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In New Jersey, Employer Coalition Pushes to Expand Technical Education

A partnership of almost 200 business, education, labor, and government representatives has pulled together in New Jersey to promote technical education. The goal of this effort is to expand career opportunities for students and reduce the shortage of job applicants who possess the technical skills needed to fill available positions.

Newark, NJ-based PSEG has taken a leading role in promoting the coalition and its goals, including supporting a legislative agenda that would expand the capacity of the state's already crowded technical schools. "We foresee ongoing hiring needs for craft workers and other skilled technical labor, and think that the career and technical education programs are a key source and key pipeline for that talent," explained Sally Nadler, Manager of Workforce Development, PSEG, who gave a presentation on the coalition and its goals at a recent CEWD regional meeting.

The coalition is led by the New Jersey Business and Industry Association (NJBIA) and the New Jersey Council of County Vocational-Technical Schools (NJCCVTS), but companies like PSEG play a critical role in garnering legislators' attention and support, said Judy Savage, Executive Director, NJCCVTS.

"Having well-recognized corporate leaders such as PSEG involved in supporting technical education at the state level brings an important focus to what we are doing," she said. "They can articulate the importance of training the next generation of technical workers. Just as important as their voice at the state level is the company's involvement with individual vocational-technical schools. We need PSEG and other employers to be a partner, and provide guidance and support to schools as they develop programs that meet the specific needs of the industry."

"PSEG was enthusiastic about stepping up to support the formation of the CTE Coalition," said Margaret Pego, Senior Vice President of Human Resources and Chief Human Resources Officer, PSEG. "As we set the strategies and chart the course for our future workforce, broader access to career and technical education programs is a foundational concept. These are critical knowledge areas and skill sets that enable students to pursue rewarding and well-paying careers within the energy industry."

Nadler said the coalition has already built momentum in promoting a package of legislation that would greatly expand the state's technical education programs as well as create dual enrollment programs for high school students. This summer, the General Assembly passed seven of the eight bills in the education package proposed by the Coalition for Technical Education. The Senate has introduced companion bills for consideration this session.

In addition, they're in the process of replicating a model Green Energy Academy program developed by PSEG and Essex County Vocational Technical Schools several years ago, said Savage. The Green Energy Academy gives high school students an overview of energy sources and technologies, and exposure to opportunities in the green energy field. "They developed a fantastic program," said Savage. "We looked at that and asked whether there was an opportunity to support rolling it out on a broader basis to other counties in the state, so other students could benefit."

With the help of a federal technical assistance grant to develop green programs of study, a small group of educators, employers, and college partners has been developing sustainable design construction and energy programs modeled after the Essex Green Energy Academy, Savage said. Each school is implementing the program in a slightly different way, creating hybrid programs focused on energy efficiency, management, design, and construction. Students who complete the programs can look for entry-level jobs or go on to earn two- or four-year, STEM-related degrees.

"It's important to engage students with a career-focused curriculum," said Nadler, noting that the academies help students determine where their interests lie. "It's a great way to get students thinking early on about their education goals and their career goals. The more exposure they have to different employers and therefore different industries may help them connect with their desires and passions early on."

The NJ Employer Coalition for Technical Education looks for a variety of ways to do this, she said, and represents numerous industries, including culinary and medical professions as well as skilled energy workers. "We think it's important that the energy and utility sector be represented," she said, "because these jobs are here, physically here, they're not going away. This is our future workforce."

DTE Energy Boot Camps: Giving Employers and Potential Employees a Chance to Get to Know Each Other Earlier in the Hiring Process

Deborah Majeski knows how valuable boot camps can be—through a team effort, she has developed more than a few of them for Detroit-based DTE Energy—and has seen the local pool of qualified skilled worker applicants grow. She also knows how valuable government grants can be—these were the funding sources upon which she relied when putting several of the boot camps together.

"The boot camps provided an opportunity for us to spend grant dollars in a very effective way," explained Majeski, Manager, Center of Excellence/Performance Improvement Consultant, who has been involved with developing boot camp training for numerous skilled trade positions.

Speaking to those attending CEWD's regional meeting last summer, she explained that the boot camps give both employers and boot camp candidates a chance to get to know each other earlier in the hiring process, saving time and money: "You're able to deliver initial training before people are hired, so you can ensure candidates understand the nature of the work and are committed to these jobs. DTE also has the opportunity to see how well the candidates fit into the positions if we hire them."

Majeski said DTE also sees the boot camps as a means of supporting the communities it serves.

“The candidates have the opportunity to make a personal investment in the free training,” Majeski said. “That’s a benefit for our community. We are reaching out to our community to make sure candidates are skilled when opportunities to hire arise. Those who successfully complete the boot camps have a much higher probability of getting hired.”

The boot camp program began when DTE received a grant from the U.S. Department of Energy that enabled the creation of a training program for overhead lineworkers. Partnering with the National Utility Industry Training Fund and the International Brotherhood of Electrical Workers Local 17, DTE developed the program based on a model developed by Georgia Power.

