

Radiation Tolerant Inspection Camera at the University of Wisconsin Nuclear Reactor (UWNR)

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Collaborators: N/A

University of Wisconsin Nuclear Reactor

Program: University Research Reactor
Upgrades Infrastructure Support

ABSTRACT:

Project Objective

The specific objective of this proposal is to enhance safety and ensure regulatory compliance at the University of Wisconsin Nuclear Reactor (UWNR) and associated Characterization Laboratory for Irradiated Materials (CLIM) through the acquisition of a radiation tolerant underwater camera with pan, tilt, zoom (PTZ) capabilities.

Project Description

This proposal seeks to fill an institutional infrastructure gap with a radiation tolerant camera with PTZ capabilities. The proposed infrastructure is essential for maintaining regulatory compliance with technical specifications, section 4.1.5 of the UWNR license requirement to inspect all fuel elements. The proposed infrastructure also enhances safety at the UWNR through the implementation of the comprehensive pool liner weld inspection program. The inspection program annually inspects all corner welds and inspects 25% of all butt joint welds per year to cover the entire pool every four years. The inspection program demonstrates responsible stewardship of the facility to the surrounding community through early detection and immediate remediation of possible weld cracks.

Potential Impact of the Project

The proposed upgrade will support the continued operation of the UWNR-CLIM by ensuring regulatory compliance and demonstrating responsible stewardship of the facility to the surrounding community. The value of continued operations of the UWNR-CLIM directly support the education and research capabilities at the UWNR-CLIM that is relevant to the DOE-NE's mission in the following ways:

- Attract and teach high quality students interested in nuclear energy-related studies
- Develop a competent work force for the nuclear industry
- Support research relevant to the DOE-NE mission through the DOE-NE funded programs at the University of Wisconsin
- Increased utilization of the UWNR
- Support technology transfer from government funded research to the market through current collaboration with private industrial partners