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**Nuclear criticality safety — Critical values for homogeneous plutonium-uranium oxide fuel mixtures outside of reactors**

**AMENDMENT 1: Corrections and clarifications**

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*Sûreté-criticité — Valeurs critiques pour oxydes mixtes homogènes de plutonium et d'uranium hors réacteurs*

*AMENDEMENT 1: Corrections et clarifications*

ISO 11311:2011/Amd 1:2022

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# Nuclear criticality safety — Critical values for homogeneous plutonium-uranium oxide fuel mixtures outside of reactors

## AMENDMENT 1: Corrections and clarifications

### 4.1.3, NOTE

Replace the text with the following:

"The latter density is the theoretical dry density for MOX with this specific mass fraction of Pu and with the P0 isotopic composition specified in 4.1.4.3 c). The theoretical dry density is slightly higher for the P5 and P20 isotopic compositions but with a difference lower than 0,01 g/cm<sup>3</sup>."

### 4.1.4.3 e)

Replace the last formula with the following:

$$\frac{m_{239\text{Pu}}}{m_{\text{Pu,total}}} = 1 - \frac{m_{240\text{Pu}}}{m_{\text{Pu,total}}} - \frac{m_{241\text{Pu}}}{m_{\text{Pu,total}}} - \frac{m_{242\text{Pu}}}{m_{\text{Pu,total}}}$$

$$= 1 - \frac{m_{240\text{Pu}}}{m_{\text{Pu,total}}} \times (1 + R_1 + R_1 \times R_2)$$

### 5.1, NOTE 2

Replace the text with the following:

"The results from References [1] to [7] show that the critical values for MOX with depleted uranium are not notably higher than the critical values in Annexes C to F for MOX with natural uranium."

Annex A, table header

Replace the header with the following:

Mass fraction of plutonium <sup>a</sup>	MOX density	Isotopic composition of uranium <sup>b</sup>		Plutonium composition designation	Isotopic composition of plutonium <sup>c</sup>			
		mass fraction %			mass fraction %		mass ratio	
$w_{Pu}$								
%	g/cm <sup>3</sup>	<sup>235</sup> U	<sup>238</sup> U		<sup>239</sup> Pu	<sup>240</sup> Pu	<sup>241</sup> Pu / <sup>240</sup> Pu	<sup>242</sup> Pu / <sup>241</sup> Pu

Annex A, footnote d

Replace the text with the following:

“The sum of the mass fractions of <sup>239</sup>Pu, <sup>240</sup>Pu, <sup>241</sup>Pu and <sup>242</sup>Pu equals 100 % [(see 4.1.4.3 c)].”

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