

APR 15 1964

044:KAL  
70-36

United Nuclear Corporation  
Chemicals Division  
Route 21-A  
Henatite, Missouri

Attention: Mr. L. J. Swallow  
Operations Control Manager

Gentlemen:

Special Nuclear Material License No. SNM-33, is hereby amended to authorize the fabrication of uranium oxide pellets of any U-235 enrichment in accordance with the procedures described in Section 401 of your renewal application dated July 15, 1963, and those revisions to Section 401 submitted in your supplements dated December 19, 1963, and March 17, March 31, and April 10, 1964, except that this amendment authorizes only the specific operation involving  $UO_2SO_4 \cdot U_2O$  described in Subsection 401.3. This license amendment supersedes all previous license authorizations covering the pellet plant operations. All other conditions of this license shall remain the same.

In regard to other operations contemplated but not specified in Subsection 401.3, you may wish to modify this Subsection, submitting a range of nuclear parameters covering specified materials of varying enrichments, chemical composition (to include other materials added at any time during processing), physical form (considering pellet dimensions, density, and type of scrap), and the most effective credible degree of reduction.

In your supplement dated December 19, 1963, you indicated the use of Figure 18 of UN-69273 pertaining to uranium metal rods for justifying the nuclear safety of oxide rod lattices. The use of this figure is not recommended since the extrapolation distances used to obtain this figure are questionable. However, by allowing for the reduced reactivity of the oxide rod lattices as compared with metal rods, the values you have reported are satisfactory.

If you have any questions regarding this license amendment, please do not hesitate to communicate with us.

FOR THE ATOMIC ENERGY COMMISSION

Donald A. Nussbaumer, Chief  
Source and Special Nuclear Materials Branch  
Division of Materials Licensing

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