Bob Topping, Chemeketa Community College

Bob provided an overview of the Smart Grid Manufacturing Taskforce. He outlined how we will be creating a regional model for identifying small qualified manufacturers with high probability of success to deploy new intellectual property and smart grid technologies leading to long-term sustainable job creation. Under the guidance of the Manufacturing Taskforce the project will identify and map common workforce core competencies in the utility sector for manufacturing to military training by identifying job opportunities for veterans, coupled with targeted skill-up training, to create a rapid return on investment for both utilities and small manufacturers.

Meeting Updates, Barbara Hins-Turner, PNCECE

Barbara gave an update on the most recent meetings where PNCECE has participated, as well as a brief overview of upcoming meetings. Recent past and upcoming meetings include the Northwest Smart Grid Summit, Portland, OR, May 10; Council on Wisconsin Strategy, Washington D.C., June 27 and IEEE, San Diego, July 22 – 26. The next meeting of the Education Taskforce will be held at Avista Utilities in Spokane on September 13, 2012.

Adjourn

With there being no further business the meeting was adjourned at 2:00 p.m.