

Enclosure 5 to E-55201

**Proposed Amendment 2, Revision 3
NUHOMS® EOS System
Updated Final Safety Analysis Report Changed Pages
(Public Version)**

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Temperatures for LC 1e-S-full-O are also compared with the periodic model (LC 1e-S of Table A.4-14) in Table A.4-33a through Table A.4-33c. Table A.4-33a shows that the maximum fuel cladding temperature of the upper fuel for LC 1e-S-full-O increases compared to the periodic model, but is still lower than the maximum fuel cladding temperature of the lower fuel in the periodic model. The concrete temperatures is higher when compared with LC 1e-S, but is still lower than the design limit. Table A.4-33b shows that the lower compartment component maximum temperatures of LC 1e-S-full-O are all bounded by LC 1e-S but the upper compartment component maximum temperatures are higher. However, the average temperatures of all components in both upper and lower compartments for LC 1e-S-full-O are bounded by LC 1e-S, as shown in Table A.4-33c.

Internal Pressure

As shown in Table A.4-33c, the average cavity gas temperatures determined for the medium EOS-37PTH DSCs in the updated full HSM-MX model with HLZC 7 under the normal storage condition are 9 °F and 28 °F lower than those from LC 1e-S for the upper and lower compartments, respectively. Therefore, the maximum internal pressures for LC 1e-S-full-O with HLZC 7 are bounded by those for the LC 1e-S in Section A.4.5. As discussed in Section A.4.5, the maximum internal pressures in Chapter 4, Table 4-45 is bounding for LC 1e-S with HLZC 7. Therefore, the maximum internal pressures in Chapter 4, Table 4-45 remain bounding for those of LC 1e-S-full-O for HLZC 7 for normal, off-normal, and accident conditions.

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A.4.6.5 Temperature Calculations

The maximum temperatures of fuel cladding and concrete of the HSM-MX loaded with the EOS-37PTH DSC with HLZC 11 are summarized in Table A.4-36. The maximum fuel cladding and concrete temperatures are 699 °F and 280 °F, within the temperature limits of 752 °F and 300 °F, respectively.

The maximum and average temperatures of key components of the HSM-MX loaded with the EOS-37PTH DSC for the storage conditions are summarized in Table A.4-37 and Table A.4-38, respectively. Average temperatures are calculated based on the volume average temperatures of the elements representing the whole component.

A.4.6.7 Internal Pressure Calculation

Proprietary Information on Pages A.4-72 and A.4-73
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Table A.4-34
EOS-37PTH DSC in HSM-MX, Design Load Case for Storage Conditions with HLZC 11

<i>Load Case No.</i>	<i>Description</i>	<i>Ambient Temperature (°F)</i>	<i>HLZC</i>
<i>1e-S-full-O for HLZC 11</i>	[<i>Normal Hot, Steady-State, Side Wind Speed = 15 mph, Two full upper and one full lower compartments, All outlet vents open</i>]	<i>100</i>	<i>11</i>

Table A.4-35
Summary of Convergence for CFD Model of EOS-37PTH DSC in HSM-MX with HLZC 11 for Storage Conditions

Table A.4-36
Maximum Fuel Cladding and Concrete Temperatures for EOS-37PTH DSC in
HSM-MX with HLZC 11 for Storage Conditions

Load Case ⁽¹⁾	Description	Max Fuel Cladding Temperature (°F)			Concrete Temperature (°F)	
		Upper Fuel	Lower Fuel	Limit ⁽²⁾	Maximum	Limit ⁽²⁾
1e-S-full-O for HLZC 7 ⁽³⁾	[700	679	752	281	300
1e-S-full-O for HLZC 11]	699	674		280	
$\Delta_{LC\ 1e-S-full-O\ for\ HLZC\ 11 - LC\ 1e-S-full-O\ for\ HLZC\ 7}$		-1	-5		-1	

Notes:

(1) See Table A.4-33a and Table A.4-34 for the description of the load cases.

(2) The temperature limits are from NUREG-1536 [A.4-1].

(3) The results for the bounding load case LC 1e-S-full-O for HLZC 7 are obtained from Table A.4-33a.

Proprietary Information on Pages A.4-76 through A.4-78
and A.4-127 through A.4-133
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B.4.4.2.4 CFD Model of 61BTH Type 2 DSC in HSM-MX

B.4.4.2.5 CFD Model of 61BTH Type 2 DSC in HSM-MX with Two Full Upper and One Full Bottom Compartments

B.4.4.3 61BTH Type 2 DSC – Storage Conditions

Temperature Calculations

The maximum temperatures of fuel cladding and concrete of HSM-MX loaded with 61BTH Type 2 DSC for the bounding normal, off-normal, and accident storage conditions are summarized in Table B.4-5.

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Table B.4-5
61BTH Type 2 DSC in HSM-MX, Maximum Fuel Cladding and Concrete
Temperatures for Storage Conditions

Load Case ⁽¹⁾	Description	Max Fuel Cladding Temperature (°F)			Concrete Temperature (°F)	
		Upper Compartment	Lower Compartment	Limit	Maximum	Limit
1a		679	671	752 ⁽²⁾	223	300 ⁽²⁾
1b		679	670		223	
1c		682	642		232	
2		651	654	1058 ⁽²⁾	204	500 ⁽²⁾
3		698	711		281	

Notes:

- (1) See Table B.4-1 for the description of the load cases.
- (2) The temperature limits are from NUREG-1536 [B.4-1].

Proprietary Information on Pages B.4-37 through B.4-38
and B.4-45 through B.4-47
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