



**Pacific Northwest Center of Excellence for Clean Energy
Education Taskforce Committee
Portland General Electric, World Trade Center
Portland, OR
December 1, 2010, 10:00 a.m. – 2:00 p.m.**

In attendance:

Sue Walsh, Chair, Bonneville Power Administration
Ed Bowen, Washington Department of Veteran Affairs
Hal Calbom, Hal Calbom Communications
Yvonne Chase, Pacific Northwest Center of Excellence for Clean Energy
Ryan Davis, Regional Education Training Center
Karen DeVenaro, Seattle City Light
Mark Fischer, Washington Department of Veteran Affairs
Alan Hardcastle, Washington State University
Barbara Hins-Turner, Pacific Northwest Center of Excellence for Clean Energy
Jamie Krause, Pacific Northwest Center of Excellence for Clean Energy
Jim Malinowski, Clark College
Jay Pickett, Centralia City Light
Kairie Pierce, Washington State Labor Council
Alison Pugh, Edmonds Community College
Marcy Putman, IBEW Local 125
Danette Randolph, Clark College
Dennis Skarr, Washington Department of Veteran Affairs
Annette Talbott, Bonneville Power Administration
Bob Topping, Chemeketa Community College
Graham Trainer, OR AFL-CIO
Sally Zeiger Hanson, Washington State University

Teleconference:

Mike Hanson, Avista
Shane Pacini, Avista
Diane Quincy, Avista
Dale Singer, Avista

The meeting was called to order by Taskforce Chair, Sue Walsh and introductions of attendees were made. Sue reviewed the agenda with the group and asked if any changes are needed. One change to the agenda was swapping of the order for two presentations to accommodate travel. The agenda change was approved.

Adoption of September 12, 2010 Minutes (Action Item)

Minutes were tentatively adopted with no changes. Sally Zeiger Hanson motioned that the October meeting minutes be approved and Kairie Pierce seconded the motion. Diane Quincy from Avista requested that the minutes be emailed to them since they were unable to attend in person due to weather conditions. Once Avista reviews the minutes, if no changes are requested, the minutes will be considered approved.

Recap of the Education Advisory Committee Meeting at Wild Horse, Diane Quincy

Diane Quincy, Avista reviewed the Wild Horse meeting and said it was a great meeting with an unusual room format. Diane said the meeting was a chance to learn from industry as a whole what the sector is seeing around the smart grid environment so we can begin to lay the ground work and understand what we all need to be doing with curriculum development. Diane further described the room format in that industry was centered in the middle of the room and education was on the outside. This room arrangement enabled industry to be the focus of the facilitation and educators could be engaged in a “listening session” to hear the industry perspective. From time to time, education partners asked questions but question/answer periods were limited to make sure industry was at the forefront of the discussion.

Diane said during the meeting Jamie Krause provided an overview of the Smart Grid grant and some key progress updates. Alan Hardcastle and Sally Zeiger Hanson facilitated a round table with the subject of what is happening in the industry on Smart Grid. Some of the themes were around building curriculum for an evolving environment; what industry already knows about Smart Grid integrated environment; and what is changing to include technology, procedural approaches yet to be defined, and the fact that each energy company is going to be doing things a little differently. Diane mentioned that Avista has two other Smart Grid related grants and is a year into one of the grants in Spokane where they are upgrading their distribution system to have new capabilities. Also, they are just starting into a research and development project in Pullman with a lot of different partners where they are starting to setup a test hub for all the different technologies on the supply and demand sides. These are examples of changing environments where curriculum will be looked at.

Diane asked the group what areas were of interest regarding the Wild Horse meeting. Ryan Davis said the need for technology changes and how different fields didn't previously have an IT role will in the future; Silo busting will happen and there is more communication that needs to take place.

