



## Pacific Northwest Center of Excellence for Clean Energy

### Education Taskforce Meeting

Oregon Museum of Science and Industry (OMSI)  
1945 SE Water Ave., Portland, Ore

**Dec. 7, 2012; 10 am – 3 pm**

#### Attendees

Avista: Mike Hanson, Diane Quincy  
BPA: Ryan Fedie, Katie Pruder-Scruggs, Annette Talbott  
OMSI: Chris Stockner, Nancy Stueber  
RETC: Ryan Davis, Bob Topping  
PNCECE: Barbara Hins-Turner, Jamie Krause, Monica Brummer  
Seattle City Light: Karen DeVenaro, Brad Harris, Alice Lockridge  
WA Dept. of Veteran Affairs: Mark Fischer, Dennis Skarr  
Lawrence Beaty, ISU  
Jeff Hammarlund, PSU  
Alan Hardcastle, WSU  
Jim Malinowski, Clark CC  
John McLain, PGE  
Mark Osborn, Five Stars International (and PSU)  
Jay Pickett, Co-chair Curriculum Development Subcommittee  
Kairie Pierce, Washington State Labor Council  
Alison Pugh, Edmonds CC  
Yvonne Servich, ISU  
Douglas Tsoi, NEAA  
Michael Vogel, MSU

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

- Sept. 13, 2012, meeting minutes were approved with no changes (Alan Hardcastle/Ryan Davis)
- Nancy Stueber, President, Oregon Museum of Science and Industry (OMSI) shared the museum's history and acknowledged Portland General Electric (PGE) for use of the land and buildings where the museum is housed. OMSI has had a lasting impact on the community. OMSI strives to be a place/hub for science research and current science information. OMSI has a \$20-million annual budget and employees 300 people and delivers programs in five states.

**EnergyEducationCenter.com, John McLain, Project Manager, PGE.** PGE and partners are offering a free education opportunity through its Energy Education Center website. They would like to work with utilities to provide energy efficiency classes to customers and employees to increase demand for making homes more efficient. They found that attendees are more interested in getting involved in energy efficiency programs at home once they've attended a class. Topics include energy monitoring, efficient lighting and controls, compressed air systems and more. NEAA stakeholders receive free classes (NEAA will pay for transportation). The program offers many layers of training to match knowledge levels of trainees (from beginners through more experienced employees).

**MSU Smart Grid Education Box, Mike Vogel, Professor & Project Director, Montana State University Extension Housing & Environmental Health Program.** Mike introduced MSU's smart grid grant deliverable—a Smart Grid Grab and Go box with tools for educators to include in classroom presentations. Contents of the initial toolkit will include energy consumer and career videos, fact sheet, FAQ, posters. Grab and Go box contents can be customized by faculty and trainer for their specific

training audience. Primary target audience: educators, industry trainers and high school vocational education teachers.

**Train the Trainer Curriculum Development Team**, *Jeff Hammarlund, Project Lead & Faculty Member, Portland State University; and supporting team members Bob Topping, Kevin Schneider and Jeff* are creating a 7 modular curriculum product to train community college instructors and utility trainers (Jeff is lead of a faculty team). Outline of modules:

- Module 1: Introduction and Overview
- Module 2: Current Grid Infrastructure & Opportunities for Change
- Module 3: Smart Grid Implementation Issues
- Module 4: Regulatory and Consumer Response to smart grid so far; [*how are consumers defining the smart grid – have they embraced deployment?*]
- Module 5: Three case studies – Case studies can be drawn from the Pac NW Demonstration project the largest DOE funded project in the country – 11 utilities; community mobilization side (Port Angeles); additionally, Denmark has some similarities to the NW related to alternative energy
- Module 6: Smart Grid Occupations and Career Guides
- Module 7: Conclusions & Wrap-up

Issues that need to be addressed:

- Length of training – difficult to do a quality job in four hours and allow for participation
- How to include greater interaction
- Funding for refreshments and lunch
- Locations and schedules; after the four hour session

Guests will be masters at how to extract information from websites. Jim Malinowski expressed concern about old timers and schemes; reactive supply strategies.

