2025 Nuclear Engineering Student Delegation

Washington, D.C. September 21st - 26th

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The Delegation supports revitalizing nuclear workforce development, education, and training through:

- Prioritizing and expanding education pathways that support the nuclear energy industry pursuant to Executive Order 14302 (*Reinvigorating the Nuclear Industrial Base*) and emphasized in H.R.8129, A*merican Nuclear Workforce Act*, and H.R.6888, *Clean Energy Workforce Act*.
- Ensuring timely and consistent funding for the Office of Nuclear Energy's University Program, university research reactors, and National Science Foundation programs to develop the next generation of nuclear leaders.
- Increasing training and apprenticeship pipelines for nuclear-qualified trades by expanding funding pathways modeled on S.2664, *Skilled Workforce Act*, and H.R.5296, *BUILDS Act*.
- Urging prompt review of proposals and disbursement of funds for Nuclear Safety Training and Workforce Development Program to strengthen talent development.

The Delegation supports strengthening the financial infrastructure for nuclear energy through:

- Passing public-private risk sharing mechanisms such as S.5421, *Accelerating Reliable Capacity Act,* to reduce cost overrun risk for new nuclear deployment.
- Reallocating the remaining ~$1B in unobligated Civil Nuclear Credit Program funds to establish a DOE grant program that would fund site preparation and licensing activities to restart closed nuclear power plants and resume construction on unfinished plants.
- Allowing the Tennessee Valley Authority to finance nuclear construction projects by passing a conditional increase in the agency's bond limit, should the agency choose to move forward with a nuclear project, by an amount commensurate with the cost of the project.

The Delegation supports regulatory reform to expedite commercial reactor deployment through:

- Passing S.1757, *the Efficient Nuclear Licensing Hearings Act* to modernize NRC hearing requests.
- Removing the requirement of Yucca Mountain as the only high-level waste disposal facility, and authorizing the EPA to develop a generic standard for high-level nuclear waste disposal facilities.
- Calling for the establishment of robust domestic reprocessing capabilities proposed by S.2082/H.R.3978, *Nuclear REFUEL Act*.
- Reestablishment of a domestic medical isotope production to reduce reliance on foreign production facilities and develop a continuous supply of crucial medical imaging isotopes.

The Delegation supports international nuclear export coordination through:

- Expanding the ability of the Export-Import Bank, the Development Finance Corporation, and related institutions to help U.S. companies compete more effectively against strategic adversaries in the global reactor export market.
- Enabling U.S. nuclear exports by fully funding the NNSA Office of Defense Nuclear Nonproliferation's $2.285B request through the NDAA and the Energy and Water Development Appropriations Act.
- Establishing frameworks for mutual recognition of regulatory decisions between partner nations as outlined in S.1801/H.R. 3626, *International Nuclear Energy Act*.
- Reasserting U.S. nuclear leadership abroad per the workforce development strategies in the United States Nuclear Fuel Working Group's *Restoring America's Competitive Nuclear Energy Advantage*.

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About the NESD

In 1994, the first Nuclear Engineering Student Delegation (NESD) convened in Washington, D.C. to reinstate funding for research reactors. Today, the Delegation continues to express the views of students on nuclear science, policy, and education issues. Each year, the Delegation comprises a diverse group of students from the nation's most prestigious nuclear engineering programs, representing various disciplines within the nuclear sciences.

For further information on the 2025 NESD or the policy recommendations in this document, please contact Natalie Cannon at ncannon3@gatech.edu or visit the NESD website at http://www.nesd.org.

Revitalizing the American Nuclear Workforce

The Delegation recommends prioritizing education pathways that support the nuclear energy industry, pursuant to Executive Order 14302 (*Reinvigorating the Nuclear Industrial Base*). As outlined in the U.S. Department of Energy (DOE) report *Pathways to Commercial Liftoff: Advanced Nuclear*, the full-scale industrialization of advanced nuclear power will require an expansion of the current workforce by roughly 375,000 technical and non-technical careers. To meet this demand, the Delegation advocates for comprehensive expansion and linking of all programmatic offerings from K-12 through postsecondary pathways. Similarly to the integrated workforce enterprise laid out in the Tennessee Nuclear Energy Workforce Center proposal, this initiative will include credential programs, community colleges, vocational schools, and higher education. The Delegation encourages engaging with all levels of education in the spirit of H.R.8129, A*merican Nuclear Workforce Act*, and Section 2 of H.R.6888, *Clean Energy Workforce Act*.

The Delegation supports expanded funding for academic programs and research infrastructure that bolster nuclear workforce development, namely S.2664, *Skilled Workforce Act*, and H.R.5296, *BUILDS Act*. These incentivize employer investment in advanced training through partnerships with schools, community colleges, and technical programs, and channel competitive grants to sector partnerships, respectively. In tandem with H.R.1783, *American Apprenticeship Act*, these pathways would develop pipelines of welders, pipefitters, radiation protection technicians, and other craftspeople qualified under nuclear codes, with competitive wages to attract and retain talent. The Delegation urges the timely release of appropriated National Science Foundation funds and emphasizes that consistent funding for university research reactors and the Nuclear Energy University Program is essential to sustain nuclear engineering programs. In particular, the Delegation urges the prompt review of proposals and the disbursement of funds under the Nuclear Safety Training and Workforce Development Program, which have the potential to meaningfully enhance programs and curricula nationwide.

