

University of Wisconsin

NUCLEAR REACTOR LABORATORY
NUCLEAR ENGINEERING DEPARTMENT
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ADDRESS:
130 MECHANICAL ENGINEERING BUILDING
MADISON, WISCONSIN 53706

February 5, 1979

Director of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20545

Re: Docket 50-156, License R-74; Reply to January 29, 1979 letter from
Robert W. Reid, Chief Operating Reactor Branch #4

Dear Sirs:

The requested 17.8 Kg of contained U^{235} license limit will be allocated as shown in the table below. The table also includes the 16 grams of Plutonium and 135.4 grams of 93% enriched Uranium contained in MTR-type fuel plates also allocated in the present license.

Since the total amount of SNM to be received is greater than 5 Kg, the refueling plan is that six 4-element bundles will be received, loaded into the core, and operated to self-protecting levels before receipt of the final portion of the shipment. The maximum amount of non-exempt SNM on hand at any time will be the period between receipt of the final shipment of FLIP fuel and bringing four of the additional FLIP bundles to 10 CFR 73.6(b) self-protection levels. The table below shows SNM status at present, at the maximum non-exempt level, and then the expected normal operating levels.

<u>Items</u>	<u>U^{235} Content</u>	<u>% Enriched</u>	<u>Exempt Status</u>
(a) <u>Presently on Hand:</u>			
(1) 32 TRIGA Fuel Bundles	4.233	19.30	Exempt 10 CFR 73.6(a)
(2) 15 FLIP Fuel Bundles	7.195	69.79	Exempt 10 CFR 73.6(b)
(3) MTR Fuel Plates	0.135	93.22	Not Exempt
(4) Fission Detectors	0.009	93.00	Not Exempt
(5) PuBe Neutron Source	16 Grams Pu		Not Exempt
Total on Hand	11.572 Kg U^{235}		
	11.428 Kg Uranium		Exempt
	16g Pu and		
	144 Uranium grams		Not Exempt

- (b)
- (1) Maximum non-exempt condition -- after final shipment of six FLIP bundles plus two spare instrumented elements
- Items 1, 3, 4, and 5 same as (a)

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(b)	U^{235} Content	% Enriched	Exempt Status
(2) 27 FLIP bundles + 2 Instrumented Elements	13.495	Nominal 70	10.219 Exempt 10 CFR 73.6(b) 3.276 Not Exempt 3.276 Not Exe
Totals	18.872 Kg U^{235} + 16 g.ams Pu		
	Exempt: 14.452 Kg U^{235} (4.233 Kg U^{235} by 10 CFR 73.6(a) (10.219 Kg U^{235} by 10 CFR 73.6(b)		
	Not Exempt: 3.420 Kg U^{235} + 169 Pu		

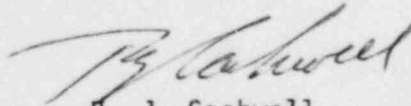
(c)

(1) After completion of core test program for all-FLIP fueled core --
Items 1, 3, 4, and 5 same as (a)

(2) 25 FLIP Bundles (core)	12.235	Nominal 70	Exempt 10 CFR 73.6(b)
2 FLIP Bundles (spares)	1.008	Nominal 70	Not Exempt
2 FLIP Instrumented Elements (Spares)	0.252	Nominal 70	Not Exempt
Totals	18.872 Kg U^{235} + 16 grams Pu		
	Exempt: 16.468 Kg (4.233 Kg U^{235} by 10 CFR 73.6(a) (12.235 Kg U^{235} by 10 CFR 73.6(b)		
	Not Exempt: 1.404 Kg U^{235} + 16 grams Pu		

We hope the information provided will enable prompt processing of our requests for license amendment.

Very truly yours,



R. J. Cashwell
Reactor Supervisor

RJC:mld