Another theme was around the fact there are not a lot of new jobs being created but that the existing jobs will need curriculum added. Avista is reviewing their existing curriculum to look at which classes need Smart Grid modules or Smart Grid updates. Additional areas of discussion were around customer acceptance of smart technologies, the challenges of implementing consumer programs and the need for refined messaging that resonates with consumers. Alan Hardcastle said the Smart Grid changes will be ongoing throughout organizations. Smart Grid changes will be ongoing and pervasive and will touch all kinds of occupations in different ways and in how people do their work. Alan noted, a recent interview with Avista has identified the

kinds of training currently offered and what needs to be adopted, adapted, and/or improved in some way to adjust the Smart Grid. This really confirmed to him the notion that this is a big change along with new responsibilities and awareness.

Jamie Krause said that the recognition that there will be non-targeted occupations that will emerge from the process, discussions, research and learning from industry is something we wrote into our Project Management Plan to the Department of Energy. Therefore, we have that ability and recognition up front that we expect to potentially have other occupations identified within the grant period.

Jim Malinowski, Clark College said that what he got out of the meeting was that there is no single model that utilities want. Avista confirmed.

Diane Quincy added that the meeting in Spokane the last part of October with Barbara Hins-Turner and Jamie Krause had a guest speaker come in that is a general foreman with Avista. He gave an overview of the Smart Grid and describes himself as a third generation lineman and is now a supervisor. He said that there have been some changes from his grandfather's generation but the environment is pretty much the same. He just returned from a Grid Week event held in Washington DC and said that this is "going to be huge and completely turn the industry on its ear." Diane said that part of this has to do with what Ryan Davis talked about in regard to data management. Microsoft, Google, and others are seeing the energy industry as the next greatest thing to use data and provide products to customers. The whole industry could be radically changed with new products in the market and the changing demand. Barbara Hins-Turner commented that Avista has put a lot of work into Smart Grid and is delighted they are able to be at the table to share their expertise with grant partners.

Diane relayed that the Education Taskforce at Wild Horse was about a committee that would advise, guide, and provide oversight and resources on curriculum. The advisement would be on curriculum, what kinds of delivery system needs to be put in place, try to validate what programs are in existence, and then figure out where the gaps are so we can identify what needs to be modified or developed as new. Also, the Taskforce will be involved in reviewing instructional design standards or setting guidelines. The role would be an information exchange. There is a lot going on at the colleges that needs to be inventoried and cataloged and a determination made on what additions will be incorporated. This also applies to the industry environment. Education and Industry need to work together so there isn't duplication. In addition, consistency of the program content must be portable and flexible so it can be used in more settings. The Taskforce would focus on retaining workers, upgrading current incumbents, and give new workers pathways.

It was suggested the Taskforce be formed with an initial group of people and then possibly build out sub-committees around specific needs. Subject matter experts on e-learning, curriculum standards, etc. would be pulled in at some point. Another role of the Taskforce is to provide strategic coordination among colleges and across states.

It was noted that Sue Walsh, Bonneville Power Administration was designated as the Education Taskforce Chair. Next steps will be to define who would work on which parts of the curriculum development effort.

Alan Hardcastle and Sally Zeiger Hanson were commissioned conduct data gathering through a survey that they will present for discussion later in the agenda.

Diane said that Troy Nutter was a great host and the setting at Wild Horse was a wonderful place for the meeting to be held. Thank you Puget Sound Energy for hosting the meeting!

Update on Data Collection

Alan Hardcastle talked about the career lattice and its development in areas of where they are and the steps they have taken. Sally Zeiger Hanson explained that a lattice is a little more dynamic than a career ladder. Career progression has lots of entry and exit points which have relationships between careers. Doing data collection first and from that the design will come.

Colleges as educators will be able to take this tool and have information about what is already available in the system and see the gaps and where programs need to be developed; what is happening inside the utilities and how they are helping incumbent workers and for the first time we will have a complete picture of what training is available. There is a specific use for educators for developing and improving programs, a use for utilities for their internal training, and the outcome of that is the individual learner career person will be the able to use this tool. It was asked if apprenticeship information will be collected. Sally confirmed that they are collecting that data and plan to add it to the lattice. Sally handed out a copy of the PowerPoint used in the presentation.

