Enclosure 1
Changes to Hermes PSAR Chapter 14
(Non-Proprietary)

Table 14.1-1: Proposed Variables and Conditions for Technical Specifications

Section	Section Name	LCO or Condition	Basis
2.0	Safety Limits (SL) and Limiting Safety System Settings (LSSS) Safety Limits are those limits on process variables that are necessary to reasonably protect the integrity of certain physical barriers that are credited to preclude a potential uncontrolled release of radioactivity. Limiting Safety System Settings are settings for automatic protective devices related to those variables having significant safety functions. These settings ensure that automatic protective action will correct the abnormal situation before a Safety Limit is exceeded. This Table consists of ~~examples of~~ the proposed subjects of Safety Limits~~,~~ and Limiting Safety System Settings ~~and LCOs~~. These ~~examples~~ are provided below.		
2.1	SL	The ~~core exit reactor coolant~~fuel temperature~~s and the core power~~ shall not exceed an upper bound operating range under any operating conditions.	The maximum ~~core exit reactor coolant~~fuel temperature~~s and core power operating range~~ Safety Limit ~~are~~ is established to ensure fuel integrity based on temperatures assumed in the safety analysis.
2.1	SL	The reactor vessel surface temperature~~s~~ shall not exceed an upper bound temperature under any condition of operation.	The maximum reactor vessel surface temperature Safety Limit is the maximum temperature that can be permitted with confidence that vessel integrity will be maintained.
2.2	LSSS	The core exit reactor coolant temperature(s) shall not exceed an upper bound temperature under any condition of operation.	Limiting the maximum core exit coolant temperature will ensure that the Safety Limits are not exceeded and that the reactor will trip prior to reaching a Safety Limit.
2.2	LSSS	The coolant level shall not fall below a lower bound limit under any condition of operation.	Limiting the coolant low level will ensure that adequate core cooling is available so that the Safety Limits are not exceeded.

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2.2	LSSS	The rate of flux trip function shall not exceed an upper bound limit as specified in the safety analysis.	Limiting the rate of power/flux increase will ensure that the reactor will trip prior to challenging the integrity of fuel (or a limitation set in fuel performance methodology).
2.2	LSSS	The high-power flux trip function shall not exceed an upper bound limit as specified in the safety analysis.	Limiting the upper bound limit will ensure that the reactor will trip prior to challenging a safety limit assumed in the safety analysis.
3.0	Limiting Conditions for Operation (LCOs) LCOs are derived from the safety analysis and are implemented administratively or by control and monitoring systems to ensure safe operation of the facility. The LCOs are the lowest functional capability or performance level required for safe operation of the facility. The proposed subjects of LCOs are provided below.		
3.1	Reactor Core Parameters	Pebble wear is within acceptable limits to support pebble reinsertion.	The objective is to ensure that pebble wear is controlled within limits assumed by or associated with safety analyses, to prevent reinsertion if wear exceeds those limits.
		Reactor power shall not exceed the licensed reactor power level.	The objective is to limit the maximum operating power to ensure that the safety limits will not be exceeded.
3.2	Reactor Control and Safety Systems	Reactivity coefficients are within limits over the allowable range of operation.	The objective is to infer or calculate reactivity coefficients during normal plant operation to limit the severity of a reactivity transient.

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3.3	Coolant Systems	The radionuclide inventory of the reactor coolant in steady state (e.g., from transmutation of actinides) is maintained within an upper bound limit.	The objective is to limit key radionuclide inventories in the reactor coolant during steady state to ensure that any postulated event does not exceed limits.
		Primary heat transport system pressure and flow rate are maintained within an upper bound limit.	The objective is to limit the quantity and pressure of spilled Flibe to ensure a postulated event does not exceed limits.
		~~Inlet~~ Inert gas system pressure is maintained within an upper bound limit.	The objective is to limit the quantity and pressure of spilled Flibe or cover gas to ensure a postulated event does not exceed limits.
		Argon purity in the cover gas is maintained within an upper bound limit.	The objective is to limit radionuclides in the Flibe below solubility limits where solute-solute interactions can be neglected.
		The quantity of materials at risk in the gas space of the primary heat transport system and the primary heat rejection system is maintained within an upper bound limit.	The objective is to limit the quantity of materials at risk in the cover gas to ensure a postulated event does not exceed limits.
3.4	Engineered Safety Features	Decay heat removal system operability	The objective is to specify the requirement to have an operable decay heat removal system to ensure that the safety limits will not be exceeded.
		~~Reactor vessel integrity~~	~~The objective is to specify a design operating temperature limit to ensure the safety limit is not exceeded for postulated events.~~