University of Wisconsin Nuclear Reactor University Research Reactor Upgrades Infrastructure Support

PI: Robert J. Agasie, University of Wisconsin **Collaborators**: N/A

Program: Reactor Upgrades

ABSTRACT: Project Objective The specific objective of this proposal is to replace health physics (HP) radiation monitoring equipment to support the operation and research being conducted at the University of Wisconsin Nuclear Reactor (UWNR) and associated Characterization Laboratory for Irradiated Materials (CLIM).

Project Description The UWNR-CLIM maintains various radiation detecting equipment for personnel monitoring, regulatory compliance, research and education. Currently, the facility utilizes and maintains Bicron brand HP instruments including the FriskTech model count rate meter as portal monitors, the Surveyor 2000 model GM detectors for contamination surveys and RSO-50E model ion chambers for high exposure rate measurements. All of the equipment was acquired in 1999 and have been in continuous service for the past 17 years. Bicron equipment is no longer supported by the manufacturer, and while facility staff is capable of repairing discrete components in the instruments, aged induced problems require repairs that are beyond the expertise of the staff. The specific objective of this proposal is to acquire Ludlum model 177 rate meters, model 3 survey meters model 9DP-1 ion chamber as replacements for the existing Bircon equipment.

Potential Impact of the Project The proposed effort of acquiring replacement HP radiation detectors are necessary to maintain the infrastructure and enhance the capabilities at the UWNR-CLIM. These capabilities are relevant to the objectives of the Department of Energy's (DOE) Office of Nuclear Energy (NE) in the following ways • The equipment is necessary to maintain the UWNR-CLIM as a cutting edge facility which is a strong incentive when attracting high quality students interested in nuclear energy related studies • The radiation detecting equipment is integral to the undergraduate curriculum within the UW's NE program enabling the education and training of a strong work force in nuclear science and engineering • The proposed enhancements to the UWNR-CLIM infrastructure supports research and development (R&D) that is relevant to the DOE-NE mission through DOE-NE funded research programs at the UW