Alan Hardcastle gave the members an in-depth presentation on what data the WSU Extension Energy office is collecting and why. The PowerPoint presentation created for the Taskforce is referenced throughout Alan's presentation. A lot of information is researched and compiled in order to put it into a document. Alan and his staff will bring all of the research together to determine what the graphic part of the lattice will look like; but more importantly it is about the substance. The first step is to recognize that for each of the occupations identified there may be several different names used for titles. The job title information is intended to be brief and general when describing what the title encompasses, roles and responsibilities, and how it fits in the organization. For example, on the generation side, occupations are pretty much identical in terms of their functions but the names are different. Some will vary by organization but we wanted to have a placeholder as we determine what title will serve all three levels of users. The career lattice will help the colleges to understand expectations of curriculum, skills, abilities and knowledge and then what it takes to get people in those jobs. Looking at occupational skill standards, there are some good ones (produced by the Center of Excellence and industry partners) and some that don't really resemble anything particular. There are many different lists of competencies for the list of jobs identified and possibly some technical competencies, but they don't necessarily cover the general knowledge and technical skill standard. A lot of it is at-will knowledge. For example, for a customer service representative

there are no defined skill standards unless some individual utilities have their own, and that is what is being attempted here. The National Retail Federation created a set of national skill standards for a customer service representative. Much of what is in those standards are very germane but more will need to be added. This is a good place to start improving/adding/building curriculum to support education and training for the Customer Service Representative. In other cases, for example, Meter Technician or Energy Advisor there is more substance in terms of the nuances and specific skill sets. Where those exist, we have created a link directly to them. We may be looking at a technology solution and other ways to allow users to access that information in a sufficient way. We need to collect the information we can find along these dimensions and others as they come up and think about the best way to collect and integrate this information so it is readily useful to our clients (student, employer, or faculty) who wants to use this in a purposeful way. We may even want to modify our skill standards down the road; it is a good way to start. Lots to be done, but our first task is to identify where the gaps are and how we can begin filling some of those gaps.

Jim Malinowski asked if this is a draft, he sees some areas in Dispatch where the descriptions aren't fully there. Alan said that this is an area where we can add but our first job is to start with what's available, and then expand if we can. Jim said we need to separate steam plant operator, hydro plant operator, and sub-station operator. Those are significant positions with different skill requirements. Alan said that we may have difficulty in other areas too. Ultimately we will get all that fine detail and roll it up to be used in a significant way.

Barbara said that when we applied for the grant we started out with the recommendations from the Northwest Energy Efficiency Taskforce (NEET). We were at that point in time trying to get our arms around energy efficiency because that is what NEET asked about. So we looked at the demand jobs that are related to energy efficiency and ultimately chose to add five more occupations on the supply side. We identified the 10 occupations that we think are the most likely to touch the smart grid as we move forward. That is why the ten are here. Alan concurred with Jim and said if there are defined or gross distinctions that need to be made going forward, please email Alan or Sally. Alan provided a sign-up list so he is able to contact the "right people" within each utility organization for interviews related to the data collection for the Career Lattice project. Utilities and Organized Labor are encouraged to sign-up and provide feedback.

Marcy Putman from IBEW 125 talked about the trends and the jobs that are disappearing or morphing to something else.

Alison Pugh from Edmonds Community College is taking the lead on programs currently offered at colleges in our multi state region. She said that Edmonds is trying to create a comprehensive listing of not just colleges but also private training providers and match those training programs up to the target occupations. There will probably be gaps with Smart Grid.

Barbara said that the WA State Career Resource Guide is available. The resource guide covers WA community college energy programs. Apprenticeship programs are not listed in the guide. The related website is more updated on what is happening in other states across the region.

Diane from Avista said that one of their interests is a blueprint reading course. They need an upgrade around additional chapters on smart grid that will be new and other course content will remain the same. She noted we shouldn't have 16 different entities developing this. Grant partners (Education Taskforce) should decide who is developing what and who is on point for specific content development. Also, the curriculum needs to be developed to be delivered to the utility internally or at the community college. She would like to run this through Avista's LMS and the colleges may need the curriculum as well. Clark College noted that lab equipment is necessary to teach the curriculum, lecture just won't work by itself. Students need some hands on experience. Diane commented that lab equipment is included in the grant budget and train the trainer courses will take place at the regional partner facilities in each state.

