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Activities in Support of Conversion of the NBSR to LEU Fuel

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ABSTRACT

The NIST Center for Neutron Research (NCNR) submitted its Preliminary Safety Analysis Report (PSAR) for the conversion of the NCNR test reactor, the NBSR, to the U.S. Nuclear Regulatory Commission (NRC) on December 30, 2014. The PSAR contains details of the neutronics analysis, the thermal hydraulic design and a complete safety analysis of accident scenarios (due to a reactivity insertion, loss of flow or loss of coolant) using U-10Mo monolithic fuel. Review of this PSAR is ongoing. In addition, design and construction of a liquid deuterium cold source to mitigate experiment flux losses due to conversion is progressing. This cold source is expected to be installed in 2022.