Center For ENERGY Workforce Development

Get Into Energy UPDATE

A MONTHLY UPDATE FROM THE CENTER FOR ENERGY WORKFORCE DEVELOPMENT

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Special Issue: Focus on Bootcamps

In This Issue:

Why Is CEWD Focusing on Bootcamps?

An Interview with Executive Director Ann Randazzo

Part of what we're finding as we begin to implement education pathways, as part of our work on the Get Into Energy Career Pathways program funded by the Bill and Melinda Gates Foundation, is the same thing that the rest of the nation is seeing: People drop out. They don't have the skills they need to complete coursework. They're not prepared for what it's going to take to finish the course or credential.

So we started thinking about backing it up a notch. Where are the places where we are seeing deficiencies? And we realized the biggest problems occur in math, physical conditioning and the ability to learn: Tiers 1-3 skills. These are the things that make a difference for whether someone can even get into a bootcamp and complete it.

Math is actually the number-one reason why people fail the pre-employment test. CEWD has contracted with Allannah Thomas of Helicon, Inc., to develop a Tiers 1-2 bootcamp in math. It drills the basics: addition, subtraction, multiplication, division. A lot of people either didn't get this in middle school or high school, or they are used to using a calculator, or they just have math phobia.

people either didn't get this in middle school or high school, or they are used to using a calculator, or they just have math phobia. What we are seeing is that with the very focused short-term drilling, students get what they need. They could take a semester-long remedial math class, but this bootcamp focuses on exactly the math skills they need to work in the energy industry.

We've really been looking at a number of bootcamps, like the one used in Georgia by Georgia Power that precedes an apprenticeship or degree program, which has been highly successful in increasing the pass rate for pre-employment testing. CEWD is working on a similar one with natural gas. In addition, through the Get Into Energy Career Pathways project in Georgia, they are also doing a bootcamp on nuclear skills called the Nuclear Workforce Academy.

We have two kinds of bootcamps available now. There are those that cover Tiers 1-3 of the Energy Competency Model. These might focus on just one competency or on a couple of them. We developed an employability bootcamp, for example, that focuses on a few of these key skills, such as getting to work on time. If we find something that works, though, we don't have to create it from scratch. We found Job Start 101, for example, which is for students just coming out of high school. It teaches appropriate behavior in the workplace, and it's free.

Then there are Tiers 6-8 bootcamps. These are job-specific, focused on the skills you need to succeed in an apprenticeship, for example. These are all short-term and focus on teaching whatever you need to know to be successful in the course of study that would follow. People who participate in bootcamps have a lot of success. They complete the bootcamps and in many cases get jobs.

The bottom line for our members is that if people have these skills, they will pass the pre-employment tests and finish the training curriculum. That will save utilities time and money, from recruiting all the way through on-the-job training.

Remember, there are three stakeholders involved (students, educators and industry), and each of them needs to get value out of anything we do. The value for the students taking a bootcamp is that they are prepared for what's ahead. They won't be struggling because they don't have the right level of math or can't climb a utility pole. It prepares them for success in whatever course of study they will take.

The value to educators is that they get students who are ready to learn. That reduces the remediation they have to do if students have taken a bootcamp that prepares them for the basic course of study.

And the value to industry is that utilities don't have to go through hundreds of people to get a few who are qualified. Applicants who have been through bootcamps will pass the pre-employment tests. They will stay on the job. It really does help employers by saving them significant time and money.

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Bootcamps for the Most Basic of Basics: Learning to Learn

It might seem obvious that students who take a class—in anything—are there to learn, and are presumably capable of doing so. But most students actually don't possess the skills to learn new skills. So before real learning of the substantive type can occur, they have to, well, learn to learn. This concept is a very important one for the success of the Get Into Energy Career Pathways project.

A five-day skills and empowerment camp—the brainchild of Dan Apple, founder and president of Illinois-based Pacific Crest—does just that. It teaches students who are passive learners (trained only to memorize information but not think critically, reflect, or otherwise engage in their learning) to become far more active participants in the learning process. Pacific Crest has been holding these camps since 1994.

