

Lacatesbach

UNITED STATES GOVERNMENT

Memorandum

TO : Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials Branch, DML

DATE: April 15, 1964

FROM : Charles D. Luke, Chief
Criticality Branch, DML *CDL*

SUBJECT: THE MARTIN COMPANY, DOCKET NO. 70-58, APPLICATION DATED APRIL 1, 1964

SYMBOL: DML:TGM

We have reviewed the subject application for amendment of Special Nuclear Material License No. SNM-53 to authorize the fabrication of a nuclear core of tubular design employing U(5%)O₂ pellets and have the following comments:

1. We request information to demonstrate that each incoming shipment will be placed in an array no more reactive than as received and will be isolated from every other array of special nuclear material by:
 - a. A distance of 12'; or
 - b. The greater distance across an orthographic projection or either array or a plane perpendicular to a line joining their centers, whichever is greater; or
 - c. Eight inches of full density (140 lb/cu ft) concrete. Where concrete of less density is used, thickness must be increased proportionately.

We also request a description of procedures for identifying, isolating, and handling wet or damaged packages.

2. We request a description and nuclear safety analysis of procedures to assure that unsafe concentrations of U-235 in solution are not accumulated during cleaning operations.

In addition, we feel that the applicant should be advised of the following:

"Figures 14, 15 and 16 of TID-7016, Rev. 1, which pertain to lattices of slightly enriched uranium rods are considered non-conservative and a proposed revision is currently under consideration. The revised values are lower than the safe diameter and thickness quoted in your application. However, with allowance for the reduced reactivity of the oxide rod lattices, as compared with metal rods, we agree that the values established in your application are adequate."

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