“DTE is extremely proud to work with our key partners through the Boot Camp program to build a strong pipeline of technical talent for our future,” said Trevor F. Lauer, Vice President of Distribution Operations, DTE Energy. “This program is clearly a blueprint for the nation—one that can be replicated by other utilities. Boot camps provide a framework for candidates to learn as much as they can about jobs before being hired, while utilities can ensure the right fit for available skilled positions.”

To recruit applicants for the program, DTE held a job fair at which linemen demonstrated pole climbing and explained how electricity works and what it’s like to work with it. This was followed by an orientation about available jobs, working hours, and salaries they could expect to earn.

“We got our first boot camp up and running and supported its success,” Majeski said. “But some applicants still didn’t pass the pre-employment tests.” The following year, DTE added a tutoring component to the six-week apprenticeship program to prepare applicants for the Construction and Skilled Trades test. Scores went up and they were able to hire some of the graduates.

“Once we got that model working and saw what was needed, we added a program for gas operations,” Majeski said. This program, which recruited military veterans, was offered in partnership with Consumers Energy and allowed participants to apply for a stipend as well. The gas operations boot camp has since become a model for the gas industry, she noted.

Following those successes, DTE added boot camps for fossil generation power plants. For these camps, DTE moved all pre-employment testing and pre-screening activities to the beginning of the program to increase the likelihood of those who complete the training becoming successful job applicants. “Our pool of candidates was smaller,” Majeski said, “but all the graduates were skilled and ready to get to work.”

Majeski said she is continuing to research additional boot camps, as well as grant opportunities, to meet the company’s short- and long-term hiring needs.

Energy Exploration Camps

When Mississippi Power decided to launch an Energy Exploration Camp four years ago, the company struggled with how to make the work of a utility interesting to fourth and fifth graders. And then they realized they didn’t have to: All they needed to do was let them see what energy could do, and the rest would follow.

They brought in two elementary school teachers to run the camp. “Then we incorporated a lot of hands-on science activities, like letting the kids build K’Nex cars to learn about force of motion,” said Ann Holland, Workforce Development and Education Specialist, Mississippi Power. “They learn what makes the cars go the fastest and the furthest. Every day they have time to work on the cars and at the end of the week, they have races.”

The teachers help connect what the kids learn in camp to what happens at a utility, Holland said. “They’ve always been able to circle it back around.”

In addition to building race cars, students get a tour of the local power plant and hear from a variety of people who work there about the wide range of career options in the energy industry, such as linemen, chemists, and engineers.

“A lot of times when kids think of a power plant, they think only about the guy climbing the pole and turning the power back on,” Holland said. “They don’t realize we hire chemists and engineers as well.”

The camp has changed over the past four years from an all-day format to half-days and back again. “We’ve changed the format a lot,” said Holland. “We’re still trying to find the right recipe as far as all-day, half-day, or week-long.”

Right now, the camp is held all day for a week, during three separate weeks, at two separate venues: Mississippi Gulf Coast Community College and Meridian Community College. Each camp can take up to 25 students.

The camps also feature safety lessons with charged power lines so the students can see how electricity runs and the dangers involved. The focus has broadened to include a wide variety of STEM activities, but energy remains a big part of it. At one campus, students are allowed to choose the components of the camp much the way college students choose the courses they take, Holland said. Mississippi Power subsidizes the tuition so that students pay just \$75 to attend.

“Our Energy Exploration Energy Camps have been very successful in our communities,” said Tommy Murphy, Community Development Director, Mississippi Power. “It connects STEM initiatives with fun activities, which results in a win-win situation for the students.”

Holland said the utility developed the camps to raise awareness of energy as a career choice. “These kids don’t know what careers exist,” she said, “especially at this young age, and we want to make sure they know about all the opportunities we have to offer, so that they will be interested in working for us when they get older.”

The Fruits of Collaboration

When two companies are competing for qualified labor, the idea of putting that competition aside and working together to groom future job applicants doesn’t come easy. But increasingly, those in the energy industry recognize it’s the only way any of them will meet their workforce needs.

“PG&E and the Sacramento Municipal Utility District (SMUD), we don’t serve each other’s territory,” said Susan Wheeler, Workforce Planning and Education Relations Strategist, SMUD. “But we do compete for labor. We recruit from them and they recruit from us. Now we’re starting to recognize that’s a losing proposition in the long run. So we’re trying to expand the qualified applicant pool so that we both can benefit.

“We’ve come to realize how important it is to collaborate,” she said, during a joint presentation at a recent CEWD regional meeting with PG&E’s Jason Cameron, Interim Manager of the company’s PowerPathway program.

PG&E and SMUD began working together three years ago. They’ve partnered with several other California utilities as well, forming a state energy consortium and tackling projects such as a consortium website; Careers in Energy Week; and expanding PG&E’s PowerPathway, a boot-camp-like training program to prepare potential job applicants for jobs such as lineworker and power plant operator.