It was asked that when we get the career lattices designed, are there any thoughts about information on salary ranges or how the careers make a difference in the world; marketing for the careers. Sometimes it is hard to track students in some of the careers or even getting students interested because of the myths about the careers. Alan said that we could provide the links to both standard wage estimates to these occupations as long as we agree on the occupational titles. There is lots of existing standard information on energy careers: we could also collect that data from the utility partners as we go. What we need to focus on now is what the jobs are, what they do, and the standards that exist to support them. The marketing connection through the Career Lattice may be a powerful tool.

Karen DeVenaro said that part of Seattle City Light's (SCL) goal is to build a smart meter training lab. As SCL moves forward they would like to know if there some way to view smart meter training in a generic way or does it have to be applicable to a certain AMI? How do we keep up with the change and technology? Alan said that it dovetails with WSUs conversation with Avista about how technology will design training and where the utilities think the gaps will be. Avista noted that on the smart meter side, it is going to be difficult. Avista intends to focus on what is being used. There are commonalities on how information goes back to the system, but everything else is propriety and depends on where you purchase the meter. Barbara asked if BPA could offer any direction. Sue said that some utilities are really struggling with smart equipment. It isn't so much a gap with the colleges but more how do you transition the existing workforce. It helps to have the lab right there when educating.

In many instances the utilities are moving to new technology and it isn't so much an issue of the colleges providing students to operate the new technology: the bigger issue is one of taking the incumbent employees and finding the time to train them on the new technology so they can be more productive sooner. This is a challenge when they have full time jobs and try to work in training opportunities. The idea of Just-In-Time learning rather than sending people off to a 2 week class or night class is more appealing. We might want to consider developing fundamentals courses through the grant and then develop follow-on modules that teach to the specific equipment used by an individual utility. On-line courses are also an option for cross-occupational learning that might be able to bridge some of the gap.

Jay Pickett, Centralia City Light mentioned that there is a set of core skills that do not exist in our high schools and other learning environments; advance knowledge of electricity, electronics, and materials. As an employer, he isn't interested in hiring the average student that barely makes it through the program: instead he is interested in hiring the best works that already have these skills instead of teaching them along the way. He suggested focusing educational content on the basics, math, reading, writing, etc. and let industry train on the technical specifics. If students come ready to work and have the skills, knowledge, and ability they will pick up the specific technical training they need unique to their employer. Jay asked how can anyone understand smart grid if they don't understand distribution, transmission, marketing, etc. back to the basics.

Ryan Davis asked if WSU is focusing on any of the other barriers to entry into education programs and the occupations; specifically criminal record barriers? In a class recently conducted at RETC with 22 people, 30% of the class had a criminal background. Barbara said that the criminal background is problematic with community colleges because they are restrained from doing that type of screening. Alan said that other barriers include the transfer other experience and skills, such as military training so an individual receives credit and gets on track for moving up in the organization. WSU is not currently looking at the credit for prior learning issues, but suggest they should be considered by the Education Taskforce. Diane said it may be folded in the career lattice in regard to requirements for jobs. For example, a candidate must be able to pass a criminal background check or pass other tests which are pretty common. This is becoming more relevant as we get more standards from the federal government and cyber security because equipment is more internet-based and prevalent for jobs in the future. Also, poor driving records are a barrier to employment. These requirements should be integrated into the Career Lattice.

Sally said that the original plan to survey the utility partners has been changed to a telephone conversation. Want to talk about the connection in and between the target jobs. Also, what internal training does the utility have going on and is there someone else they should talk to about more detail. Sally passed out a sign-up sheet for the utilities to give contact information.

