The Rhode Island Nuclear Science Center

PI: Cameron Goodwin,
Rhode Island Nuclear Science Center

Collaborators: N/A

Program: Reactor Upgrades

ABSTRACT:

The Rhode Island Nuclear Science Center (RINSC) has been in operation since 1964. The facility has a long history of serving all of the education institutions in and around the state of Rhode Island. The facility's commitment to nuclear science and engineering education extends across a broad level of education, from general public outreach, to graduate level engineering and physics education. As the reactor approaches fifty years of operation, the RINSC staff has been working diligently to replace and improve the reactor instrumentation. The proposed Reactor Upgrade Project is an effort to continue updating the reactor instrumentation by replacing the reactor health physics instrumentation. Furthermore, as part of facility re-licensing, the NRC has raised questions about the current lack of comprehensive area and airborne radiation monitoring.

The current monitoring system is original to the facility. As part of this proposal, new air monitoring systems would be installed at the experimental level, the pool top level, and at the confinement room exhaust to provide an immediate alert to experimenters in the event of an airborne radioactive material release at the experimental level, and an alert at the pool top in the event of a fuel failure. In addition, a new stack monitor system will provide a record of any releases.

At present, there is only one area radiation monitor at the reactor floor level where all of the experimental facilities are located. This proposal requests that an area monitor be provided for each of the beam port / through port beams, as well as the thermal column and the dry irradiation room.