

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

FIRE PROTECTION (FP)

OBJECTIVE FP-1:

The fire protection program has been appropriately modified to reflect the CS and its reactor interface, sufficient numbers of qualified fire protection personnel are available to support operations, and adequate facilities and equipment are available to ensure fire protection services are adequate for operations. The fire protection functions, assignments, responsibilities, and reporting relationships, including those between the line operating organization and the fire protection organization, are clearly defined, understood, and effectively implemented with line management responsibility for control of safety. The level of knowledge of fire protection personnel related to reactor operation with the CS and the associated hazards is adequate. (Core Requirements 1, 2, 4, and 6)

Criteria

- As related to HFIR, the fire protection program and associated organizations are established and functioning to support the operations organization. The fire protection functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented.
 - The fire protection function is adequately staffed with qualified personnel.
 - Fire protection programs have been established that ensure that operations and support personnel can prevent and respond to fire hazards.
 - Fire protection equipment and systems are in place in the CS and reactor interface areas to mitigate fires as described in the CS DSAs.
 - The site prefire plans have been revised, as necessary, and are adequate to support reactor operation with the CS.
 - The fire hazards analysis adequately reflects the fire hazards associated with reactor operation with the CS, and the CS-related requirements have been fully implemented or appropriate compensatory measures have been put in place.
 - Fire protection support personnel demonstrate a working knowledge of reactor operation with the CS, the associated systems and components related to safety, and the applicable safety management program requirements.
 - Fire protection support personnel demonstrate the ability to carry out the emergency response procedures under their cognizance in support of reactor operation with the CS.

Approach

Record Review:

1. Examine document (e.g., procedures, the RRD organization chart, position descriptions) which establish the roles, responsibilities, and reporting relationships for the fire department and the fire protection engineering group that support HFIR.

2. Review the fire hazards analysis and the prefire plans for adequacy. Review the implementation documentation to ensure the requirements of the fire hazards analysis have been fully implemented for reactor operation with the CS.
3. Review the minimum fire protection manning requirements for reactor operations defined in ORNL/TM-12841, *HFIR Technical Safety Requirements*. Review the minimum manning requirements for CS operations described in ADM-0601, *Cold Source Conduct of Operations*. Examine the RRD IWP to confirm that the current and projected personnel needs for fire protection support staff have been evaluated and are appropriately captured in the IWP.
4. Review selected training records (such as lesson plans, examination results, and postdrill critique reports) for fire protection personnel to assess the training program's effectiveness in establishing an adequate level of knowledge.
5. Review the drill records to assess the ability of the fire protection personnel to provide the required emergency services in support of reactor operations with the CS.

Interviews: Interview selected fire protection personnel to confirm that (a) their assignments, responsibilities, and reporting relationships are clearly understood, (b) their interface with the reactor operations organization is clearly understood, and (c) their level of knowledge is adequate to provide fire protection support for HFIR operation with the CS. In addition, interview selected management to confirm that the current and projected needs for fire protection personnel, facilities, and equipment necessary for safe HFIR operation and maintenance have been evaluated and are appropriately captured in the IWP.

Shift Performance:

Walk down HFIR areas, including the CS, with fire protection engineering and surveillance personnel to determine the condition of the fire detection and suppression equipment and fire boundaries adequately reflect the documented needs and if combustibles are suitably controlled. If possible, observe drills to assess the ability of the fire protection personnel to provide the required emergency services. Alternately, complete this portion of the assessment by reviewing records of completed drills.