“The important thing about this collaboration is that there is not really a top dog,” said Cameron, who noted that both SMUD and Roseville Electric have partnered with PG&E to train veterans using the 8–10-week PowerPathway program,

which prepares them for jobs at utilities and other industries. “Nobody is saying, ‘I need these students here.’ We are looking at what is the best place to put them based on the individual student and the jobs that are available. They might end up in energy, or the state’s Department of Water Resources, or in transportation. The goal is to get these students jobs. We take students who are the best fit for us, and some students will be a better fit for someone else.”

“Our PowerPathway program develops a diverse pool of qualified candidates for entry-level opportunities,” said Laura Butler, Vice President of Talent Management and Chief Diversity Officer, PG&E. “In Sacramento, SMUD works with our PowerPathway students for nearly two weeks as part of their training program. PowerPathway and our partnerships with local colleges, the public workforce development system, unions, and SMUD is a shining example of collaboration. Our PowerPathway graduates not only find opportunities at PG&E, but in other sectors of the energy industry.”

“Collaboration between our utilities can only benefit the region,” said Gary King, Chief Workforce and Technology Officer, SMUD. “This is addition and not subtraction. By developing student interest in these occupations early, we will greatly expand the availability of qualified talent for our industry and for associated ones as well. This dramatically impacts regional economic development for the better.”

Wheeler said SMUD and Roseville Electric provide help developing curriculum, instructors, and facilities for part of the PowerPathway program. For six days of the eight-week program, students come to SMUD facilities to participate in hands-on activities. Roseville Electric added a one-week capstone to the program for students to practice their pole-climbing skills at their facilities.

It’s not that utilities need more applicants, said Wheeler. They need more qualified applicants. “We have thousands of applicants,” she said. “But a large percentage of them can’t pass the initial pre-employment or physical exams.”

SMUD and the other utilities recognize that for students to be adequately prepared, they must reach them long before they get to the application process. That’s why they’ve also been partnering with local school systems and community colleges and why they’ve worked hard to develop a website promoting the energy industry to young people, as well as Careers in Energy Week competitions and activities.

“The point of the website, which launched this year, was to offer tools for students when we do Careers in Energy Week,” said Cameron, “or when students are looking for jobs and more information about the energy industry.”

Along with consortium members, the state’s community colleges, universities, and high schools collaborate on a competition for students each year that encourages them to write essays or produce documentaries about jobs in the energy industry. For example, last year students were challenged to make videos to excite their peers about working in energy. “That was a lot of fun,” said Cameron.

Another major collaborative effort came as a result of a \$21 million grant awarded to the greater Sacramento area to create career pipelines for students, he said. The grant encompasses all industries, but the state energy consortium is working to ensure “that there is not only a perceived path but a clear path between high school and college for students interested in energy careers. We’ve piloted internships and we’re incorporating this into our grander pathways project.”

The grant will support Career Pathway Academies in 23 school districts in the Sacramento region, added Wheeler, who noted that it wasn’t just utilities that worked together to secure the funding, but many types of industries. “It was very powerful to have the business community band together and say ‘we believe in this and we support the education community.’”

“Collaboration,” said Wheeler, “is not just good for our industry. It’s good for our region.”

2015 Gaps in the Energy Workforce Survey

CEWD and the Nuclear Energy Institute (NEI) have independently been conducting surveys to assess the future workforce needs for the non-nuclear energy businesses and the nuclear industry for the past seven years. These surveys were conducted on a similar schedule with different reporting requirements. In 2015, CEWD and NEI will join forces to administer one workforce survey that will cover the electric and natural gas industries, including nuclear generation and its suppliers. The survey has also incorporated key metrics from the CEWD metrics dashboard to capture pipeline information and applicant-to-hire ratios.

The combination of these surveys into one will minimize the number of surveys required of companies and will streamline the process. The new combined survey will use the CEWD survey tool hosted by Vemo. Data from NEI's 2013 survey has been imported into the system and will be available to companies. Data from CEWD companies that participated in the 2013 survey will also be available. This means we anticipate that no re-entry of historical data will be required.

Some companies have designated different people to complete the CEWD and NEI surveys in the past. We want to minimize confusion in this transition year. CEWD and NEI will ensure both individuals are made aware of the new, merged survey and allow each organization to designate who will complete the combined 2015 survey.

Collecting this survey data will allow utility companies and their associations to speak authoritatively about workforce issues and to target workforce solutions and resources to the most critical areas.

With the data from this survey, CEWD and NEI expect to determine:

- Have the workforce development issues improved?
- Are the gaps greater in any specific key job than others?
- Are there any regions that have a greater workforce issue?
- Are the differences in the workforce based on the type or size of the utilities?
- Are there increased recruitment efforts for diverse candidates and veterans?

The 2015 survey will be opened in April 2015. More information will be sent out to CEWD and NEI member companies right after the first of the year, which will include a worksheet that will allow companies to begin collecting data. The Edison Electric Institute (EEI), American Gas Association (AGA), and the National Rural Electric Cooperatives Association (NRECA) are also encouraging their members to participate in the survey.

What We're Reading

[Beyond the Skills Gap: Making Education Work for Students, Employers, and Communities](#)
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Arlington, VA

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