

## **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.

2.5 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 lists the CMSS ITAAC.

**Table 2.3.2-1— Core Melt Stabilization System ITAAC**

<b>Commitment Wording</b>		<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
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.	Inspections of the as-built spreading room will be conducted.	The CMSS has a spreading room (UJA04 002) lined with sacrificial concrete.
2.5	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.	The floor and walls of the spreading room (UJA04 002) are provided with channels for cooling water.