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Virginia Clean Energy Innovation Bank Awards \$160K Grant to VCU for Nuclear Reactor Simulator Upgrades

*Strategic Investment to Strengthen Virginia's Position as
Leader in Advanced Nuclear and Fusion Energy Innovation*

RICHMOND, VA – The Virginia Clean Energy Innovation Bank (VCEIB), housed within the Virginia Department of Energy, has approved a \$160,000 grant to Virginia Commonwealth University's (VCU) Department of Mechanical and Nuclear Engineering to upgrade its Nuclear Reactor Simulator Laboratory (NRSL). The upgrade will expand the existing generic pressurized water reactor simulator and greatly increase VCU's workforce development, public engagement, and research and development activities.

"Virginia has positioned itself as a national leader in advanced nuclear and fusion energy innovation," **said Director of the Department of Energy Glenn Davis**. "This targeted investment in education and workforce development ensures that our universities and workforce can fully realize the opportunities that this emerging industry represents for the Commonwealth."

The grant will fund critical software and hardware upgrades to the state-of-the-art reactor simulator to add nuclear and fusion reactor types. The simulator upgrades will expand VCU NRSL's educational and training activities for university and community colleges through new interactive operator workstations and large overhead displays. The funding includes laboratory modifications and interactive displays designed to accommodate expanded public engagement and K-12 outreach activities.

"This investment represents Virginia's commitment to maintaining its competitive advantage in the rapidly evolving nuclear and fusion energy sectors," **said Julianne Szyper, Deputy Director of the Virginia Department of Energy**. "With the proposed upgrades, the facility will gain capabilities that do not currently exist in Virginia and will

provide a great complement to our expanding nuclear ecosystem that is positioning itself to meet energy demand and beyond.”

VCU has received multiple requests from regional nuclear companies for specialized workforce training courses tailored to their respective reactor systems. The VCU NRSL simulator is a full-scope reactor simulator designed to accurately mimic the behavior, operation, and control of large commercial pressurized water reactors like those operated by Dominion Energy at Virginia's North Anna and Surry Nuclear Power Stations.

The enhanced simulator will enable VCU to rapidly switch between different reactor systems, creating opportunities for specialized research and training for several advanced reactor developers. The facility will also support the development of simulators for eventual development of fusion energy systems, positioning VCU to serve as a regional hub for next-generation energy research.

“This grant is a significant investment in the long-term future of VCU’s nuclear and fusion energy programs that span education and workforce development, outreach, and research and development activities,” **said Dr. Gennady Miloshevsky, Associate Professor and Nuclear Engineering Program Director, Virginia Commonwealth University.** “These upgrades will address key needs to expand the Commonwealth of Virginia’s nuclear and fusion energy footprint within the United States and international community.”

“We are looking forward to implementing these VCU NRSL upgrades with an immediate impact in our spring Nuclear Power Plants course and spring K–12 outreach events,” **said Dr. Lane Carasik, Assistant Professor of Nuclear Engineering at VCU.** “My research group will leverage my U.S. Department of Energy early career research award on molten salt fusion system to support the creation of generic fusion systems simulator in collaboration with GSE Systems.”

Virginia Clean Energy Innovation Bank

Through support for innovative initiatives like these, VCEIB accelerates the deployment of clean power generation and energy infrastructure across the Commonwealth with loans and other financing options. By mobilizing public and private capital to address critical financing gaps in these sectors, VCEIB supports the goals outlined in Virginia’s All-American, All-of-the-Above Energy Plan. Information about additional funding opportunities through the VCEIB is [available online](#).



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