

ORNL - Restart of the High Flux Isotope Reactor 2-07

AUTHORIZATION BASIS (AB)

OBJECTIVE AB-1: Facility safety documentation is in place and has been implemented that describes the safety envelope of the facility. The safety documentation should characterize the hazards/risks associated with the facility and should identify preventive and mitigating measures (such as systems, procedures, and administrative controls) that protect workers and the public from those hazards/risks. The SSCs are defined, and a system to maintain control over their design and modification is established. Adequate, correct procedures and safety limits are in place for operating the process and utility systems that include revisions for the modifications that have been made to the facility. (Core Requirements 7, 10, and 14)

Criteria

- Facility safety documentation is in place and has been implemented that describes the changes in the safety envelope associated with the reactor, the CS and its operation. DOE has approved the CS and HFIR DSAs and TSR, and these documents have been appropriately implemented.
- The safety documentation characterizes the hazards/risks associated with the facility, including CS operation with hydrogen.
- Preventive and mitigating measures are identified (such as systems, procedures, and administrative controls) that protect workers and the public from the hazards/risks associated with reactor operation with the CS.
- Safety SSCs are defined, and a system to maintain control over their design and modification is established.
- The procedures and limits for safe operation of the reactor and its process and utility systems, including the CS, have been appropriately revised or developed to adequately reflect the CS modification.

Approach

Record Review:

1. Confirm that the HFIR and CS DSAs have been approved by DOE. Verify that the DSAs address the hazards and controls related to reactor operation with hydrogen cooling of the moderator vessel. Examine documentation supporting the DSA implementation matrix to verify that it demonstrates implementation of the DSA for operation with hydrogen cooling of the moderator vessel.
2. Verify that the HFIR TSR has been appropriately revised to reflect requirements contained in the DSAs, approved by DOE, and implemented to reflect the requirements in the DSAs. Examine surveillance procedures to confirm that they have been walked down and that the requirements specified in the TSR have been included in the procedures.
3. Review the safety-related equipment list to verify that the safety SSCs identified in the DSAs have been included and that the safety function descriptions are consistent with the safety functions credited in the DSAs.

4. Examine configuration management documents, e.g., drawings, to determine whether the safety SSCs are identified in the documents.
5. Examine selected documentation to confirm that programmatic improvements resulting from corrective actions related to the DOE HSS Office of Independent Oversight review have been applied.

Interviews:

Interview management and staff to confirm that they exhibit an adequate understanding of the safety basis.

Shift Performance:

Verify that the HFIR TSR has been implemented, as appropriate, to reflect the requirements in the DSAs. Observe routine operational evolutions to verify that they are conducted in accordance with the controls established in the DSAs.