

Enclosure 1

Changes to Hermes PSAR Chapter 13

(Non-Proprietary)

- Inert gas system
- Chemistry control system (including filters)
- Inventory management system

The tritium storage strategy discussed in Section 9.1.3 ensures that the amount of MAR accumulated by this system remains below the amount of tritium assumed to be released in the MHA. The amount of MAR in subsystems and components is limited to an upper bound limit such that the total amount of materials at risk released is bounded by the amount released during the MHA. Limiting the amount of MAR in subsystems and components obviates the need for a more detailed safety analysis for this category of events.

13.1.7 Not Used

13.1.8 General Challenges to Normal Operation

This category of events includes challenges to normal operation not covered by another event category that requires an automatic or manual shutdown of the plant. Disturbances, including an inadvertent operator action, are detected directly or indirectly by the RPS, which initiates control and shutdown elements insertion, fulfilling the reactivity control function. The highest worth element is assumed to be stuck out and does not insert. The DHRS performs its function to limit reactor temperature and fulfill the heat removal function.

Grouped events include spurious trips due to control system anomalies, operator errors and equipment failures. This event group also includes scenarios where operators choose to manually shutdown the plant. Also included are faults

in the reactivity control and shutdown system, electrical system, heat rejection subsystem and other plant systems that would challenge normal operations.

This group also contains inert gas system disturbances, and instrumentation and control system faults. This event group relies upon the reactor protection system and is bounded by the loss of forced circulation postulated event.

13.1.9 Internal and External Hazard Events

The portions of the design relied upon to perform safety functions are protected from the internal and external hazard levels defined in Chapter 2. Events in this category are bounded by or considered as initiators in other event categories. The internal hazard events in the Hermes design basis include:

- Internal fire
- Internal water flood

The external hazard events in the Hermes design basis include:

- Seismic event
- High wind event
- Toxic release
- Mechanical impact or collision with SSCs
- External flood

Engineered safety features contained within areas protected from or able to withstand the intensity of the hazard loading for hazard events initiated outside those areas (e.g., fire) maintain their capability to