Proj. Sem. –
Docket 70-36

Mallinckrodt Chem. Wks.

12/30/58 Leaders – Johnson 12/30/58

As per discussion [illegible] K_{eff}

Coll. suggested alt. approach, U^{235} density as per TID-7016

5 gal drum in "55 Shorty"

5 gal spacing

Center & center = 24"

Edge & Edge = 13 3/4" 110

24 - 11 1/2 = 12 3/4"

Max. wt. 60 lb. UO_2 or lim. sep. U-235 of K-1019

3 - 10% enr.

50 units, cubical array.

ρ = 1.3 to 1.6 g/cc

U content of UO_2 = 88.15%

% H_2O = 0.2%

Outer Drum 22.5" dia × 26" ht, 43 gal

5.75 ft³

$Vol = \frac{.785(22.5)^2(26)}{1728} = 5.98\ ft^3$ 5.75 ft³

= 44.7 gal 43 gal

× 60 - 23

~~60 lb × .8815 × .1 × .454 = 2.4 kg U-235~~ (if ship 60 lb 10% enr)

$\times \frac{60}{2.4} \times .454$

For 10% enr. From K-1019, lim. sep. [illegible] = .6 kg U-235 ÷ 6.8 kg UO_2

15 × 400 = 6000 $H/U\text{-}235 = \frac{.002 \times 6.8}{18/2} \times \frac{235}{0.6} = .59$ vs 0.6 [illegible]

U-235 density of birdcage = 0.6/5.75 = 0.12 kg/cu. ft. (4 g/l)

[illegible]

[illegible]

B-19