



DML:RTW  
70-58

UNITED STATES  
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

DISTRIBUTION:

Docket File, w/encls.  
Document Room, w/encls.  
State Health (License only)  
Compliance, HQ, w/encls. (2)  
H. J. McAlduff, OROO, w/encls.  
R. Weber, SMM, w/encls.  
NMS, w/encls.  
A. Cabell, ADM:DR, w/encls.  
R. T. Woolsey, DML, w/encls.  
D. A. Nussbaumer, w/encls.  
M. A. Dean, DML, w/encls.  
Branch R/F, w/encls.  
Division R/F, w/o encls.

MAY 22 1970

Martin Marietta Corporation  
Aerospace Headquarters  
Friendship International Airport  
Baltimore, Maryland 21240

Attention: Mr. Ross G. Macaulay, Director of Contracts  
Aerospace Division

Gentlemen:

Enclosed is AEC Material License No. SNM-1192. We have also enclosed a copy of our guidelines for decontamination of facilities and equipment which set forth criteria to be used in accomplishing the decontamination and survey of your facilities prior to releasing them for unrestricted use.

Following decontamination to the limits specified in our guidelines, a comprehensive radiation survey shall be made of your facilities and remaining equipment, and a copy of the survey report filed with the Director, Division of Materials Licensing, USAEC, Washington, D. C., 20545, and also the Director, Division of Compliance, USAEC, 970 Broad Street, Newark, New Jersey 07107. The report should be filed at least 30 days prior to the date that you desire to have unrestricted use of these facilities.

Sincerely,

Original Signed by  
Leland C. Rouse

Donald A. Nussbaumer, Chief  
Fuel Fabrication and  
Transportation Branch  
Division of Materials Licensing

Enclosures:

1. License No. SNM-1192
2. Guidelines for Decontamination of Facilities ...

cc: Mr. Elmer Chenault  
P. O. Box 174  
Denver, Colorado 80201

# COPY

UNITED STATES  
ATOMIC ENERGY COMMISSION  
MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Parts 30 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive and possess the byproduct and special nuclear material designated below; to use such material for the purposes and at the places designated below; and to transfer such materials to persons authorized to receive them in accordance with the regulations in said Parts. This license shall be deemed to contain the conditions specified in the Atomic Energy Act of 1954, as applicable, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to the conditions specified below.

1. Licensee: Martin-Marietta Corporation
2. Address: Aerospace Headquarters  
Friendship International  
Airport  
Baltimore, Maryland 21240
3. License No:  
SNM-1192
4. Docket No:  
70-58
5. Expiration Date:  
December 31, 1970

- | 6. <u>Material</u> | 7. <u>Chemical and/or<br/>Physical Form</u> | 8. <u>Maximum Amount of Material<br/>Which Licensee May Possess<br/>at Any One Time</u> |
|--------------------|---|---|
| A. Uranium 235     | A. Any                                      | A. 100 grams  |
| B. Hydrogen 3      | B. Any                                      | B. 10 millicuries   |
| C. Cobalt 60       | C. Any                                      | C. Less than 1 millicurie   |
| D. Strontium 90    | D. Any                                      | D. Less than 1 millicurie   |

9. Authorized use:

This license authorizes the decontamination, and associated operations, of the licensee's nuclear facilities at Middle River Maryland, in accordance with the statements, representations and conditions contained in the licensee's applications dated April 24, May 1 and 15, 1970.

CONDITIONS

10. The licensee shall comply with the provisions of Title 10, Code of Federal Regulations, Part 20, "Standards for Protection Against Radiation."

# COPY

**COPY**

Licensee: Martin-Marietta Corporation

Page: 2 of 2

License No: SNM-1192

Docket No: 70-58

11. Pursuant to § 20.103(c)(1) and (3), the licensee is hereby authorized to make allowance for the use of respiratory protective equipment in determining whether individuals in restricted areas are exposed to concentrations of airborne radioactivity in excess of the limits specified in the attached Annex A.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by  
Leland C. Rouse

Date of Amendment MAY 22 1970

Donald A. Nussbaumer  
Division of Materials Licensing

**COPY**

A N N E X A

CONDITIONS FOR USE OF RESPIRATORY PROTECTIVE EQUIPMENT  
PURSUANT TO PARAGRAPHS 20.103(c)(1) AND (2), 10 CFR 20

1. In circumstances in which adequate limitation of the inhalation of radioactive materials by use of process or other engineering controls is impracticable, the licensee may permit an individual in a restricted area to be exposed to average concentrations of airborne radioactive materials in excess of the limits specified in Appendix B, Table 1, Column 1 of 10 CFR 20 provided:
  - A. The individual uses respiratory or other appropriate protective equipment such that the total intake, in any period of seven consecutive days by inhalation, ingestion or absorption, would not exceed that intake which would result from breathing the concentrations specified in Appendix B, Table 1, Column 1 of 10 CFR 20 for a period of 40 hours.
  - B. The licensee shall advise each respirator user that he may leave the area for relief from respirator use in case of equipment malfunction, physical or psychological discomfort, or any other condition that might cause reduction in the protection afforded the wearer.
  - C. The licensee maintains a respiratory protective program adequate to assure that the objective of Item "A" above is met. Such program shall include:
    - (i) Air sampling and other surveys sufficient to identify the hazard, to evaluate individual exposure, and to permit proper selection of the respiratory protective equipment;
    - (ii) Procedures to assure proper selection, supervision and adequate training of personnel using such protective equipment;
    - (iii) Procedures to assure the adequate fitting of respirators and the testing of equipment for operability.
    - (iv) Procedures for maintenance to assure full effectiveness of respiratory protective equipment, including issuance, cleaning and decontamination, inspection, repair, and storage;

