

# UNITED NUCLEAR CORPORATION

Regulatory Suppl File Cv.

HEMATITE, MISSOURI 63047

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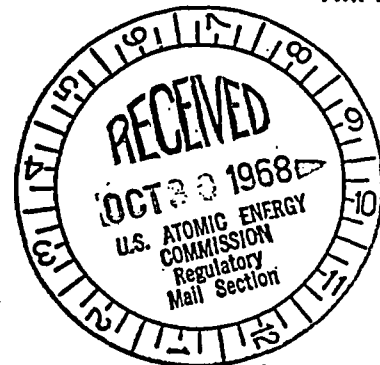
314-296-5640

TWX 910-760-1760

October 26, 1968

In reply refer to NIS-CP-LJS-19

Mr. Donald Nussbaumer, Chief  
Source & Special Nuclear Materials Branch  
Division of Materials Licensing  
U. S. Atomic Energy Commission  
4915 St. Elmo Place  
Bethesda, Maryland 20014



Subject: Fabrication of Uranium-Aluminum Ceramic Cores--SNM-777,  
Docket 70-820, Section 6A

Reference: NIS-CP-REK 17 dated 10/8/68

Gentlemen:

Please replace Section II, Paragraph I Subsequent Operations with the following:

## I. Subsequent Operations

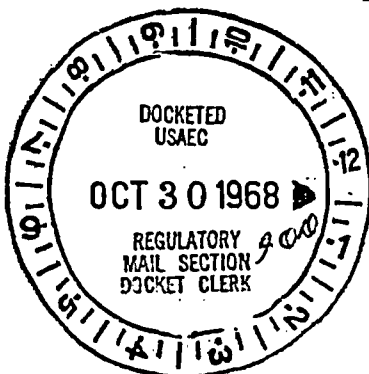
Subsequent operations are the same as operations numbered 18 through 48.

The U-235 content of the UAL<sub>x</sub> compact is limited to 26.3 grams U-235. The compact replaces the "core" in the process steps 18 - 48.

One compact is processed into one plate with an active fuel length of 36 inches. Nineteen plates make up a fuel element.

The following criticality zone limits are applicable:

	Wet Zone	Dry Zone
Compacts	350 gram U-235	700 grams U-235
Plates	20 gram U-235 per linear inch	40 grams U-235 per linear inch
Elements	20 gram U-235 per linear inch	40 grams U-235 per linear inch



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PDR

ACKNOWLEDGED

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Mr. Donald Nussbaumer, Chief  
Source & Special Nuclear Materials Branch  
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Based on the above limits, the safe limits for steps 18 through 48 become:

Step 18	18 square inch cross section
Steps 19 through 22	26 compacts
Steps 23 through 30	54 plates
Steps 31 and 32	27 plates
Steps 33 through 39	54 plates
Step 40	1 element
Steps 41 through 45	2 elements
Step 46	1 element
Steps 47 and 48	2 elements

Please let us know should you require additional information.

Respectfully yours,



Louis J. Swallow, Manager  
Nuclear and Industrial Safety  
Commercial Products Division

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cc: AEC (8 copies)