Alan gave an overview of WSUs conversation with Avista. Alan said that one of WSUs deliverable strategies is to figure out how to create the least amount of burden on the industry partners and not waste their time. "We had the great luxury of Diane Quincy, Mike Hanson and Dale Singer who are the go-to people on the supply side. They really helped drill down quickly." We hope to collect the same level of data with other partners so we have good information about the kinds of occupations, same or different, how they connect, if at all, and other information that would help build what is included in the career lattice. Avista doesn't have a wireman, they call it electrical mechanic, substation operator, hydro substation, power substation; titles are different. This helped with the description clarity and cross-analysis to see what is unique with the utilities and what is different. In the training offered, Avista has done a lot of background work already around smart grid. In the interview with WSU, Avista gave a listing of all the courses they currently sponsor for internal training. Dale Singer worked with others to identify additional individual courses where they think they will see an impact with

the implementation of smart grid; and they are identifying what needs to be done to bring the training up to that level. Avista is anticipating somewhere in the curriculum some upgrade will need to be done in the smart grid package.

Much of the additional training happens when it is needed, as technology is implemented, and as people come up through the organization. It is recognized some training will come from vendors because it is about the technical installation, some through community colleges because it is more basic to the skill set, and some from up close and personal on the job mentorship because it is bringing the individual up the field.

We want to use online resources more and take the generic information to an online format. Also, Avista noted that regarding the supply side occupations and how they relate to each other, they are fairly siloed. A line worker generally doesn't do electrical mechanical work, but if a lineman wanted to become an electrical mechanic they have to go back into an apprenticeship and build their skills through the program. The idea that you can be in any job in the utilities and move around isn't true in these occupations. They are typically identified with craft occupations and apprenticeship is an important entry point. Not all the training is fundamental; the development of the curriculum and training is a moving target. As we progress there will be more training identified. There will be more mobility listed in some jobs versus supply side crafts so it will be easier to transfer into the energy efficiency career paths. Alan thanks Avista for helping propel this forward.

Ed Bowen said that looking at this from a military perspective; in the military we have skill levels, and there are certain expectations to meet each level. Do we think the lattice will capture some of these skill levels? As a person progresses up to a higher level we capture what the industry is looking for? Alan says yes, we are capturing skill levels but it is a complicated endeavor. It is one thing to identify what an industry requires but different in matching what the military uses. They are different systems, how do you connect the different systems. They are projects in of themselves. It is an important piece for this group to consider. Ed asked if the lattice is going to try to address other barriers such as pathways for individuals with disabilities. Sally referred to the handout in reference to having a tool that educators can use to develop and improve their programs, and an individual person to navigate their career. Barriers to employment—is that what the taskforce is willing to take on? The lattice is not about individuals, however, Barbara said that credit for prior learning and how we offer military credit toward different occupations isn't in the framework of the lattice but we need to address it in another way.

Graham Trainer asked what the goals and objective are what role Oregon plays. Barbara said she will address in her presentation. The reason we are here is to reach out to Oregon partners.

The Role of the Community Colleges in Economic Development, Barbara Hins-Turner

Barbara provided the history of the Center of Excellence (COE) model and how we have arrived where we are today. The COEs were born in Washington to become Economic Development drivers within the community and technical college system focused on key industry sectors that

are vital to our state's economy. There are currently 10 COEs in Washington and each has their own vision and mission statements. Five years ago there were three colleges in Washington offering energy related programs—today there are twenty colleges. This tells you how energy as a sector has grown in the last 5 years. Anything related to energy workforce within the community college, the universities, high schools, workforce development councils, and economic development councils, we connect them together in partnership; we have lots of different stakeholders.

Part of the COE requirement is to have a strong home campus sector focused program where we have access to faculty. Working with our industry partners we can see where the jobs are and where the students are going.

How did we get from where we were in 2005 to now? Through partnerships using different funding sources. Working with WSU, the National Commission on Energy Policy, the NEET report, and Skill Standards. Some people like Dale Singer and Jay Pickett have moved around to different utilities but are still part of the system. They have laid the ground work for the COE. They and many more are part of the team that decided what we wanted to be and set the foundation. Jay mentioned that he enjoyed seeing the different labor unions sit in a room and work through skill standards together. Dale said sitting with the operators from various organizations and seeing how similar our needs were was rewarding. Barbara said this was really the first time they sat down together with a common goal. Alan said that what makes it real for the colleges and the industry partners is the fact that we have the industry tell us what the jobs require and the skills necessary, and the best way to measure what the performance should be. It provides a deeper level of validation of what “it” looks like. Barbara said that once the skill standards were completed, it helped the COE receive additional funding to further its work with the energy industry.

