



## THE TEXAS A&M UNIVERSITY SYSTEM

February 26, 2019

The Honorable Bobby Rush  
Chairman, Subcommittee on Energy  
Energy and Commerce Committee  
2125 Rayburn House Office Building  
Washington, DC 20515

The Honorable Fred Upton  
Ranking Member, Subcommittee on Energy  
Energy and Commerce Committee  
2322 Rayburn House Office Building  
Washington, DC 20515

Dear Chairman Rush and Ranking Member Upton:

I appreciate the opportunity to share our outreach experiences, efforts and successes. I am Valerie Segovia, Director for Outreach and Development of the Nuclear Power Institute (NPI). NPI is a joint center of the Texas A&M Engineering Experiment Station (TEES) and Texas A&M University in College Station.

Let me begin by thanking the Members for your longstanding leadership on key issues related to the nation's capabilities in energy. Today, 98 reactors operating in 30 states in the United States are among our nation's safest and most secure industrial facilities. These nuclear power plants produce nearly one-fifth of America's electricity. Nuclear energy represents more than 72 percent of the country's carbon-free electrical generation. As part of this emphasis, NPI is developing the human resources and preparing the workforce for the nuclear industry primarily in Texas, as well as some extending nationally and globally in some cases. NPI meets these vital workforce needs through a broad partnership with many entities including: private sector industry; two-year community and technical colleges; four-year universities; high schools; middle schools; teachers in science, technology, engineering, and math (STEM); state government; federal and international agencies; and elected and civic leaders. Since its creation in 2007, NPI has become internationally recognized as a leader in developing and maintaining the human resource infrastructure necessary for the nuclear industry.

NPI's programs begin with outreach to public school students and teachers to encourage interest in STEM fields, including careers in the nuclear industry. To prepare students for these careers, NPI supports colleges and universities in developing and implementing new programs that take into consideration the needs of the nuclear industry. Both engineering students and professionals can gain a better understanding of nuclear power plant technologies through NPI's online certificate program. NPI also provides career guidance and help with job placement for students seeking careers in the nuclear industry.

NPI is recognized by leaders in the U.S. and internationally for including a wide range of stakeholders and decision makers in developing and implementing its programs to ensure that they meet both industry and public needs.

To inform students at the secondary school level about nuclear energy, two-year technical and four-year bachelor degrees, nationally recognized curriculum utilized at the college level, and the numerous options for careers and studies surrounding nuclear applications, NPI has created a strong outreach program. Early introduction to STEM courses is key to future educational and career success in these areas. NPI's public school programs encourage STEM studies, support mentoring, and facilitate visits to colleges, universities, and industry sites. The goal is to provide information and guidance to students as they learn about nuclear industry career options.

Through outreach to local Texas schools, NPI also gives educators the knowledge and tools they need to promote the study of science and technology in the classroom. Realizing the current issues and sensitivities to climate change, the passion of young people, the cultural and ethnic diversities of our partner-communities, and the fact that nuclear energy is the most abundant of all clean energies, NPI has positioned itself a leader in providing opportunities and accurate information for over a decade.

In terms of specific programs, Powerful Opportunities for Women Eager and Ready for Science, Engineering, and Technology (POWER SET) gives young women the educational tools and support to pursue careers in science, technology, engineering, and math. Through POWER SET, high school female students visit NPI industry partners, colleges and universities, medical sites, and other places of interest to students in Texas looking to pursue STEM careers. They also attend presentations by industry and academic speakers and mentor younger female students. Workforce Industry Training (WIT) was modeled after the POWER SET program, WIT is

designed for both male and female high school students who are primarily interested in two-year technical degrees or certificates. Through WIT, students are exposed to nuclear industry career opportunities and gain the confidence to consider further technical education. They also visit local industry partners, universities, and community colleges and are mentored by industry professionals.

To encourage primary students to stay academically motivated and take advantage of science and mathematics offerings at the secondary level, two mentoring programs (Power GRID and BRT) have also been organized. The POWER SET and WIT students meet regularly with the younger students, serve as role models and mentors, and encourage them in their STEM studies all the while demonstrating that it is possible to be academically motivated and socially respected and active. Power GRID is a student mentoring program that engages POWER SET members with girls in primary and middle schools, sparking interest in STEM studies at an early age. A range of academic and non-academic activities helps create a collaborative and nurturing relationship with secondary student mentors. In addition to encouraging STEM studies, this type of interaction has been shown to cultivate leadership skills and improve self-esteem in pre-teen girls. BRT is a student mentoring program that pairs WIT participants with younger male students to encourage them to focus on a strong STEM educational path. WIT student mentors motivate pre-teen boys to cultivate leadership skills, boost character development, and encourage STEM study. Altogether in these four programs, during the 2018-2019 academic year alone, 1,775 students participated in 18 school districts in Texas.

POWER SET and WIT members want to do more to share their excitement and enthusiasm for STEM; therefore we created Science on Saturday (SOS). As these secondary students become “nuclear” enthusiastic and empowered in their STEM interests, abilities, and influence, they now lead SOS. SOS are events that connect with the broader community to demonstrate the excitement, appeal, and every day application of science. During SOS, the emphasis is on STEM and is designed to stimulate students’ interest and heighten awareness of science, implications, and appreciation outside the classroom setting. Participants are family members of all levels, community leaders, local industry/business partners, and higher education staff in Texas. The most recent event took place in January 2019 at El Campo High School with 600 participants.

Mr. Chairman, since 2009, these programs have effectively demonstrated their impact, primarily for audiences in Texas. National averages indicate that students graduating from secondary schools and going on to further education, approximately 15% will study in STEM fields. For NPI secondary participants, the percentage is self-reported over 80%. The average ethnicity participation of our participating students are: White- 52%, Hispanic/Latina-32%, Black-7%, Asian-8%, Other-1%. This is seen as a dramatic demonstration of the value of these programs as our young people are envisioning themselves as interested in and capable of careers they would have otherwise never considered. Diversity is thriving and an appreciation and understanding that nuclear energy is clean energy is growing. Our activities in fact extend to other areas as well, but I appreciate the opportunity to describe these particular efforts. In conclusion, thank you for your continued leadership on these issues that contribute to the well-being of our country.

Thank you again for the opportunity to submit this testimony. If you have any questions, please don't hesitate to contact me.

Sincerely,

/S/ [Valerie Segovia]

Valerie Segovia  
Director for Outreach and Development  
Nuclear Power Institute (NPI)