

Enclosure 10 to TN E-54364

Page 9-3 and Page 9-4 from CoC 1042 Amendment 1  
Revision 3

## 9.1 Procedures for Loading the DSC and Transfer to the EOS-HSM

The following steps describe the recommended generic operating procedures for the NUHOMS® EOS System. Since the design of the EOS-TC includes two primary variations – the TC108 (with a removable neutron shield jacket) and the TC125/TC135 (with an integral neutron shield), some steps have alternate steps specific to one of these EOS-TC designs. A pictorial representation of key phases of this process is provided in Figure 9-1.

### 9.1.1 TC and DSC Preparation

1. Prior to placement of the Authorized Contents in dry storage:
  - a. The candidate fuel assemblies (FAs) *or failed fuel debris* and control components (CCs), if applicable, shall be evaluated (by plant records or other means) to verify that they meet the physical, thermal and radiological criteria specified in Section 2.1 (EOS-37PTH DSC) or Section 2.2 (EOS-89BTH DSC) of the Technical Specifications [9-5].
  - b. *Depending on the length of the fuel assemblies to be loaded, fuel spacers may be placed within the DSC to reduce the fuel assembly/DSC cavity gap in consideration of Part 71 requirements. There are no requirements for fuel spacers under Part 72. Fuel spacers, if used to satisfy minimum gap requirements for Part 71, may be placed below the assembly, above the assembly, or both, and shall be evaluated for any adverse impact.*
2. Prior to being placed in service: clean and/or decontaminate the TC as necessary to provide a surface contamination level of less than those specified in Section 3.3.1 of the Technical Specifications [9-5].
3. Place the TC in the vertical position in the designated area using the TC handling crane and the lifting yoke.
  - a. TC125 or TC135: The neutron shield may need to be drained to meet the crane capacity when the loaded TC is pulled out of the pool.
  - b. TC108: The neutron shield tank may be drained or removed from the TC108 and staged in an appropriate location.
4. Place scaffolding around the TC so that the top cover plate and surface of the TC are easily accessible to personnel.
  - a. TC108 without neutron shield tank: Install protective cover around outer shell of the TC108 to minimize contamination of the outer shell of the TC.
5. Remove the TC top cover plate and examine the TC cavity for any physical damage and ready the TC for service.

Note: Verify that a TC spacer of appropriate height is placed inside the TC to provide the correct airflow and interface at the top of the TC during loading, drying, and sealing operations for DSCs that are shorter than the TC cavity length.

6. Verify specified lubrication of the TC rails.
7. Examine the DSC for any physical damage that might have occurred since the receipt inspection was performed. The DSC is to be cleaned and any loose debris removed.
8. Record the DSC serial number that is located on the grapple ring. Verify the DSC type and basket type against the DSC serial number. Verify that the DSC is appropriate for the specific fuel loading campaign per the criteria specified in Section 2.1 (EOS-37PTH DSC) or Section 2.2 (EOS-89BTH DSC) of the Technical Specifications [9-5].
9. Using a crane, lower the DSC into the TC cavity by the internal lifting lugs and rotate the DSC to match the TC and DSC alignment marks.
  - a. *If damaged FAs or loaded failed fuel canisters (FFCs) are included in a specific loading campaign, verify that the appropriate basket type is used and place the required number of bottom end caps provided for damaged fuel or FFCs into the cell locations per Technical Specification 2.1. Optionally, this step may be performed at any prior time.*
  - b. *Verify that the fuel spacers, if required, are present in the fuel cells. Optionally, this step may be performed at any prior time.*
10. Fill the TC/DSC annulus with clean water. Place the inflatable seal into the upper TC liner recess and seal the TC\DSC annulus by pressurizing the seal with compressed air.

Note: A TC/DSC annulus pressurization tank filled with clean water is connected to the top vent port of the TC via a hose to provide a positive head above the level of water in the TC/DSC annulus. This is an optional arrangement, which provides additional assurance that contaminated water from the fuel pool will not enter the TC/DSC annulus, provided a positive head is maintained at all times.
11. Fill the DSC cavity with water from the fuel pool or an equivalent source that meets the requirements of Section 3.2.1 of the Technical Specifications [9-5] for boron concentration, if applicable.
12. Place the top shield plug onto the DSC. Examine the top shield plug to ensure a proper fit. Optionally, the top shield plug, once fitted, may be removed and disconnected from the yoke. It may be installed later, once the DSC is loaded and prior to removing it from the pool.