

Scientific Analysis Administrative Change Notice

Complete only applicable items.

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6. Approvals:		
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7. Affected Pages	8. Description of Change:
vii	<p>Added entry to the Table of Contents</p> <p>Add section 6.2.4 to the Table of Contents to read:</p> <p>6.2.4 <i>Split Cladding</i>..... 6-10</p> <p>Additional page viia was added</p> <p>This error is identified in CR 5636</p>
6-12	<p>Typographical Error</p> <p>Table 6-3 "Input Variables to Calculate Cladding Split Geometry" 4th column, last row, change:</p> <p><i>WAPDEG calculation (not calculated in this analysis report)</i></p> <p>To</p> <p><i>"TSPA-LA" calculation (not calculated in this analysis report)</i></p> <p>This error is identified in CR 5755</p>

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unreacted fuel in a rod is given in Equation 6-6. The volume of the rind in a fuel rod is the product of the volume of corroded UO_2 times the volume rind multiplier (Equation 6-7). For conservatism, the small amount of uranium that dissolves is ignored and all the uranium is taken to be precipitated as rind. The cladding is filled with UO_2 and rind giving a new diameter based on the equation for the volume of a cylinder ($\text{Volume} = (\pi/4)D^2L$). Equation 6-8 gives the new rod diameter.

Table 6-3. Input Variables to Calculate Cladding Split Geometry

Name	Units	Description	Definition
MW- UO_2	g/mol	Molecular weight of UO_2	270 g/mol
MW_sch	g/mol	Molecular weight of schoepite	322.1 g/mol
D UO_2	g/cm ³	Density of UO_2	10.97 g/cm ³
Dsch	g/cm ³	Theoretical density of schoepite	4.83 g/cm ³
Por	None	Porosity in schoepite	0.05 to 0.30, uniformly distributed
Lr	cm	Rod length	366 cm
Nr	None	Number of Rods per waste package	5544 (264×21 assemblies/WP)
Dinit	cm	Initial pellet diameter	0.819 cm
Frod(t)	None	Fraction of rods that are failed	Initially 0.0001-0.01, mean of 0.001, then calculated by TSPA-LA model
Fcor(t)	None	Fraction of total waste package inventory that has corroded	"TSPA-LA" calculation (not calculated in this analysis report)

Source: Table 4-1