Upgrade to the 1 MW TRIGA Research Reactor Pool Liner at WSU

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Collaborators: N/A

Program:
University Research Reactor
Upgrades Infrastructure
Support

ABSTRACT:

The Washington State University (WSU) Nuclear Science Center (NSC) provides a collaborative environment where faculty, staff, students, researchers, and external clients can succeed in their basic and applied nuclear science research goals. The NSC is also responsible for the safe operation of the WSU 1.0 MW TRIGA research reactor and collaborates in fundamental and applied nuclear research, isotope production, and materials characterization.

The goal of this project is *to enhance the safety, performance, and continued operational reliability of the WSU NSC 1.0 MW TRIGA conversion research reactor*. To accomplish this goal, this project's objectives are to: 1) Restore the reactor tank concrete, which is in much need of repair, and 2) Replace the epoxy concrete tank liner with a modern, robust epoxy liner that has already been successfully utilized and in service at other reactor facilities. The concrete pool structure serves as primary coolant containment and shielding for the nuclear reactor (completed ca. 1957). Throughout the years, the highly deionized water has been extremely corrosive to the epoxy liner. The concrete pool structure was repaired and relined in 1999, the only time since its construction 60 years ago. The outcomes and potential impacts of this project will benefit WSU faculty, students, researchers, external clients with projects funded by the DOE, U.S. National laboratories, government agencies, and others. This project will ensure the continued safe and efficient operational life of the reactor facility, enhancing the WSU NSC capabilities to contribute to the DOE mission through various funded projects over many disciplines. Furthermore, the successful completion of this project will support and further stimulate WSU's learning mission, its nuclear science programs, workforce development, and research collaborations.