

2.3.2 Core Melt Stabilization System

1.0 Description

The core melt stabilization system (CMSS) stabilizes molten core debris resulting from the most severe category of reactor accidents.

The CMSS does not provide any safety-related functions.

The CMSS provides the following non-safety-related functions:

- The CMSS provides temporary retention and conditioning of the molten core debris in the reactor cavity.
- The CMSS provides an area for the corium to spread in the lateral spreading compartment.
- The CMSS provides features to limit the potential for energetic fuel-coolant interactions.
- The CMSS supports the radionuclide retention function of the containment by ensuring that radionuclides can be immobilized and contained within the CMSS.

2.0 Mechanical Design Features

2.1 The bottom of the reactor pit is lined with sacrificial concrete backed by refractory brick.

2.2 The CMSS has a melt plug and gate.

2.3 The CMSS has a melt discharge channel.

2.4 The CMSS has a spreading room lined with sacrificial concrete. The floor and walls of the spreading room are provided with channels for cooling water.

3.0 Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.3.2-1—CMSS Inspections, Tests, Analyses, and Acceptance Criteria, specifies the inspections, tests, analyses, and acceptance criteria for the CMSS.

Table 2.3.2-1—CMSS Inspections, Tests, Analyses, and Acceptance Criteria

	Commitment Wording	Inspection, Analysis or Test	Acceptance Criteria
2.1	The bottom of the reactor pit is lined with sacrificial concrete backed by refractory brick.	Inspections of the as-built reactor pit will be conducted.	The bottom of the reactor pit is lined with sacrificial concrete backed by refractory brick. in room number UJA11 001.
2.2	The CMSS has a melt plug and gate.	Inspections of the as-built cavity gate will be conducted.	The CMSS has a melt plug and gate. in room number UJA11 001.
2.3	The CMSS has a melt discharge channel.	Inspections of the as-built melt discharge channel will be conducted.	The CMSS has a melt discharge channel connecting rooms UJA11 001 and UJA04 002.
2.4	The CMSS has a spreading room lined with sacrificial concrete. The floor and walls of the spreading room are provided with channels for cooling water.	Inspections of the as-built spreading room will be conducted.	<ul style="list-style-type: none"> a. The CMSS has a spreading room (UJA04 002) lined with sacrificial concrete. b. The floor and walls of the spreading room (UJA04 002) are provided with channels for cooling water.