Barbara relayed that the skill standards were housed at Highline originally and now they are housed on the COE website. Our first skill panel grant from the Workforce Board helped fund the identification of the standards. Then Bonneville came along and said they may have some occupations that will need skill standards—then PSE said they needed some work in their occupational areas—then the skill standards for the Wind—All along the way the IBEW has been at the table. Jamie said that having watched the project and partnership develop is something special and unique about the energy industry and the COE. The development of industry skill standards is unique to this partnership. This group took the notion of skill panels literally and transferred that captured that knowledge critical to job performance. Skill Standards are a special body of work that is sustainable and has been leveraged into a really solid framework.

Jay said that he has been around during this process; first the outreach and the learning programs came, then on-campus programs were developed and third the skill standards. Alan said that the skill standards would not exist if the industry partners did not help. Barbara said that journey level workers had to be backfilled so they could be at the table, facilitation and all the work that goes into the process—it was expensive for industry to be at the table.

Diane said for Avista this broad partnership work all began in Oregon. They started by attending some classes and meetings for information and idea exchanges, then the Washington partnership happened; and finally those connections with others in the region. Now the smart grid has given us another umbrella to leverage those partnerships.

Barbara said the original name started out with Center of Excellence for Power Generation and Distribution Technology, then the Center evolved to a project based outcome, which was part of the skill panel and the skill standards project and evolved once again to become the Center of Excellence for Energy Technology. In 2007, the COE was a partner and sub-recipient of the Pacific Mountain region WIRED project. WIRED enabled the COE to accelerate its strategic plan. Also that year, organized labor nominated the COE for a Governors Best Practice award, which we received.

In 2008 the COE began to gain national recognition with Center for Energy Workforce Development and became the state consortium. At the same time the state Workforce Board funded a Model Skill Panel Report and selected the COE as one of the state's high performing Skill Panels to be featured in a study that was authored by the Corporation for a Skilled Workforce, an organization whose work involves advising states and local areas on industry sector and economic development models that focus on industry clusters, including strategies to advance workers into meaningful careers.

The big change happened in 2009 when we started to look at public policy and the Centers of Excellence were codified into state statute. This made us the only state in the country where COEs were codified into statute. Other states have center models but they are different because they are regional, more like the workforce development councils. The NEET gave us the link for the smart grid. They really helped move this grant forward and also endorsed it.

In 2010, the COE was invited to present in Canada and Germany. Then we were selected as a finalist to compete for the Bellwether award. In the WA state community college arena, the Bellwether has never been awarded. This is a community college award about innovation in workforce development. Then most important to the Education Taskforce, the U.S. Department of Energy Smart Grid Workforce Development grant was awarded and enabled us to leverage other grants that have come into the region. In addition, CEWD received a grant from the Bill & Melinda Gates Foundation where we are a sub-recipient. Edmonds Community College received a grant from the National Science Foundation. Barbara asked Alison Pugh to speak about the grant. She said that it is to going through a skill profiling for demand side occupations, it will clearly link to the work of the Education Taskforce and Smart Grid grant. The NSF grant shares a number of partners with the Smart Grid grant including, WSU Extension Energy Program and Cascadia College.

Another DOE award partner is Incremental Systems (IncSys) out of Issaquah. Working with the PNCECE, IncSys is able to identify colleges to test its grid power simulator to see how it can be integrated into a variety of energy related programs in the community college system; it is modeled after the Gonzaga T&D program, where faculty professional development is taking

place. North Central Community College, Clark, Cascadia, Centralia and Whatcom will participate in a pilot project to integrate the power simulator into new and existing energy programs that tie back to the smart grid. Jay suggested looking at NERC requirements, which are becoming more challenging. Avista said that NERC had someone bring in an outside vendor to do the IncSys simulation. Diane said that Gonzaga was a partner with industry and looks for ways share their programs with energy industry craft trades. Gonzaga also brought in younger people like the girl scouts to create interest about the industry. Their original mission wasn't to create training for faculty; they are going outside the boundaries. Barbara said that at the national level, CEWD and CSW are looking at the Smart Grid project to identify best practices and learn about what works and what doesn't.