"If we don't empower students like these, we're going to lose them and they won't become an asset to society," said Apple, whose camps are held all over the country and include two major components: a three-day training session for faculty and staff (who become coaches at the camp) and the camp itself. "The goal is to double their rate of learning."

Each camp can include up to 100 students, broken down into learning communities of 20 students apiece. Each community is assigned a coach and is then broken down into five groups of four, which are assigned an assistant coach to work individually with them. The coaches and assistant coaches are trained to mentor these specific student populations.

During the camp, Apple said, the coaches provide hourly feedback for the first four days as they put students through a series of back-to-back learning activities involving writing, problem-solving, personal development, teamwork, personal reflection and time management, to name just a few. On the fifth day, called Performance Friday, they are asked to participate in a series of contests, such as in math, writing, speech and even a talent show.

"They have to conquer their worst fears," said Apple. "In doing so, however, they increase their self-confidence and their ability to self-grow, as they see how quickly they can construct new knowledge and master new skills."

The goal of the camp is to develop cognitive, affective, social and academic skills through these activities. In the process, the students are learning how to learn, how to use assessments to improve learning, and methodologies to apply that learning.

Apple said every camp is different and tailored to a client's individual needs. For example, the camps can be tailored to such specific areas of study as "Learning to Learn Calculus" or "Learning to Learn STEM" or "Learning to Learn Engineering." It can also be tailored to "Learning to Learn" a specific set of job skills for a company.

CEWD plans to train instructors to pilot the program with low-income young adults. For more information, please visit http://www.pcrest.com/PC/FacDev/2010/LLC.htm. To set up a camp, please call 630-737-1067.

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Coming Soon: Utility Industry Math Bootcamp to Help CEWD Members Boost Applicants' Skills

Anyone in the energy industry who has tried to hire skilled workers knows that one of the biggest problems is finding candidates able to pass the pre-employment tests, particularly the sections involving math. In fact, more than half of those who take the test fail it, for lack of adequate math skills.

CEWD is trying to remedy this problem by developing a utility industry math bootcamp that helps potential applicants quickly learn the specific math skills needed to work in the energy industry.

"We were lucky to find someone who had already developed a similar program and was using it successfully with people in the nursing and electrical fields," said CEWD Education Consultant Rosa Schmidt. Prior to joining CEWD, she had also contracted with Allannah Thomas of Helicon, Inc., to tailor this bootcamp for potential applicants to PSEG, a New Jersey utility.

Now Thomas is tailoring the program for all CEWD members to use and will run a pilot program for low-income young adults in North Carolina, as part of the Get Into Energy Career Pathways work being funded by the Bill and Melinda Gates Foundation.

"From there, we'll be able to make any necessary adjustments and hopefully be able to offer this program to all CEWD members in the fall," Schmidt said.

Thomas will run the one-week North Carolina program herself, then provide CEWD with an instructor's manual, student guides, quizzes and answer sheets, Schmidt said. She also plans to conduct a "train the trainer" webinar for anyone interested in teaching the utility industry math bootcamp.

The program will cover such topics as spatial reasoning, fractions and mixed numbers, reading a ruler, whole numbers and decimals and mechanical comprehension. It shows students how to make calculations without the use of a calculator—an important skill for lineworkers, for example, who don't have free hands when climbing a pole to pull out a calculator but must do the math in their heads.

"Many of our applicants really struggle with that," Schmidt said. "Most of our technician jobs require strong math skills. This program will bring them up to speed, teaching those skills needed to succeed at the work they'd be doing on the job."

Please watch the CEWD website for upcoming news of the bootcamp and when it will be available to members.

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CEWD/Midwest Energy Association Develop Natural Gas Technician Bootcamp

CEWD is working with the Midwest Energy Association (MEA) to develop a six-week Natural Gas bootcamp to provide potential or existing employees a basic introduction to the gas distribution business. MEA has worked with many gas utilities to develop a library of online courses to train individuals in natural gas basics.

The program will consist of a pre-packaged curriculum of instructor-led online courses, tests and evaluations. The students will have classroom instruction on more than 46 tasks related to the operations and maintenance of a natural gas system. They will be given 46 written exams and approximately 35 hands-on evaluations of their skill and ability to perform the tasks.

