

Brooks, Jennifer

Page: Basic Information

Nominator Information

Please provide your information as the nominator of this partnership.

Your Name

Brooks, Jennifer

Email Address

jennifer.brooks@west-mec.org

Title

Director of Curriculum and Instruction

Employer

West-MEC

Phone Number

623-738-0022

Your Relationship to the Partnership?

Director of Curriculum and Instruction over the Energy and Industrial Technologies Program

The Partners: Business & Industry

Please provide basic information on the business and industry organizations involved in the partnership.

Business/Industry Partner 1

Business/Organization Name

Arizona Public Service Electric Company/Palo Verde Nuclear Energy Plant

Address

400 North 5th Street
Phoenix Arizona 85004 US

Website

www.aps.com

Main Career Clusters within Industry

Manufacturing, Science, Technology, Engineering & Mathematics, Other

Point of Contact

Rickie Timmons

Title

Senior Nuclear Instructor

Email

rickie.timmons@west-mec.org

Business/Industry Partner 2 (if applicable)**Business/Organization Name****Address****Website****Main Career Clusters within Industry****Point of Contact****Title**

Email

Business/Industry Partner 3 (if applicable)

Business/Organization Name

Address

Website

Main Career Clusters within Industry

Point of Contact

Title

Email

susan.leon@west-mec.org

Provide information on any other additional business & industry partners not listed above. Also, please use this opportunity to briefly explain the unique roles of these businesses in the partnership (if there are more than one involved.)

While APS/Palo Verde is the main business partner of this venture, there are several other partners that are involved. Salt River Project (SRP) Electric Company, Southwest Gas, Day and Zimmerman, Rosendin Electric, Cardinal Glass, and Modis. These companies have been active participants in advisory councils, as well as presenting their employment opportunities to current students.

The Partners: Educational Institutions & Programs

Please provide basic information on the educational institutions and/or programs involved in the partnership.

Education Partner 1

Educational Institution/Program Name

West-MEC

Address

5487 North 99th Avenue
Glendale Arizona 85305 US

Website

www.west-mec.org

What type of institution is it? (If a program, where is it offered?)

Other

Point of Contact

Jennifer Brooks

Title

Director of Curriculum and Instruction

Email

jennifer.brooks@west-mec.org

Education Partner 2 (if applicable)**Educational Institution/Program Name**

Estrella Mountain Community College

Address

3000 North Dysart Road
Avondale Arizona 85392 US

Website

<https://www.estrellamountain.edu/>

What type of institution is it? (If a program, where is it offered?)

Community or Technical College

Point of Contact

Joanne Kingman

Title

Director of Workforce Development and Community Partnerships

Email

joanne.kingman@estrellamountain.edu

Education Partner 3 (if applicable)**Educational Institution/Program Name****Address****Website****What type of institution is it? (If a program, where is it offered?)****Point of Contact****Title****Email****Provide information on any other education partners not listed above. Also, please use this opportunity to briefly explain the unique roles of these educational institutions/programs in the partnership (if there are more than one involved.)**

West-MEC is the Joint Technical Education District located in the west valley of the Phoenix metro area. Our Southwest Campus, which is located in Buckeye, Arizona, houses a unique partnership between APS/Palo Verde, Estrella Mountain Community College, and West-MEC. West-MEC offers a two-year high school Energy and Industrial Technologies Program. Within this program, students receive a comprehensive education in all aspects of Mechatronics and multiple NCCER Certifications.

While it is a West-MEC campus, APS/Palo Verde utilizes the space for trainings. Estrella Mountain Community College has a floor in the building designated for the energy program. In this space, they offer post-secondary classes that align with the Nuclear Uniform Curriculum Program (NUCP) from the Nuclear Energy Institute.

1. What problem was this partnership developed to solve?

The Energy and Industrial Technologies program was developed to fill an overall need in the local utility workforce. With an aging workforce in the power and utility industries, there was a need for a new talent pipeline. By working together, West-MEC, Estrella Mountain Community College (EMCC) and Arizona Public Service Electric Company (APS) formed a partnership to establish a pipeline of people with relevant skills training. The modern industry workforce displayed a need for entry level skills in energy, production and manufacturing. At the time of formation, the Chief Nuclear Officer at the Palo Verde Energy Plant, Randy Edington, was passionate about assisting young people with finding their career pathways and felt that engaging high school students with relevant workforce skills would better address their education and introduce them to the energy industry.

2. What steps were taken to get the partnership started?

In 2013, representatives from all three partners (West-MEC, EMCC, and APS/Palo Verde) held regular brainstorming and planning meetings. These meetings revolved around the common vision of building energy industry career pathways for students. Representatives from West-MEC, APS, EMCC, the DLR Architecture Group, and McCarthy Construction met together to collaborate on a common vision. These industry contacts were instrumental in developing curriculum and assisting in the layout of the building where actual industry equipment would be used for training.