- (v) Bioassays of individuals and other surveys as may be appropriate to evaluate individual exposures and to assess protection actually provided; and
  - (vi) Records sufficient to permit periodic evaluation of the adequacy of the respiratory protective program.
- D. The licensee has evaluated the protective equipment<sup>1/</sup> and has determined that, when used to protect against radioactive material under the conditions of use to be encountered such equipment is capable of providing a degree of protection at least equal to the protection factors listed in Table I attached hereto<sup>2/</sup>
2. The licensee shall notify, in writing, the Director of the appropriate AEC Regional Compliance Office listed in Appendix D, 10 CFR 20, when the respiratory protection program is initiated. Such notification shall be made within thirty (30) days after the date that allowance for the use of respiratory protective equipment is first made.
  3. The licensee shall not assign protection factors in excess of those given in Table I attached hereto in selecting equipment.

1/ In evaluating respiratory protective equipment for use against radioactive materials to assure that the equipment provides the protection factors listed in the attached Table I, the licensee may accept equipment approved under appropriate test schedules of the U. S. Bureau of Mines to the extent pertinent.

2/ The factors listed apply only to protection against radioactive materials. Additional precautions may have to be taken to protect against concurrent nonradiation hazards.

TABLE I

PROTECTION FACTORS FOR RESPIRATORS

Description	Modes <sup>1/</sup>	PROTECTION FACTORS <sup>2/</sup>	
		Particulates and Vapors and Gases Except Tritium Oxide <sup>3/</sup>	Tritium Oxide
<b>I. <u>AIR-PURIFYING RESPIRATORS</u></b>			
Facepiece, half-mask	NP	10	1
Facepiece, full	NP	100	1
<b>II. <u>ATMOSPHERE-SUPPLYING RESPIRATOR</u></b>			
<b>1. <u>Air-line respirator</u></b>			
Facepiece, half-mask	CF	100	2
Facepiece, half-mask	D	100	2
Facepiece, full	CF	1000	2
Facepiece, full	D	500	2
Facepiece, full	PD	1000	2
Hood	CF	1000	2
Suit	CF	4/	4/
<b>2. <u>Self-contained breathing apparatus (SCBA)</u></b>			
Facepiece, full	D	500	2
Facepiece, full	PD	1000	2
Facepiece, full	R	1000	2
<b>3. <u>Combination respirator</u></b>			
Any combination of air-purifying and atmosphere supplying respirator.		Protection factor for type and mode of operation as listed above.	

<sup>1/</sup> CF: continuous flow

D : demand

NP: negative pressure (i.e., negative phase during inhalation)

PD: pressure demand (i.e., always positive pressure)

R : recirculating (i.e., negative phase during inhalation)

- 2/ (a) For purposes of this authorization the protection factor is a measure of the degree of protection afforded by a respirator, defined as the ratio of the concentration of airborne radioactive material outside the respiratory protective equipment to that inside the equipment (usually inside the facepiece) under conditions of use. It is applied to the airborne concentration to determine the concentration inhaled by the wearer, according to the following formula:

$$\text{Concentration Inhaled} = \frac{\text{Airborne Concentration}}{\text{Protection Factor}}$$

- (b) The protection factors apply:

- (i) only for individually fitted respirators worn by trained individuals and used and maintained under supervision in a well-planned respiratory protection program.
- (ii) for air purifying respirators only when high efficiency particulate filters and/or sorbents appropriate to the hazard are used.
- (iii) for atmosphere supplying respirators only when supplied with adequate respirable air.

- 3/ Excluding radioactive contaminants that present an absorption or submersion hazard.

- 4/ Appropriate protection factors must be determined taking account of the permeability of the suit to the contaminant under conditions of use. No protection factor greater than 1000 shall be used except as authorized by the Commission.

NOTE 1: Protection factors for respirators as may be approved in the future by the U. S. Bureau of Mines according to approval schedules for respirators to protect against airborne radionuclides may be used in lieu of the protection factors listed in this Table. Where additional respiratory hazards other than radioactive ones are present, especially those immediately dangerous to life, the selection and use of respirators shall also be governed by the approvals of the U. S. Bureau of Mines in accordance with their applicable schedules.

NOTE 2: Radioactive contaminants for which the concentration values in Appendix B, Table I of 10 CFR Part 20 are based on internal dose due to inhalation may, in addition, present external exposure hazards at higher concentrations.