



July 26, 2023

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

Subject: Nuclear Safety Culture Assessment and Response

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

Dear Sir or Madame:

In accordance with NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, CENTER FOR NEUTRON RESEARCH – CONFIRMATORY ORDER (CO), EA 21-148, August 1, 2022, Section V.2.a, “Nuclear Safety Culture Assessments,” I hereby submit the Independent Nuclear Safety Culture Assessment Report Rev 1, Dated June 2, 2023.

By this action, the specific CO action being fulfilled reads as follows:

- iii. Within 6 months of contract award to the consultant, NCNR will submit a copy of the safety assessment report and NCNR’s written response to the assessment report to the NRC. NCNR’s written response will either address how it will implement the recommendations and corrective actions of the assessment report, including a proposed timeline; or provide an explanation and justification for why the recommendation(s) and corrective action(s) will not be implemented.

The contract award date upon which this action is based is January 26, 2023. We have entered the Report’s recommendations into the NCNR Corrective Action Plan to facilitate tracking progress and completion. It is NCNR’s intent to implement recommendations outlined in the report over three general timeframes: Immediate Action, Scheduled Implementation, and Long-Term Actions. This multi-phase approach constitutes a notional timeline by which we will address the report’s recommendations. At present, we are breaking down the elements of Report into a work structure to facilitate tracking findings and recommendations. As part of the WBS, we continue to develop a detailed implementation schedule.

**Immediate Action:**

- NSC Recommendation #1: Designate Operations and the I & C portion of the Aging Reactor Management section as priority groups and develop communications and team building strategies to better clarify and address the quality of the safety culture environment and implement corrective actions.
  - As this recommendation is of critical importance, NCNR leadership took immediate and decisive action to initiate appropriate corrective action that included consulting NIST Human Resources and the NIST Ombuds.

- NCNR Leadership has an expected code of conduct and will continue to reinforce expectations as well as provide guidance and training as needed to sustain working relationships across the Center as part of our commitment to a sustaining a positive nuclear safety culture.

### **Scheduled Implementation:**

- **NSC Recommendation #2:** Develop and deliver a competence-based understanding of Nuclear Safety Culture NSC Training for Leadership.
  - Implementation of visions, values, principles, and objectives of sustaining a high-reliability Nuclear Safety Culture program is a continuous effort being undertaken at NCNR. NCNR leadership is formulating an action plan to address this item and we project this item to be addressed by the second quarter of 2024.
  - We have initiated the acquisition of an Independent Nuclear Safety Consultant IDIQ task order for Nuclear Safety Culture Training for NCNR Leadership.
  - The Safety Culture Monitoring Panel charter was submitted to the NRC on June 1, 2023. Nuclear Safety Culture traits, listed in INPO 12-012, are discussed in Plan of the Day meetings.
- **NSC Recommendation #5:** Corrective Action Program: Complete the PI&R Assessment as soon as practicable. Continue with plans to implement a right-sized PI&R process.
  - The CAP was implemented in the Spring of 2023 and continues to be optimized. The PI&R assessment is in progress. PI&R assessment completion scheduled by the end of August 2023. Right-sizing the PI&R process is a priority and will be ongoing for some time.
- **NSC Recommendation #8:** Training and Procedures Programs: Complete the Training and Procedures Assessments as soon as practical. Scheduled for completion.
  - The training Program assessment is in progress with completion scheduled for the end of August 2023.
  - The Procedures Program assessment is in progress with completion scheduled for the end of September 2023.
- **NSC Recommendation #10:** Complete the planned development and implementation of an Employee Concerns Program.
  - NCNR leadership developed an Employee Concerns Program that was submitted to the Nuclear Regulatory Commission on March 1, 2023, for review in accordance with Sections V.2.d.i and V.2.d.ii of the NIST Confirmatory Order.

### **Long-Term Actions:**

The remaining recommendations offered through the Report are slated for long-term resolution. In some cases, NCNR leadership has already initiated action towards resolving the issue. In such cases the associated action is described. (For clarity, those issues for which corrective action has not yet been initiated (of which there are three) are indicated by the label “Pending Action.”)

- **NSC Recommendation # 3:** Mitigate the staffing and resource shortage in the Operations Department.
  - NCNR Leadership is committed to continue hiring, training, and licensing personal with the intention of staffing 3 licensed operators for each of five shifts, when possible. The fifth shift will provide a week to focus on training for each shift rotation.
- **NSC Recommendation #4:** Develop, with Human Resources:
  - An effective and timely policy to attract and retain Operations staff.
  - Build Operator ranks with full support to stand up a fifth shift.
  - Mitigate the resource shortage in the Ageing Reactor Management Group
  - NCNR leadership is in discussions with NIST Human Resources executive leadership to identify a way to enhance compensation for NCNR reactor operators within federal employment rules to enhance recruitment and retention.
  - As mentioned in #3 above, hiring of personnel sufficient to staff a fifth shift is underway. Once fully staffed, it will be about an additional year before this staff is trained and licensed.
- **NSC Recommendation #6:** Conduct behavioral assessments of the Operations Crew Chiefs to assess attitudes, alignment, leadership capabilities, and provide targeted development feedback. (Pending Action)
  - Consider extending these assessments to other key leaders as priorities allow.

- NSC Recommendation #7: Develop a behavior-based mentoring/coaching program focused on safety culture attributes, leadership, and process improvements.
  - Provide the top leadership team with a team coach at the Director/Chiefs level to promote organizational alignment and teamwork.
  - Identify key leaders in ROE and establish individual mentors to develop manager behaviors and their interface to the organizational recovery processes.
  - Conduct behavioral assessments of current organizational leadership starting at Crew Chiefs level and going to top level management (Director/Chiefs).
- The NCNR leadership team will develop a list of the key traits that will be developed throughout the leadership team and against which the team will be evaluated.
- NSC Recommendation #9: Establish and maintain housekeeping/combustibles and gas cylinder loading that reflect OSHA standards.
  - By the end of 2023, NCNR will implement an inspection by qualified experts to provide recommendations for meeting OSHA standards for combustibles and gas cylinders. These recommendations will then be used to develop an NCNR policy for combustible loading. Supervisors have been instructed to conduct routine walk-throughs of work areas. The importance of good housekeeping will be routinely stressed to personnel.
- NSC Recommendation #11: Develop and implement a problem-solving approach for emergent issues. (Pending Action)
- NSC Recommendation #12: As a function of development of the comprehensive improvement plan those results from planned assessments and the collective evaluation process, consider the elements as specified in the assessment report to address Cross-Cutting, Distributed Function Programs. (Pending Action)

Evaluation of the inputs from the various assessments is currently underway. We anticipate developing an interim cause analysis through the second quarter of 2024. Based on this analysis, we will develop a resourced-loaded improvement plan throughout 2024.

If there are any questions regarding the information presented herein, please contact Dr. Thomas H. Newton at 301-975-6260 or [Thomas.newton@nist.gov](mailto:Thomas.newton@nist.gov).

Sincerely,

JAMES  
ADAMS

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Dr. James M. Adams  
Director (A)  
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Attachment