The program will provide basic skills needed for entry-level positions in both the distribution and service side of the natural gas utility business. It can also be used by a company to supplement its internal technical training program. The sponsoring utility will work in partnership with a local community college to provide the classroom, shop and outdoor training areas, or it can use its existing technical training staff to deliver the program.

The program is being tested by Baltimore Gas & Electric with six new employees. It is expected to be available in September 2011. The program will provide instruction in the following skill areas (part of Tiers 6-8 of the Energy Competency Model), which support the basic skills required for an entry-level natural gas technician:

support the basic skills required for an entry-level natural gas technician:

Week 1

- Science and Technology
- Basic Components Knowledge
- Customer Focus

Week 2

- Locating Gas Structures
- Excavation and Backfilling

Week 3

- Piping

Week 4

- Installation and Maintenance of Gas Main and Service Piping
- Valves

Week 5

- Cathodic Protection/Corrosion

Week 6

- Final Exams and Hands-on Evaluations

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Nuclear Bootcamp Preps Tomorrow's Workforce with Job-Readiness Skills

With four new nuclear power plants in the offing, three existing plants in the area in need of additional skilled workers to replace those retiring and a vibrant Department of Energy nuclear complex, the greater Central Savannah River Area has plenty of reason to herald the creation of a nuclear bootcamp training program.

"We have an existing and growing nuclear industry in this area," said Mindy Mets, Nuclear Workforce Initiative (NWI) program manager. "Our focus is on that growth. To meet that need, we're looking at ways to bring people together so companies are not stealing candidates from each other and people in the area can develop the skills needed to work at these new jobs."

Enter the NWI Academy, a six-week employability readiness program for those interested in careers in the nuclear power industry. Created in part through CEWD's Get Into Energy Career Pathways grant from the Bill and Melinda Gates Foundation (via the Georgia Energy & Industrial Construction Consortium), the program targets low-income young adults who lack the skills and knowledge needed to enter a nuclear energy career.

Students will be recruited from two states (Georgia and South Carolina) and five counties in the region, said Mets. Phase One of the program—a pilot course for ten students taught at Aiken Technical College (which designed the pilot program)—has already been held. Seven students completed the program and all expressed the desire to move on to postsecondary education, many in the nuclear field.

"That's our goal," Mets said. "This program is designed to help students identify what they are interested in and to move into additional training."

Phase Two of the program will begin in 2012 and will involve students at both Aiken Technical College and Augusta Technical College, with as many as 24 students in each program. Students will learn what is expected of them in a job in the nuclear power industry (e.g., no drug use, a heavy focus on safety) and such "soft skills" as the importance of being prepared to work when your shift begins, working on a team and showing up on time. They will receive training for and take assessments to earn several industry-recognized certificates, including the WorkKeys National Career Readiness certificate, the Skills USA Energy Industry Employability Skills certificate and HAZWOPER (the Hazardous Waste Operations and Emergency Response) certification.

"They also have the ability to earn up to six college credits," Mets said. In addition, students are given tours of nuclear power plants such as the Savannah River Site complex or the VC Summer plant. "They learn directly about the industry and about training options available to them locally. This is to help them learn about their opportunities and to be better prepared to be successful in these programs, because they are very rigorous. We are targeting a population that may not be getting that message or may not have the skills or the knowledge to move in that direction. This is what we hope they will be able to obtain

through our program—that extra step between high school graduation and postsecondary training in the nuclear field."

For more information, please contact Mindy Mets at mindy.mets@srscro.org.

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WISE Pathways Exposes Women to Nontraditional Jobs

For 17 years, Ohio-based Hard-Hatted Women (HHW) ran a 200-hour pre-apprenticeship training program for women who wanted to pursue careers in construction, utilities, landscaping and other nontraditional industries. But over time, federal and state job-training dollars grew scarce and it became difficult to maintain the full program.

"We knew there was still a need to help women understand what their options are," said Terri Burgess Sandu, HHW's executive director. "Community colleges and career technical centers have many excellent programs such as bootcamps, but women often do not enter them in any significant numbers—and may need specialized coaching when applying and first entering one of these careers."

