

Opening Doors of Opportunity to Develop the Future Nuclear Workforce – 13325

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ABSTRACT

The United States' long-term demand for highly skilled nuclear industry workers is well-documented by the Nuclear Energy Institute. In addition, a study commissioned by the SRS Community Reuse Organization concludes that 10,000 new nuclear workers are needed in the two-state region of Georgia and South Carolina alone. Young adults interested in preparing for these nuclear careers must develop specialized skills and knowledge, including a clear understanding of the nuclear workforce culture. Successful students are able to enter well-paying career fields. However, the national focus on nuclear career opportunities and associated training and education programs has been minimal in recent decades. Developing the future nuclear workforce is a challenge, particularly in the midst of competition for similar workers from various industries. In response to regional nuclear workforce development needs, the SRS Community Reuse Organization established the Nuclear Workforce Initiative (NWI®) to promote and expand nuclear workforce development capabilities by facilitating integrated partnerships. NWI® achievements include a unique program concept called NWI® Academies developed to link students with nuclear career options through firsthand experiences. The academies are developed and conducted at Aiken Technical College and Augusta Technical College with support from workforce development organizations and nuclear employers. Programs successfully engage citizens in nuclear workforce development and can be adapted to other communities focused on building the future nuclear workforce.

INTRODUCTION

Maintaining highly educated and skilled personnel is crucial to ensuring the long-term viability of nuclear technology as a major resource for energy, defense, and health care. The need to develop and maintain this specialized workforce is recognized by the entire industry. Exceptional recruitment activity is occurring because of plans for nuclear industry growth and anticipated attrition of the industry's total workforce. Fifty percent of the United States' current nuclear utility workforce is eligible to retire in the next 10 years according to the Nuclear Energy

Institute. [1] The Blue Ribbon Commission on America's Nuclear Future highlighted the importance of the future nuclear workforce in its January 2012 report to the Secretary of Energy by including recommendations which called for "support for continued U.S. innovation in nuclear energy and for workforce development". [2]

Throughout the nation, nuclear education and training programs are emerging to address nuclear workforce needs. However, it has been thirty years since the U.S. has visibly focused on developing this highly skilled workforce. As a result, many citizens are unfamiliar with the variety of well-paying career opportunities offered by the industry that provides one-fifth of the United States' electric power. The nuclear industry is competing with many other industries for workers with strong math and science skills and continues to seek effective methods to engage talented citizens in training programs that lead to well-paying nuclear careers. [3]

Nuclear workforce needs are particularly evident in a region of South Carolina and Georgia known as the Central Savannah River Area. Four new nuclear power plants and the nation's only Mixed Oxide Fuel Fabrication Facility are under construction in the region. This regional nuclear renaissance involves Southern Company's Plant Vogtle, SCANA Corporation's V.C. Summer Nuclear Station and the Department of Energy's Savannah River Site. A study commissioned by the Savannah River Site Community Reuse Organization (SRSCRO) shows that nearly 10,000 new nuclear workers are needed in key positions over 10 years in the region alone. [4] The SRSCRO has established the Nuclear Workforce Initiative (NWI®) to collaboratively address regional workforce needs by involving nuclear employers, educators and economic developers.

The SRSCRO's NWI® is successfully achieving its mission to promote and expand nuclear workforce development capabilities by facilitating integrated partnerships. Among the NWI® achievements, a unique concept called NWI® Academies has been coordinated through collaboration with Aiken Technical College, Augusta Technical College, local workforce investment boards and regional and national energy workforce development organizations. The college programs introduce nuclear workforce opportunities to recent high school graduates through experiential learning. Successful NWI® Academy graduates often choose to enroll in post-secondary nuclear training programs they had never considered with a genuine understanding of the challenges and benefits of a nuclear career. The NWI® Academy concept has been piloted and implemented over two years and provides a proven approach for communities working to address long-term nuclear workforce needs.

PROGRAM FOUNDATION

The original concept for the NWI® Academies came from a committee meeting of the

SRSCRO's Nuclear Workforce Initiative involving regional nuclear employers and educators. Members recognized the success of concentrated training programs used to educate workers for specific jobs in the utility industry and considered adapting the concept as an introduction to nuclear technician programs. The idea was to introduce the variety, rigor and rewards of nuclear industry careers to potentially qualified individuals who might not otherwise know about nuclear industry opportunities.

