
Maximizing Long-Term Availability of The Ohio State University Research Reactor for Supporting Research and Education via Replacement Equipment for Crucial Cooling System Components

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Collaborators: n/a

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ABSTRACT:

The Ohio State University Research Reactor, a NSUF partner, uses many old, custom components as part of its cooling system, which is essential and for which there are no spares. Failure of any of the requested components would likely result in extended downtime, so we are requesting funding for updates and replacement/spare custom facility components.

The system is 30 years old, and replacement parts are becoming more difficult to find or are custom and could take many months to fabricate and install. Consistent with the FOA, we are requesting funding to obtain facility components to “enhance the institutions’ availability to perform R&D that is relevant to DOE-NE’s mission.” Specifically, the objective of our request ensures that the laboratory can continue to support and to expand its avenues of research, including those funded by DOE-NE, by obtaining replacements/spares to preclude significant downtime from failures. These include:

1. Signal conditioning system
2. Cooling system display board indications
3. Cooling system-to-RPS interface
4. Cooling system sensors
5. Primary-system pump motor
6. Secondary-system pump motor and bypass control valve
7. Dry cooler custom ice guards creation and installation; I&C modernization

Because a failure of any one of the requested components could result in a long reactor outage, acquisition of the components requested in this proposal are essential for decreasing the probability of a single-point failure causing extended downtime. This request is part of a synergistic long-term effort that builds upon DOE’s previous investments in the facility.