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UNITED NUCLEAR CORP. (MALLINCKRODT) - EXTENSION OF SM-33 TO INCLUDE  
ADDITIONAL PLANT CAPACITY FOR CONVERSION OF LOW ENRICHMENT ( 6%  $U_6$   
TO ANU - APPLICATION DATED 2/26/62 - DOCKET 70-36

Ref: DLR:FKD

In response to your memorandum of April 23, 1962, we have reviewed  
the subject application.

United Nuclear has requested extension of License SM-33 to cover  
process operations for converting  $U_6$  to ANU under safe mass control  
(for optimum moderation, as defined in Table XIV of K-1019, 5th rev.)  
for fuel enrichments up to and including 6%  $U-235$ . We agree with  
United Nuclear that their "normal" operating procedures, as proposed,  
are safe and will assure nuclear safety. However, the applicant has  
referred to "normal" operations, and for this normal situation has  
justified the spacing between the various pieces of equipment on  
the basis of the solid angle criterion. If there are, as the applicant  
intimates, situations which are not normal and where the operations  
are not as assumed in his analysis, we request that he submit an  
analysis based on the "abnormal" situation, i.e., where all of the  
pieces of equipment can contain special nuclear material at the same  
time, and which will represent the most unfavorable situation insofar  
as neutron interaction is concerned.

To complete their application we request, in addition, that United  
Nuclear submit procedures to cover clean-up between batches and scrap  
accumulation control.

Upon receipt of the necessary supplementary information we should be  
in a position to complete our review.

Attachment:  
Ltr fm UX dtd 2/26/62

DLR:MS:CEB      DLR:MS:CEB

FKDurkan/vj      CDLuke

10/19/62      10/19/62

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