So when HHW partnered with CEWD in 2009 to help recruit low-income young adult women for the Get Into Energy Career Pathways program being funded by the Bill and Melinda Gates Foundation, it seemed the perfect opportunity to build a new career awareness program using some of the material and information developed for HHW's pre-apprenticeship program.

"We wanted to spend time with women who were interested in a trade or technical career, but needed support to decide the best path. We know that women need to understand what is available to them and what it takes to be competitive; they need to hear from other women doing that work; and they need support to find needed training and have the tools and resources to complete that training," Sandu said.

And so HHW's WISE Pathways program was born. The 40-hour career exploration program centers on energy, construction and manufacturing jobs. Launched in the fall of 2009, WISE Pathways has run five times and is scheduled to run in four more regions in Ohio between this fall and the spring of 2012. The program is currently undergoing some revisions to integrate it more closely with HHW's educational and employer partners in their targeted regions, so that efforts (for example, in obtaining work readiness certificates) are not being duplicated.

Sandu said half the course takes place in a traditional classroom setting, where the women are introduced to the different industry sectors. They hear from company representatives in those fields, including women "role model" speakers who can help them to understand the expectations of working in a nontraditional job.

"We spend time preparing women for both the challenges and opportunities these careers present, including those that may arise due to being the only woman or one of just a few women in these jobs," Sandu said.

WISE Pathways also teaches team building and confidence boosting. "One day they will work with tools. We have the women build tool boxes, just to have them work as part of a team," she said. "We've also done field trips during which we visit job sites to give them a sense of what takes place on the job."

By coordinating with regional education partners, the women have the opportunity to work with a career coach to help them decide on next steps. "Our goal is for women to come out of the program with a completed career plan," Sandu said. "They need to know: 'Am I eligible for this job? What training do I need? What are my next steps?'"

Employers interested in having a more diverse candidate pool that includes women have many opportunities to participate. The program is driven by knowledge of high-demand jobs in the targeted regions—and depends on strong participation of employers to provide career information, role model speakers and site visits.

"Collaboration with education and employer partners is essential to making WISE Pathways a success. We want to make sure that women are making good choices about what they want to do," Sandu said. "We really want to help them take the time they need in advance, so that whatever program or career they go into, their likelihood of success is much greater."

For more information, contact Terri Burgess Sandu at tsandu@hardhattedwomen.org.

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Energy Workplace Skills: CEWD's Do-It-Yourself Bootcamp for Utilities

Utilities looking to offer a crash course in energy careers to potential job applicants or students who might one day hope to pursue a job in the industry now have a new tool at their disposal: CEWD's "Energy Workplace Skills" bootcamp toolkit.

The kit includes an instructor's guide, a learner's guide and a PowerPoint presentation to help utilities put on this one-day course in "all you need to know" about what it's like to work in the energy industry: What types of jobs are available, what types of skills

in "all you need to know" about what it's like to work in the energy industry. What types of jobs are available, what types of skills are needed and the critical role that safety plays in energy careers.

The course does not result in a credential and is intended only to be an introduction to the industry. Students who are serious about pursuing an energy career would then follow up by enrolling in further education and training. However, the course will help them to decide whether this type of career is one that would fit their interests and skills.

A large part of this one-day course focuses on the "work habits of successful employees," emphasizing the importance of a good work ethic and how personal responsibility, ethics and integrity play an important day-to-day role in maintaining a safe and healthy workplace and in developing a reputation as a responsible employee who can be trusted to get the job done.

Some of the workplace skills that are emphasized are the importance of first impressions, of showing up for work on time, of being dependable and professional, of being able to work cooperatively on a team and of taking personal responsibility for your actions. Students are also taught how to resolve conflicts with coworkers and superiors, how to communicate and the expectations of how they will conduct themselves outside of work (e.g., practicing a drug-free lifestyle).