### **Professional Smart Grid Development Course with Distance Learning Options,**

*Jeff Hammarlund, Lead Faculty Member, Portland State University; and Lawrence Beaty, course faculty/advisor & Executive Director/Chair of ESTEC/Idaho State University* – Faculty includes Mark Osborn (Mark introduced himself and talked about his PGE projects and experience; PNW project) and Lawrence Beaty. Eighty to 90 percent of class content needs to be updated every year due to information that is always changing. National experts, such as chair of FERC, will be included as guest speakers. The diverse group of students, with backgrounds ranging from meter readers to PhD holders, includes graduates and professionals. Jeff invited PNCECE members to join via ITV (recordings of classes will be available).

### **Educators Institute/NSF PI Conference**, *Alison Pugh, Energy Management Director*

*& Instructor; Sustainability Researcher; PI, National Science Foundation-ATE: 1002931, Edmonds CC-*

**The Educators Institute** was featured in the latest edition of Smart Energy (PNCECE's newsletter). Educators worked on skill profiles and brainstormed ways of enhancing/building programs to match the needs of industry based on WSU identified positions. There will be a similar workshop in the spring and a different program during the first day of the 2013 summit. **The NSF PI conference:** This conference offers a great networking opportunity and allows participants time to see other grant projects. Edmonds CC applied for another three-year NSF grant to look into other areas of energy management. (Alan Hardcastle) this grant will complement work being done now and will help leverage future projects.

**Pacific Northwest Smart Grid Demonstration Project**, *Katie Pruder- Scruggs, BPA* “**Lighting up the largest smart grid demonstration in the nation**” Katie discussed the smart grid project kickoff which went live October 24 (held at the University of Washington). This project—one of 16 smart grid demonstration projects funded by the U.S. Department of Energy under the American Recovery &

Reinvestment Act (ARRA)—will be a unique demonstration of unprecedented geographic breadth across five Pacific Northwest states—Idaho, Montana, Oregon, Washington, and Wyoming. It involves more than 60,000 metered customers, and contains many key functions of the future smart grid. For an overview of the Pacific Northwest Smart Grid Demonstration Project, visit [www.pnwsmartgrid.org](http://www.pnwsmartgrid.org).

**Center for Energy Workforce Development (CEWD) - Fall Conference**, *Diane Quincy, Director of Leadership & Organization Avista Utilities, Spokane*. Diane represented Avista and the regional project partners at the CEWD fall conference in Arlington, VA, by participating on a Get Into Energy Career Pathways (GIECP) panel. GIECP involves 9 states, 32 utilities, 33 post-secondary institutions, 3 secondary institutions and one university. Diane reviewed PNCECE, Avista, Spokane Community College – pathways to energy project and provided an overview of the projects taking place across the nation. She noted the workforce system in Spokane has become really engaged in energy industry through the energy sector partnership grant. Barbara stated that GIECP project lead for Washington, Melanie Kincaid recent outcomes report for Washington compared to all participating states shows Washington leading the nation’s project partners. Washington testing numbers = 108; higher than many other states – we’re ahead of the country in this area. Avista has just enrolled its largest pre-apprenticeship cohort ever—52 students – summer class (2012) graduated 35. 33 were working in energy industry two weeks prior to graduating. Summer started with 44, ended with 35. Summer was the largest graduating class Avista has had. Training demand resulted in hiring of one additional instructor.

The CEWD fall conference featured a great panel with senior women (one focus is to bring more women in energy – there are a lot of best practices models through CEWD that we can access.)

