

*Lauterbach*

UNITED STATES GOVERNMENT

# Memorandum

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

DATE: February 3, 1966

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

SUBJECT: MARTIN COMPANY, DOCKET NO. 70-58,  
APPLICATION DATED JANUARY 21, 1966

DML:CB:TGM

We have reviewed the subject application for the exclusive used shipment of MH-1A fuel elements. Each shipment will be limited to two fuel elements which are separately packaged within a 10-inch diameter Schedule 20 pipe. The pipe is welded to a 24-inch square carbon steel base plate. Tie downs will be used solely for the purpose of eliminating excessive vibration during transport.

The MH-1A fuel element consists of 104 fuel tubes arranged on a square pitch. The stainless steel tubes are loaded with uranium dioxide pellets to an active material length of 36 inches. The pellets have a 0.4565-inch diameter. The uranium is enriched to 4.07 or 4.65 w/o U-235. The maximum quantity of U-235 is 4,264 grams per element and 8.53 kg per shipment.

We have independently determined that the undamaged shipment is subcritical with an identical shipment in contact and with the two shipments closely reflected by water on all sides.

We agree with the applicant's conclusions that the damaged shipment is subcritical if the shipment is closely reflected by water and with the two packages in the most reactive arrangement and optimunly moderated.

We, therefore, have no objection to the approval of the subject request.



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