

DML:KEL
70-58

JUL 13 1965

Martin Company
Nuclear Division
Baltimore, Maryland 21203

Attention: Mr. C. W. Keller
Nuclear Accountability
and Licensing Representative

Gentlemen:

This refers to your application dated January 28, 1965, for renewal of Special Nuclear Material License No. SN4-53.

In connection with our review of your application, please supply the information indicated in the attachment to this letter. This information was discussed in the meeting on June 30, 1965 between your Messers. C. W. Keller, F. A. Russo and R. J. Brisson and Messers. T. G. McCreless and K. E. Lauterbach of this Division.

In reference to the storage and handling of U-235 and plutonium-beryllium neutron sources in the Critical Facility, we understand that the Division of Reactor Licensing is considering amendment of your operating license to authorize use and storage of these materials in the Critical Facility. The Division will contact you later regarding this matter.

Very truly yours,

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

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DATE ▶	7/7/65	7/13/65	7/7/65			

ATTACHMENT TO MARTIN COMPANY LETTER DATED:

1. With respect to administrative procedures to assure compliance with license requirements, please provide the following (a) confirmation that written operating rules or instructions are prepared and distributed for all operations involving special nuclear material (b) who has authority (level of management) to approve changes in operating rules or instructions, equipment, facilities and processes (c) description of your internal inspection and audit system for assuring compliance with operating procedures and license requirements indicating who reviews the findings resulting from such inspections and audits and (d) a description of the employee training program, particularly as it relates to nuclear safety.
2. Identification and qualifications of staff personnel responsible for carrying out the health physics and nuclear safety programs. Please indicate the administrative relationships of these positions to production and other departments.
3. Since you indicate that the plutonium-beryllium neutron source will not be used in the Nuclear Processing Area, the plutonium associated with this source should be deleted from your application for license renewal.
4. Further identification and description of the plutonium alpha sources, including source specifications, chemical and physical form, isotopic content and the maximum quantity to be possessed at any time.
5. Your application indicates that nuclear accident dosimeters are used in the plant. Since these dosimeters contain special nuclear material, please identify the material and discuss the method of encapsulation of the material in terms of preventing dispersion of radioactive material in the event that the units are exposed to fire or high heat sources.
6. Please provide the scale to which Figure V-B1 is drawn and confirm that there is a radiation sensing device within 120 feet of every location where special nuclear material is handled, used or stored or at such lesser distances as may be required to compensate for intervening shielding.

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14. The nuclear safety of your vault storage is dependent on maintaining the H/A ratio of individual units equal to or less than 2. Accordingly, please describe your controls to assure that material as placed in storage, and stored material susceptible to moisture pickup will not exceed an H/A of 2.
15. In reference to your nuclear safety analysis for the in process storage area, the k_{eff} calculations are based on a system which does not necessarily represent the most reactive system which may be encountered under partial flooding of a storage unit. While we agree with the results of your solid angle calculations for 48" containers, we note, page IV B-3, that the containers may be extended to accommodate a fuel length of 84". This extension would invalidate the solid angle calculations. Accordingly, please provide a revised nuclear safety analysis taking into consideration the above comments.
16. The application states that up to fifty in-process storage racks may be used throughout the work areas. Please provide nuclear safety analyses for an individual storage box and for the neutron interaction between boxes of a rack and between boxes of other racks or other special nuclear material which is not isolated.
17. The information contained in paragraph E, page V-A-13, relative to the handling of scrap and discard material is not in sufficient detail to establish the nuclear safety of your proposed operations. Therefore, please provide:
 - a. A description of your controls to assure that unsafe quantities of U-235 will not accumulate within the air exhaust system and its filters.
 - b. Description and nuclear safety analyses of your handling and storage procedures for contaminated air filters.
 - c. Confirmation that uranium containing solution will be analyzed for U-235 content prior to its transfer to unsafe geometry vessels.
 - d. Confirmation that the H/A ratio for uranium solution in 55-gallon drums will be equal to or exceed 5200.
 - e. A description of your controls for assuring that unsafe quantities of U-235 will not accumulate within contaminated waste paper.

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