Barbara recognized a few students that have gone through the program at Centralia: Brian Blare at Hungry Horse Project in Montana, Adriane Tenason at Centralia City Light, and Ryan at Seattle City Light. These students are a reminder of what we are all doing. We are close to turning out 800 students per year in energy programs through the 20 colleges in WA State.

Vision of the Chair, Sue Walsh

The smart grid doesn't have a single definition just yet. Most utilities do agree that it should include some form of two way communication, generation, transmission, distribution, and back again. It includes things like distribution automation, distribution management, storage, demand response, some electric vehicle work and integration of renewable energy resources. In order for electric utilities to be able to get the most out of this smart grid, which is now national policy, it needs that highly skilled workforce, the best and the brightest. We need to make sure those people are highly trained. They have to meet some high standards and keep them engaged and challenged; need to be consistent across a variety of areas. The industry needs to know candidates are comparable when hiring. Education needs to train as if students may go to a four year school so they transfer seamlessly without losing a beat. Train quickly as well and the best training possible. A crosswalk would be useful. Sue handed out a document on the smart grid from other utilities in the country. The employees at these different organizations (one in Memphis, and two in Texas) need to be well rounded in the fundamentals of the energy business. End user customers are asking "how does this smart meter tie in with my low income loan for weatherization." Utilities need that entire package in an employee not just their specific job, but the whole spectrum of what the utilities are providing. Also the employees are the first line of information to the customers, education to consumers. The industry needs this integrated training approach, not a single linear approach.

Curriculum and program endorsement was talked about by Barbara. She said that it would be nice to have curriculum reviewed by the committee with a critical eye for endorsement, maybe a sub group or something different. Ryan Davis said that those credentials help with getting people in jobs. On the supply side they are well established, on the demand side there isn't a lot of credentialing. Alan said that there are different qualities of accreditation and endorsement. There needs to be a body that certifies for accreditation. There are very high standards for assessment. It is complicated because it requires a third party. This may be a function of the COE but will need a lot of background work and greater resources to develop that capacity.

Ryan asked if these funds could start the process and lay the foundation. Alan said that endorsement would be a good first step. Bob Topping said that if we are able to take what we are doing and put it in a format for endorsement we could consider seeking additional funding. The other side is manufacturing. Manufacturers are key to the smart grid and a resource when it comes to endorsement.

Next Steps

Alison is continuing with the inventory. Sally and Alan are continuing with the lattice. Next layer is to look outside the utilities. Bob Topping suggested taking the skill standard one level deeper and determining what the standards are, and what it takes to understand those standards.

Discussion continued on the subject of identifying curriculum, job occupation definitions, and endorsement. Diane mentioned that the Department of Ecology was tasked to develop a handbook on green jobs geared toward building. The publication would outline programs, jobs, education, link jobs to apprenticeships, description of each job and pay opportunities, a career pathway. It may be useful to look at a couple of models from other applications to generate ideas how something like this might come together. Diane also recommends that we get a tactical view of who is going to start looking at what curriculum while we figure out the bigger picture; develop a roadmap; maybe a 3 month curriculum plan to get started and possibly scope out e-learning development standards so we have some guidelines. Avista is anxious to start developing curriculum because of emerging needs. Barbara agreed and is looking for a smaller group to start the development of curriculum. Will review who has curriculum development in their project plans to assist with the sub-group. Some suggestions were to have a Smart Grid 101 description with very basic front end curriculum, maybe a 5 minute introduction. Identify who wants to work on substation and who on customer service, etc. and what best practices are already out there.

Jamie, Bob, and Barbara will work on the workplan and see who has curriculum development and will circle back to the group.

Upcoming meetings

Next meeting will be after the New Year.

Meeting adjourned at 2:15 p.m.