Collaboration for the program was coordinated through the SRSCRO's Nuclear Workforce Initiative. Aiken Technical College and Augusta Technical College expressed interest in the concept as a bridge to their Radiation Protection Technology and Nuclear Engineering Technology programs respectively. The Georgia Energy and Industrial Construction Consortium (GEICC) and the national Center for Energy Workforce Development (CEWD) helped foster the concept as part of the Get Into Energy Career Pathways (GIECP) workforce initiative. Georgia and South Carolina workforce investment board programs also joined the effort and played a key role in the initial program recruitment and funding. Additionally, support for the program came from a GIECP sub-award from the Bill and Melinda Gates Foundation and a grant from The Community Foundation for the Central Savannah River Area.

During 2011, Aiken Technical College agreed to pilot the first NWI® Academy as a six-week summer program. The program goal was to introduce low-income young adults to local nuclear career pathways and training programs by providing the opportunity to earn energy industry recognized credentials, career coaching and counseling. Successes from the pilot program were incorporated into two more NWI® Academy programs. During 2012, Aiken Technical College and Augusta Technical College each held successful academies.

NUCLEAR CAREERS DE-MYSTIFIED

Students entered the NWI® Academy programs with sincere interest but often with only a vague concept of the local nuclear industry. During the six week programs students learned about the nuclear culture, the many nuclear job opportunities, ways to develop the skills needed for the industry, and they earned industry recognized credentials. Participants learned from experienced nuclear industry professionals and college instructors.

Programs at the two colleges differed somewhat. Those admitted into the Aiken Technical College program were formally enrolled as students of the college. The Augusta Technical College program was conducted through the Continuing Education Division. The content of each program included history of the nuclear industry, nuclear facility tours and a strong focus on the employability skills essential for the nuclear industry. Key aspects of each program included the opportunity for students to experience industry training and assessments such as

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Hazardous Waste Operations and Emergency Response (HAZWOPER) training and energy industry employability skills assessments.

A total of 27 young adults aged 17-21 years old have completed NWI® Academy programs. Students gained a comprehensive understanding of the nuclear industry and earned a combined total of 61 industry recognized portable credentials and 47 college credits.

REAL APPEAL

Program participants expressed enthusiasm and new appreciation for the nuclear industry. Over 60% of the attendees chose to move immediately into post-secondary education programs they had not previously considered. Mr. Tolbert, an Aiken Technical College 2012 student, described his academy experience as follows: “It’s been the best decision I’ve made since graduating high school. The program has helped me determine my career and where to take my future. I plan to begin my two-year degree this fall and hope to work for V.C. Summer or SRS.”

Ms. Nora Swanson, Southern Nuclear Workforce Development Coordinator and a member of GEICC and CEWD, summed up her view of the program: “This initiative gave students the unique opportunity to gain insight into a career in the nuclear industry, and we hope they move in that direction! But, more importantly what I saw during the program was the focus on choosing an individual career path wisely, and then providing the students with the skills to succeed in whatever career they choose.”

The Center for Energy Workforce Development highlighted NWI® Academies as one of the nation’s promising workforce development practices in their September 2012 national newsletter. [5] The program was noted because it can be modified for other regions and includes career awareness, student support, stackable credentials, and employer involvement.

CONCLUSION

To date, NWI® Academies have focused on introducing low-income young adults to nuclear career opportunities. The immediate result is that young adults have enrolled in post-secondary training programs they had never considered, and most chose to pursue nuclear industry-related areas of study. Students who did not enter nuclear fields of study still gained a new understanding of the nuclear industry as conveyed by those who proudly work in nuclear careers.

This model offers a proven approach that can be used by other communities to address local nuclear workforce needs. Successful implementation requires the initiative of colleges and the

collaboration of community employers and workforce development partners.

Future plans include expanding the program concept to a broader population. Younger students could benefit from the program as they begin to determine high school courses and formulate their career paths. Adults seeking new career directions would also benefit from the program as a way to survey nuclear careers and understand common nuclear industry expectations. Ultimately, the nuclear organizations benefit from this type of program because citizens gain a proper understanding of the nuclear industry and can wisely choose nuclear career options.

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