Previously, EMCC and other post-secondary institutions had received federal grant dollars to build their Nuclear Energy Institute Program (NEI). The NEI aims to train and develop the future nuclear workforce by training them to receive the National Academy for Nuclear Training Certificate. While EMCC had been partnering with APS/Palo Verde, they were not reaching their full potential of actual hands-on learning with appropriate equipment.

3. Describe how the partnership was designed to support high-quality CTE.

Having the support of business and industry to validate curriculum, equipment, and facilities are critical components of high-quality CTE. As the partnership formed, all of the major partners were intimately involved in the design build out of curriculum, labs, and equipment that would best prepare students with the skills needed for success in the industry. In addition, support of industry in building career based experiences and opportunities for students to learn from industry professionals are critical components of this program.

Our APS Industry Partnership was instrumental in:

- Identifying, evaluating, and reviewing curriculum for technical and employability knowledge and skills to ensure that the program was meeting the needs of a variety of industrial settings.
- Evaluating equipment, facilities, and materials to ensure that they met industry standards
- Providing feedback for current and future needs for technical knowledge and skills
- Providing equipment donations, such as the flow loop lab, diesel equipment, power generator, and safety equipment (PPE)
- Providing a full-time employee to assist in evaluation of the program, participate in advisory council, and instruct lessons
- Participating in events such as: career presentations at schools and community events, tours for high school counselors to better understand the industry and program, recruit other industry partners, provide printed materials, and utilize shared logo space.

4. What were the results of the partnership? What was innovative about the partnership or its output? How did it benefit students and the community?

West-MEC, EMCC and APS/Palo Verde share curriculum, facilities, and equipment. West-MEC teaches technical and professional skills for the modern workforce ensuring that West-MEC is developing quality potential employees. This is an innovative partnership that ensures consistency for students choosing to continue their education with EMCC. If they choose to do so, students graduating from West-MEC can enter the EMCC program with up to 24 college credits.

Although the program is just now finishing its second year, we have already placed several students into internships or jobs with our industry partners. The overall result is providing students with skills that make them employable in a variety of technical jobs in both the energy industry and related pathways. This program is poised to become a primary pipeline for industry partners.

The initial partnership has now grown to include several industry partners that meet regularly as an Advisory Council. Some of these integral partners include the Salt River Project (SRP) Electric Company, Southwest Gas, Day and Zimmerman, Rosendin Electric, Cardinal Glass, and Modis. These partners have also taken the time to reach out to our students regarding potential jobs with their companies.

5. What were the lessons learned during the process of building the partnership? What would you have done differently?

The importance of communication cannot be overstated when building a partnership such as this. Strong lines of communication remain open, however industry individuals changing positions has proven to be a challenge. Keeping a systematic approach with looping individuals into communications is a constant focus. Initially, a bigger pool of industry and academic partners would have benefited the program, however that is currently being implemented with the incorporation of those partners into our advisory council and various career events.

In the initial curriculum design of the program, the scope and sequence was over-built with the amount content and integrated certifications. Taking more time to choose the best fit of available certification bodies would have been beneficial. West-MEC learned and collaborated with partners to scale back the breadth of content. This ensured that West-MEC could provide appropriate depth and ample hands-on application while maintaining specific skills to qualify for employment and certification.

6. Is this partnership sustainable? How do you anticipate it will change in the coming year(s)?

The major energy partners have made a long-term commitment to the programs monetarily and through curriculum support. They have a major presence on the campus, both with having full-time individuals housed out of the campus and running classes and trainings for their technical workers and staff. They understand the need to have a pipeline to fill technical positions.

The need for technically proficient workers is increasing. A good partnership evolves with the changing environment. While the curriculum may change, the need for technically proficient employees will only increase as the current workforce retires.

West-MEC continues to add additional partners who support the program and future workforce development. We anticipate the partnership to grow in the future as we continue to research new technologies with emerging industries in our community, state and globally.

7. How long did it take to create this partnership?

More than 2 years

8. How large of an investment did the businesses and other partner(s) involved make in this partnership (time and money)?

APS invested at least two years of time, and close to one million dollars in donated equipment. They also support a full-time personnel on the campus to support instruction, curriculum, and trainings.

Several Palo Verde staff gave significant time to the development of this partnership and program. Many hundreds of hours were used to develop an extension of a much smaller program already in existence which had no hands-on labs or equipment. The energy industry is evolving and projecting future employment needs along with modernizing facilities. This is ongoing work. To begin to develop a program to sustain the workforce of the energy industry for the next forty years is challenging. The industry demands hands-on training. The donation of time, people power, heavy equipment, curriculum development, facilities design, equipment installation, personal protective equipment should be valued between \$1.3 and \$3 million dollars to date.

9. Would you or an associate be willing to present a session at an ACTE event about this partnership?

Yes