

- Multiple correct answers – allow examinees to select multiple answers

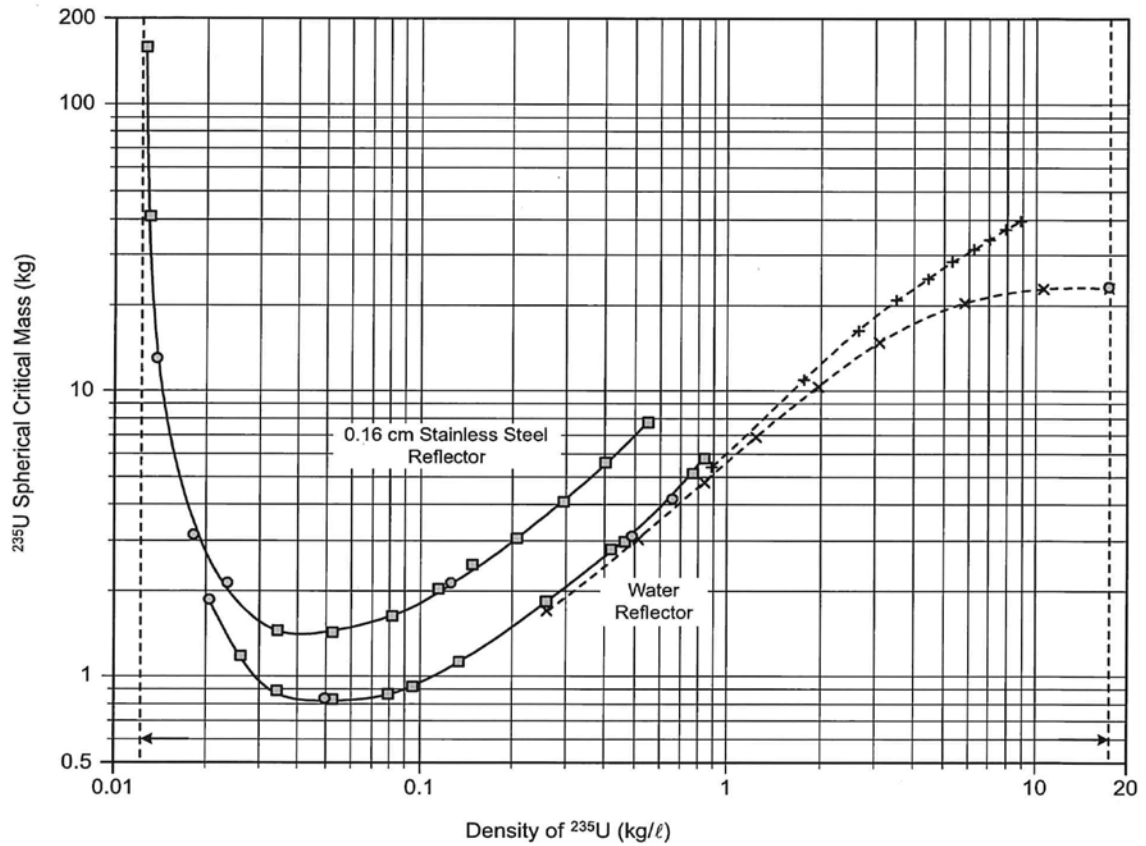
Enrichment processes include:

- A. **Atomic vapor laser isotopic separation**
- B. **Molecular diffusion**
- C. **Selective excitation of uranium hexafluoride**
- D. **Isotopic amalgamation**

Clearly A and C are correct.

- Point and click – require examinees to click on part of a graphic to answer

Click on the region of the figure that represents an over moderated condition.



Anywhere to the left of the 0.05  $\text{kg}/\ell$  is over moderated.

- Drag and drop – require examinees to click on and drag items to match, sort, rank, or label

From the list of statements below select the correct definition for each word or phrase:

Parameter

Validation

Drill

Storage unit

Supervised instruction intended to test or practice a skill.

One of total set of factors that defines a fissionable system and determines its neutronic behavior.

A process to demonstrate that the analytical methods meet predetermined requirements.

A volume having defined boundaries.

The identifying characteristics of a process that have an effect on nuclear criticality safety.

The establishment of confirmation of the truth of a fact.

A mass of fissile material considered as an entity.

An activity that tests one or more portions of a response capability.

Correct response

Parameter	One of total set of factors that defines a fissionable system and determines its neutronic behavior.
Validation	A process to demonstrate that the analytical methods meet predetermined requirements.
Drill	Supervised instruction intended to test or practice a skill.
Storage unit	A mass of fissile material considered as an entity.

- Fill in the blank – provide a space for examinees to enter a response to the question (currently limited to numerical problems, because the response must fall in a narrow range of numbers in order to be considered correct).

For 18 months a commercial PWR has been running at 100% power. Assuming the thermal neutron flux is constant over time at approximately  $10^{14}$  neutrons/cm<sup>2</sup>-s through a homogenous core consisting of UO<sub>2</sub> enriched to 5.0 w/o. From among the following choices, select the value closest to the concentration of U-235 for the 18 month interval. *Note: The density of UO<sub>2</sub> is 10.5 g/cm<sup>3</sup> and a fuel temperature at 600°C. State your answer in terms of Xe19 atoms/cc*

*The answer from the study guide is 2.5e20 atoms/cc, so the answer that is input must be between 22 and 28. Ok, I pulled this from the current study guide section 5 problem 1.*