



October 1, 2021

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: NBSR report on February 3, 2021 fuel failure event, root causes, corrective actions, and restart readiness

Ref: Docket 50-184, TR-5 Facility License

Sirs/Madams:

On February 3, 2021, the NBSR experienced a fuel failure event. Details of this event were outlined in letters to NRC on February 16 and March 4, 2021 (Event Report 55094). Video surveillance and analysis led to a conclusion that the safety limit was exceeded for a single fuel element and this was outlined in a letter to NRC on March 5, 2021. An investigation into the root causes of the event was made and revealed inadequacies in training, procedures, procedural compliance, and management oversight as outlined in a letter to NRC on May 13, 2021.

The NCNR has instituted two independent investigations into the event, 1) an internal Technical Working Group (TWG), charged with determining the root causes and contributing factors of the event, and 2) an Event Response and Corrective Action Subcommittee (ERCAS) of the reactor oversight committee, the Safety Evaluation Committee (SEC), charged with reviewing the event response and reviewing causes, contributing factors, and proposed corrective actions.

As a response to these reports, we have prepared a list of corrective actions to address the inadequacies in management, training, procedures, and equipment that are root causes and contributing factors that led to the event. We have identified those corrective actions that we believe are necessary to have been completed to assure restart readiness, including an analysis of improvements to element latch checks to assure that elements are fully latched. We have also included a list of activities planned for recovery and their status. It should be noted that detailed video inspection of core internals has revealed no damage to any reactor structure with the exception of the single fuel element.

The enclosures to this letter collectively provide the investigation findings and NBSR restart readiness as follows:

- Enclosure 1 NCNR TWG report, "Root Cause Investigation of February 2021 Fuel Failure"
- Enclosure 2 NCNR TWG report, "Addendum to Root Cause Investigation of February 2021 Fuel Failure"
- Enclosure 3 "SEC Subcommittee Report: Review of the NCNR Event Response and Technical Working Group Root Cause Analysis and Corrective Action Plan"

- Enclosure 4 “Root Cause Response”
- Enclosure 5 “Latch Improvement Safety Analysis”
- Enclosure 6 “Memorandum on Recovery Items”
- Enclosure 7 Corrective Action Plan for items required prior to startup
- Enclosure 8 Corrective Action Plan for items require post-startup

NCNR management proposes that the completion of the corrective action items identified as necessary to be completed prior to restart are sufficient to ensure safe operation of the NBSR. We therefore hereby request NRC concurrence to restart the NBSR upon completion of the items identified as necessary to be completed prior to startup in Enclosure 7.

Respectfully,

A handwritten signature in black ink, appearing to read "Robert Dimeo". The signature is fluid and cursive, with a large initial "R" and "D".

Robert Dimeo
Director

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 1, 2021

Enclosures as listed