



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

MAY 17 1989

DOCKET NO.: 70-687  
LICENSE NO.: SNM-639  
APPLICANT: CINTICHEM, INC.  
INSTALLATION: TUXEDO, NY  
SUBJECT: SAFETY EVALUATION REPORT - INCREASE IN POSSESSION LIMIT AND LENGTH OF STORAGE

Background

By letter dated April 18, 1989, Cintichem requested amendment of its Special Nuclear Material License No. SNM-639 to increase possession limits for U-235 from 23 kilograms to 50 kilograms contained in enriched uranium. The same letter also requested an increase in the storage period for waste form material from 2 months to 3 years.

As one of its processes, Cintichem separates enriched uranium from fission product waste in a form suitable for receipt by Savannah River. Before shipment, Cintichem stores the separated uranium in aluminum containers for up to 2 months in a gamma facility. Cintichem relies on the Department of Energy (DOE) to allow shipments of the separated uranium to Savannah River in order to minimize the amount and storage time of the SNM at the site. Because of a temporary suspension of the separated uranium shipments by DOE, Cintichem cannot ship out the waste form material and must instead store a greater quantity of SNM for an increased time period at the site. Cintichem requested these license changes in order to avoid exceeding their present license conditions while continuing normal operations during the period of suspension.

Nuclear Safety Conditions

Although the total quantity of irradiated enriched uranium which the licensee may possess at any one time will be increased by the amendment, the licensee has not requested nor will the amendment authorize any change in the criticality safety procedures and parameters previously approved under the license. By letter dated April 28, 1989, Cintichem has agreed to keep spent fuel storage racks separated from the waste storage container racks until a criticality safety analysis has been approved by the NRC.

Radiation Safety and Environmental Considerations

The changes in possession limits and storage period do not affect the currently effective radiation safety procedures and conditions approved under the license. Effluents released to the environment from the waste processing operation have been insignificant and this amendment will not significantly increase those effluents. Cintichem has shown, by example, that aluminum clad spent fuel containers last well past 3 years with no leakage of fuel. The waste form process containers, stored in the same water as the spent fuel containers, are also made of aluminum but have a wall thickness that is greater than twice as thick as the spent fuel containers; therefore, the increase in storage time will have no effect on the safety of operations.

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Safeguards Considerations

The proposed amendment has been coordinated with the Division of Safeguards; the Division of Safeguards has no objection to the issuance of the proposed amendment.

Recommendation

On the basis of the above, I recommend that the license be amended as requested by the licensee.

*Gary C. Comfort, Jr.*

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Advanced Fuel and Special  
Facilities Section  
Fuel Cycle Safety Branch

Approved by

*Jerry J. Swift*  
Jerry J. Swift, Section Leader  
Advanced Fuel and Special  
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| OFC  | : IMAF        | : IMAF     | : IMAF    | : IMSB     | : | : | : |
| NAME | : GComfort:jc | : EL Brown | : JSwift  | : LC Rouse | : | : | : |
| DATE | : 5/16/89     | : 5/16/89  | : 5/16/89 | : 5/17/89  | : | : | : |