Using group exercises that create scenarios in which participants must make ethical decisions about a coworker's behavior and their own, as well as games that help them to develop better listening and communication skills, the course shows participants concrete examples of what might be expected of them in an energy job. For example, one scenario asks them what they would do if they finished a job early and a coworker suggested stopping off to play pool on the way back to the office. In another one, they are asked what they would do if a coworker refused to wear required safety equipment.

"It's one thing to tell someone that safety and integrity are important on the job. It's another altogether to give them a scenario that could easily occur and force them to think about what they would do in that situation," said CEWD Educational Consultant Valerie Taylor. "We hope this course will help not only give potential candidates an idea of the types of jobs available in the energy industry, but bring home to them just what it means to be an energy worker."

The Energy Workplace Skills instructor's guide, learner's guide and PowerPoint presentation can be downloaded from the CEWD website at: http://www.cewd.org/workdevedu/toolkits.asp.

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Starting a Regional Consortium: How and Why Utilities Should Do This

If Maureen Fallt, Chair of the Oregon/Southwest Washington Energy Consortium, could give just one piece of advice to those interested in starting a regional energy consortium, it would be this: "Focus on the needs of the industry."

That might sound obvious, she said, but it's very easy to get distracted by other agendas when you bring together a large group of diverse stakeholders. And the ultimate purpose of bringing together those in the energy industry, the community college system and workforce organizations is, after all, to find and prepare good candidates for those tough-to-fill skilled worker jobs at utility companies.

Of course, Fallt isn't limited to giving just one piece of advice. In fact, her co-chair, Curt Myers, has developed a tip sheet, distributed by CEWD, to assist those who are interested in starting regional or state consortia, of which there are now 29 covering 30 states.

Among those tips?

- Have strong leadership
- Get buy-in from as many stakeholders as possible
- Hold regular meetings
- Co-brand the Get Into Energy materials
- Leverage the materials (such as a customizable PowerPoint) in the CEWD Starting an Energy Workforce Consortium Toolkit (available at: http://www.cewd.org/toolkits/state/toolkit_st_consortium.asp)

Fallt said her group did all of those things, especially making use of the CEWD toolkit materials, when they launched their consortium in January 2010.

"We think we have the right partners and people on the leadership team," she said. "But we're still refining goals and what initiatives to work on."

Her group includes representatives from Portland General Electric; PacifiCorp; Bonneville Power Administration; Northwest Public Power Association; Northwest Natural Gas; IBEW; the state Workforce Investment Board; and numerous local community colleges, along with Portland State University and Oregon Institute of Technology.

Fallt said it made sense to have just one consortium for the region, even though it covers parts of two states, because people see the region as a single economic entity.

"Like many parts of the country, our economic region spans state lines," she said, "yet we share the same labor pool. Thus it is in our best interests to join forces with our workforce partners across state lines to most effectively skill up local talent."

Having the consortium allows member utilities to share and coordinate resources, providing a bigger presence at career fairs to represent the industry, for example. So Fallt's company (Portland General Electric) can bring electric vehicles, while another brings a display on biomass and still another brings a wind power display.

"When we come together and have a collective presence, it's much more interesting and indicative of what opportunities our industry has," she said. "If students just come to my little table, they are just not getting the full picture."

Plus, she said, when each of the utilities was doing outreach on its own, they weren't making much of an impact.

"None of us was achieving the results we wanted," Fallt said. "And we were also not sending the message that energy as an industry is a huge economic driver."

By focusing only on their own company's needs in the past, Fallt said, they were doing a disservice to students. "For long periods of time we do no hiring at all," she said. During those times, if students aren't aware of the industry as a whole, they are missing out on other job opportunities at companies that might be hiring.

"Collectively, there are about 10,000 jobs in the region and the average salary is $77,000 per year," Fallt said. "That opens up more possibilities for them."

As a consortium, now they can share ideas, best practices and strategies for ways to reach and train potential job candidates and can market the industry as a whole.

"The benefits of industry collaboration are that we can be sending the same message about the needs in our industry, and that we can be speaking with the same voice," she said. "That level of consistency helps our public out there more easily understand who we are."

For more information on how to start a regional energy consortium, visit http://www.cewd.org/toolkits/state/toolkit_st_consortium.asp.

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