Strengthening Financial Infrastructure

With U.S. electricity demand on the rise for the first time in decades, there has been an influx of support for keeping existing nuclear power plants open and restarting shuttered plants. The Civil Nuclear Credit (CNC) Program was created in 2021 to prevent premature plant closures, but given the improved market conditions for existing plants, $3.72B of unused CNC funds were reallocated to support other DOE nuclear energy priorities. The Delegation supports reallocating the remaining ~$1B in the program to support licensing and site preparation activities for restarts of deactivated plants and resuming construction on unfinished plants.

Construction of new nuclear power plants is a capital-intensive undertaking. To reduce financial risk and encourage investor confidence, the Congress should support innovative public cost-sharing structures such as S.5421, *Accelerating Reliable Capacity (ARC) Act*. The Delegation also looks forward to the timely introduction of the Accelerating Commercialization Through Incentivizing On-Time Nuclear (ACTION) proposal. Such policies would increase financial certainty for commercial reactor construction, lowering the entry barrier for new nuclear builds. Additionally, given the federal Tennessee Valley Authority's (TVA) express interest in new nuclear capacity, the Delegation recommends that Congress approve a conditional increase in the agency's bond limit should the agency choose to move forward with a nuclear construction project. The TVA is nearing its $30B bond limit, which has not been raised since 1979, and the Delegation supports increasing this limit by the amount necessary to fund such a project.

Reforming Domestic Regulations and Expediting Deployment

National regulations must be updated to meet America's modern energy needs. At the moment, mandatory hearings require between 2,000 -10,000 hours and millions of dollars in preparation, often without receiving public contestation. To mitigate this, the Delegation endorses S.1757, *Efficient Nuclear Licensing Hearings Act*, to replace blanket mandatory hearings with only requested contested hearings.

Additionally, the Delegation advocates for removing Yucca Mountain as the only high-level nuclear waste disposal facility, as required by Public Law 97-425, the *Nuclear Waste Policy Act* of 1982. Authorizing the EPA to develop a generic standard for high-level nuclear waste disposal facilities is an important first step towards this goal. The Delegation also endorses S.2082, *Nuclear REFUEL Act*, which would amend the definition of "production facilities" in the Atomic Energy Act of 1954 (42 U.S.C. 2014(v)) and streamline the pathway to licensing reprocessing plants. This capability unlocks the vast energy potential remaining in spent fuel and bolsters domestic fuel supply chain capacity.

The Delegation calls for investment in medical isotope production to reduce reliance on foreign entities. The National Nuclear Security Agency and Department of Health and Human Services' Centers for Medicare & Medicaid Services have made significant progress in reshoring the production of isotopes critical for heart disease and cancer treatment pursuant to Public Law 112-239, *American Medical Isotopes Production Act* of 2012. However, despite ending the export of highly enriched uranium (HEU) for isotope production, NorthStar Medical Radioisotopes' halt of isotope production in 2023 has left the US without any domestic production. The lack of a US-based supply chain results in vulnerability to foreign affairs, which was made apparent in the 2024 Molybdenum-99 shortage. Given this lack of capability, the Delegation calls to expand the fleet of isotope-producing reactors.

Coordinating International Nuclear Exports

The Delegation also supports legislation aimed at expanding U.S. nuclear technology exports, including efforts to bolster the ability of the Export-Import Bank (EXIM) and Development Finance Corporation (DFC) to help U.S. companies compete against strategic adversaries in the global reactor export market. Meanwhile, fully authorizing the $2.285 billion requested for the National Nuclear Security Administration Office of Defense Nuclear Nonproliferation in the National Defense Authorization Act is essential. Fully appropriating those funds through the Energy and Water Development Appropriations Act will ensure that national laboratories, universities, and industry can develop the safeguards technologies needed to securely export advanced reactors. The Delegation commends bilateral efforts, namely the recent agreement between the US and UK, highlighting the value of allied nuclear coordination. U.S. nuclear innovation and exports will be further accelerated with clear interagency procedures and by establishing a Nuclear Exports Working Group under Section 3 of H.R. 3626, *International Nuclear Energy Act* of 2025.

As outlined in the DOE report *Restoring America's Competitive Nuclear Energy Advantage*, the development of a civilian workforce is not only crucial to growing the domestic nuclear fleet but to international cooperation as well. Highly skilled technicians, engineers, and scientists are developed from U.S. trade schools, universities, and National Labs. Per the international framework of '123 Agreements' with cooperating nations, this American skillbase is utilized abroad for increasing U.S market competitiveness. The Delegation supports the results of the United States Nuclear Fuel Working Group's *Strategy to Restore American Nuclear Energy Leadership*, which includes establishing a U.S. Nuclear Industrial Base to revitalize the supply chain through public and private investment.