

AUG 19 1982

Docket No. 40-3296
License No. STB-187

Note to: Files

During the period of March 5, 1982 to June 15, 1982, Region I conducted an inquiry of the Martin-Marietta facility located in Middle River, Maryland. The inquiry consisted of telephone discussions and review of records provided by Martin-Marietta Corporation and NMSS. Region I has determined that the Middle River facility meets current criteria for unrestricted use. See Inspection reports of August 2, 1982 by Jenny M. Johansen concerning this subject (copy enclosed).

Original Signed By:
W. T. Crow

W. T. Crow, Section Leader
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

Enclosures: Inspection Report
No. 40-3296/82-01
Inspection Report
No. 40-2308/82-01

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DATE	8/16/82	8/17/82	8/16/82	8/18/82		



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

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A handwritten signature in cursive script, appearing to read "W. T. Crow".

W. T. Crow, Section Leader
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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 40-3296/82-01
40-2308/82-01

Docket No. 40-3296
40-2308

License No. STB-187
C-3991

Licensee: Martin-Marietta Corporation

Baltimore, Maryland

Facility Name: Martin-Marietta Corporation (The Martin Company)
Middle River Facilities
Middle River, Maryland

Inquiry Conducted: March 5 - June 15, 1982

Inspector: Jenny M. Johansen
Jenny M. Johansen, Radiation Specialist

8/2/82
date

Approved by: John D. Kinneman
John D. Kinneman, Chief, Materials
Program Section No. 1

8/2/82
date

Inquiry Summary:

This inquiry consisted of telephone discussions and review of records provided by Martin-Marietta Corporation and NMSS to determine whether the facility at Middle River, Maryland formerly used for development and production of thorium-magnesium alloys meets current criteria for unrestricted use.

Results: The Middle River (Chesapeake Park) facility meets current criteria for release for unrestricted use.

DETAILS

1. Persons Contacted

- A. Paul Guinn, MLB, NMSS, USNRC
- B. Paul Majewski, Safety Coordinator
Martin-Marietta Laboratories
1450 S. Rolling Road
Baltimore, Maryland 21227 (301-247-0700)
- C. Joseph P. Alcarese, Division Counsel
Martin-Marietta Aerospace, Baltimore Division
103 Chesapeake Park Plaza
Baltimore, Maryland 21220 (301-338-5000)
- D. Robert E. Corcoran, Chief
Division of Radiation Control
201 West Preston Street
Baltimore, Maryland 21201 (301-383-2744)

2. Background

Martin-Marietta Corporation, Baltimore Division, was authorized by License Nos. C-3991 and STB-187 during the late 1950's and early 1960's for the development and production of magnesium-thorium alloys and for possession and use of small quantities of uranium and thorium metal in connection with work under government contracts. License No. STB-187 expired on April 30, 1964. The authorized place of use was at Martin-Marietta's Middle River, Maryland facilities which are also called Chesapeake Park.

3. Telephone Discussions with Individuals

Individual A in paragraph 1 was formerly employed as the Health Physics Supervisor at Martin-Marietta and monitored the activities conducted under License Nos. C-3991 and STB-187. He stated that all work authorized by these licenses occurred in the basement of Building D at Chesapeake Park, Middle River, Maryland. Individual D also stated that a former Martin-Marietta employee had told him that Building D had been torn down and the site covered with grass after the building and the site were decontaminated.

Individual C searched Martin-Marietta records and found a close-out survey covering Building D and correspondence discussing the release of this facility for unrestricted use. He provided the correspondence and survey report in a letter dated June 1, 1982 (see Enclosure A) and confirmed that Building D had been torn down and the area where it stood is now covered with grass.

4. Review of Records

A letter from Martin-Marietta to the AEC dated September 21, 1970 (See Enclosure A) states that AEC License No. SNM-1192 was issued to Martin-Marietta Corporation to allow decontamination of their laboratory facilities and that a report of the decontamination was enclosed. The "Comprehensive Radiation Survey Report for the Release of Decontaminated Premises for Unrestricted Use," enclosed, provided the following points of comparison to the licenses and Individual A's statement:

- a. The decontamination effort involved Building D at Chesapeake Park. Individual A stated that all work under License Nos. C-3991 and STB-187 occurred in this building.
- b. Special nuclear material processes took place in Building D nuclear laboratories. The decontamination program consisted primarily of removal of U-235 and U-238 residual oxide forms. License No. C-3991 authorized use of uranium metal under government contracts while License No. STB-187 authorized the use of thorium.

Review of the close-out survey indicates that an extensive effort was made to remove all contamination according to AEC criteria and to protect the workers performing the decontamination. Contamination was removed from surfaces by use of high vacuum systems. Fixed contamination found on equipment such as hoods, ducts, glove boxes was allowed to remain fixed and the equipment was removed, properly packaged and shipped to Moorehead Kentucky for burial. Swipe tests were made and various kinds of radiation detectors were used during the decontamination. The report states that removable activities and radiation levels met AEC criteria for release for unrestricted use; however, no site diagram, showing where the swipes and measurements were taken, nor actual results of the measurements are provided.

The report states the average fixed alpha emitter contamination was less than 2000 dpm/100 cm², with no beta-gamma contamination, except for a small area of fixed Sr-90 contamination reading 0.5 mrad/hr. Except for the Sr-90 contamination, these results are within present NRC criteria of 5000 dpm/100cm² (average U-nat, U-235, U-238 and associated decay products) surface contamination. A fixed contamination level of 0.5 mrad/hr from Sr-90 does not meet the present NRC criteria; however, it is within the 2 mrem/hr limit for an unrestricted area in 10 CFR 20.105(b), and, since it was only a small spot, presented no hazard to personnel.

All water samples taken were stated to be less than or equal to 9.0×10^{-7} microcuries per ml compared to 10^{-5} microcuries per ml allowed for U-235 and U-238 in 10 CFR 20, Appendix B, Table II, Column 2. All soil samples were less than 10 pCi per gram U-238 or U-235 except for one sample having 24 pCi per gram of U-238. These results are consistent with the recent Uranium Fuel Licensing Branch position on disposal of uranium.

Residual activity in drains consisted of a total of 29 microcuries of U-235, which the licensee proposed to seal in place with cement.

5. Conclusion

Materials authorized by License Nos. C-3991 and STB-187 were used in Building D at Martin-Marietta's Middle River facilities which are also called Chesapeake Park. The Building D which was decontaminated and released for unrestricted use when AEC License SNM-1192 was terminated is the same facility where work authorized by License Nos. C-3991 and STB-187 was conducted. If any material remained from operations under these licenses it would have been detected and removed during that effort. No determination could be made if the drains containing residual U-235 activity were sealed with cement, however, since the building is now demolished and the site covered with grass this activity is unlikely to present a hazard.

Region I concludes the site meets current NRC criteria for release for unrestricted use and that no site survey is necessary.