Suggestions for our region: continue growing Careers in Energy Week; sharing resources; embedding curriculum in our school system. Jim Malinowski noted that utilities don’t like to hire high school students because they need experience; Alice: the more mature candidate gets the job where youth have never been trained to interview; Mike Hanson stated: 10% of pre-apprenticeships are directly out of high school; Avista gets 200 – 450 applications per pre-apprentice line school cohort and they hire those with experience. Mike Vogel said that Montana State University offers a one-year certificate in applied science. Alan Hardcastle: it may not be realistic to hire someone out of high school because of the level of knowledge needed to fill the positions – our expectations are rising.



**Careers in Energy Week/Washington**, *Kairie Pierce, K-12 Apprenticeship Director, Washington State Labor Council (WSLC), AFL-CIO*

PNCECE and the Washington State Labor Council (WSLC) led the coordination of statewide events to celebrate *Careers in Energy Week 2012*. This is a national initiative sponsored by the national Center for Energy Workforce Development to educate students, parents, counselors and faculty about the high-skills, high-wage career opportunities in the energy industry.

Highlights of the event include:



- PNCECE procured a proclamation from Governor Gregoire claiming October 15 – 19, 2012, as Careers in Energy Week.
- The mayors of Spokane and Centralia and the Spokane County Commissioners joined with proclamations.
- Statewide events occurred in collaboration with industry, education and organized labor partners that range from Pend Oreille County PUD hydro tours, Avista’s simulated apprentice training for teachers, Tacoma

Power’s Cowlitz Salmon Hatchery and dam tours, Gonzaga University’s ZagOps Lab hands-on power grid simulation activities for Veterans, and Regional Education and Training Center, Satsop Campus, interactive energy activities. [ZagOps event written up as a best practice by CEWD]

- More than 560 students, grades 6 – 16, as well as many faculty, counselors and parents participated in 19 events across the state.

**Careers in Energy Week/Oregon**, *Annette Talbott, Strategic Business Partner, BPA* – BPA decided to take a leap into Careers in Energy Week this year – focused on the state STEM initiative. Oregon’s Governor issued a proclamation; an essay contest for high school students was held with the theme, “How energy workers make a world of difference,” a webinar with career info for teachers/parents was produced along with a renewable energy career video. CIEW/Oregon reached 500+ students in high school career presentations in Portland, Ore.; Vancouver and Castle Rock, Wash. (6 schools); media coverage included: two front-page stories in the Vancouver Columbian. One was published Oct 16; and the second was published Nov. 29 (story about women engineers) – BPA and other local programs.

**Veterans in College Energy Programs**, *Mark Fischer, VCC Program Manager., and Dennis Skarr*

Mark and Dennis discussed the challenges working with veterans - among which are helping them understand that they can go into energy programs as a result of the transferrable skills learned while in the military; getting them into college or energy training programs and keeping them in college (nationally the retention rate is not good where 60 – 80% drop out – caused by lack of wrap-around services); they haven’t figured out they need a resume, interview techniques; and they don’t have the knowledge of how to get hired. VCC provides subject matter experts and transition specialists to help veterans get into college energy programs. Veterans have questions like, “Where do I go work in this economy?” and need information from HR staff. Vets are counseled on ways to build networking and interviewing skills and utilize social media; VCC is working with the Society for Human Resource Managers (SHRM) to facilitate networking services and mock interviews.

**Upcoming meetings:**

- The next Education Taskforce meeting will be held at Seattle City Light, March 20
- 8<sup>th</sup> Annual Energy & Construction Best Practices Summit, June 19 & 20, 2013

**OMSI Renewable Energy Exhibit**, *Chris Stockner* gave the taskforce a tour of OMSI’s new energy exhibit –*Renewable Energy/Energia Renovable* - a new bilingual exhibit that gives visitors the opportunity to explore how energy from sources like wind, water and sun can support our daily energy needs. Hands-on exhibits invite visitors to take the controls of a wind turbine, go inside a solar panel, become the wave that powers a new type of renewable energy, and even try their hand at managing the power grid.



**Adjourn:** The meeting was adjourned at 3:00 pm