

DOCKET NO. 40-29

MCDONNELL *Aircraft Corporation*
Lambert-Saint Louis MUNICIPAL AIRPORT • BOX 516, ST. LOUIS, MO. 63166

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29 DEC 1966

Ref: USAEC-220-3752

United States Atomic Energy Commission
Washington, D. C.

Attention: Director
Division of Licensing and Regulation

Subject: Application for Source Material License

Enclosures: (1) Form AEC-2 (4 copies)

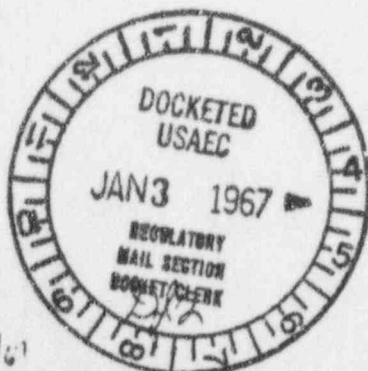
1. Request is made for renewal of source material license # STB-49 issued to the McDonnell Company (formally McDonnell Aircraft Corp.).
2. It is requested that the new license be modified to include 200 pounds of depleted uranium in metallic and oxide form. This material is for use in re-entry vehicle research.
3. Should you require any further information do not hesitate to contact us.

Very truly yours,

MCDONNELL COMPANY

W. L. Kester
W. L. Kester
Scientist
Research Division

WLK:emc



Copy Provided Compliance

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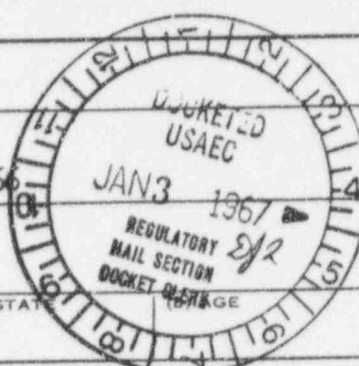
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ACKNOWLEDGED

UNITED STATES ATOMIC ENERGY COMMISSION

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APPLICATION FOR SOURCE MATERIAL LICENSE

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

1. (Check one) <input type="checkbox"/> (a) New license <input type="checkbox"/> (b) Amendment to License No. _____ <input checked="" type="checkbox"/> (c) Renewal of License No. <u>STB-49</u> <input type="checkbox"/> (d) Previous License No. _____		2. NAME OF APPLICANT <u>McDonnell Company</u>	
3. PRINCIPAL BUSINESS ADDRESS <u>P. O. Box 516</u> <u>St. Louis, Missouri 63166</u>			
4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED <u>McDonnell Company</u> <u>P. O. Box 516 St. Louis, Missouri 63165</u>			
5. BUSINESS OR OCCUPATION <u>Mfr. Missiles, Aircraft, Spacecraft</u>			
6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP			
7. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED <u>Mg-Th alloys to be used in manufacture of aircraft and missile components.</u> <u>Uranium and Thorium oxides to be used in research on re-entry nose cones for missile and spacecraft.</u>			
8. STATE THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, POSSESS, USE, OR TRANSFER UNDER THE LICENSE			
(a) TYPE	(b) CHEMICAL FORM	(c) PHYSICAL FORM (Including % U or Th.)	(d) MAXIMUM AMOUNT AT ANY ONE TIME (in pounds)
NATURAL URANIUM			
URANIUM DEPLETED IN THE U-235 ISOTOPE	<u>Metal or oxide</u>	<u>Metal sheets or dry powder</u>	<u>200</u>
THORIUM (ISOTOPE)	<u>Oxide or Magnesium alloy</u>	<u>Sheets, castings, forgings</u>	<u>114,000</u>
(e) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (in pounds)			
9. DESCRIBE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL BE USED, INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING A THOROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES <u>See attachment to application for Modification dated 19 Aug. 1964</u>			
10. DESCRIBE THE MINIMUM TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE THAT WILL BE REQUIRED OF APPLICANT'S SUPERVISORY PERSONNEL INCLUDING PERSON RESPONSIBLE FOR RADIATION SAFETY PROGRAM OR OF APPLICANT IF APPLICANT IS AN INDIVIDUAL. <u>Same as # 9 above</u>			
11. DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE OR PROPERTY AND RELATE THE USE OF THE EQUIPMENT AND FACILITIES TO THE OPERATIONS LISTED IN ITEM 9. INCLUDE: (a) RADIATION DETECTION AND RELATED INSTRUMENTS (including film badges, dosimeters, counters, air sampling, and other survey equipment as appropriate. The description of radiation detection instruments should include the instrument characteristics such as type of radiation detected, window thickness, and the range(s) of each instrument). <u>Same as # 9 above</u>			
(b) METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN (a) ABOVE, INCLUDING AIR SAMPLING EQUIPMENT (for film badges, specify method of calibrating and processing, or name supplier). <u>Same as # 9 above</u>			

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11(c). VENTILATION EQUIPMENT WHICH WILL BE USED IN OPERATIONS WHICH PRODUCE DUST, FUMES, MISTS, OR GASES, INCLUDING PLAN VIEW SHOWING TYPE AND LOCATION OF HOOD AND FILTERS, MINIMUM VELOCITIES MAINTAINED AT HOOD OPENINGS AND PROCEDURES FOR TESTING SUCH EQUIPMENT.

Same as p 9 above

12. DESCRIBE PROPOSED PROCEDURES TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE AND PROPERTY AND RELATE THESE PROCEDURES TO THE OPERATIONS LISTED IN ITEM 9. INCLUDE: (a) SAFETY FEATURES AND PROCEDURES TO AVOID NONNUCLEAR ACCIDENTS, SUCH AS FIRE, EXPLOSION, ETC., IN SOURCE MATERIAL STORAGE AND PROCESSING AREAS.

Same as p 9 above

(b) EMERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.

Same as p 9 above

(c) DETAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

Same as p 9 above

13. WASTE PRODUCTS: If none will be generated, state "None" opposite (a), below. If waste products will be generated, check here ☐ and explain on a supplemental sheet:

(a) Quantity and type of radioactive waste that will be generated. **None**

(b) Detailed procedures for waste disposal.

14. IF PRODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN 10 CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED DESCRIPTION OF THE PRODUCT, INCLUDING:

(a) PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

(b) PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

(c) BETA AND BETA PLUS GAMMA RADIATION LEVELS (Specify instrument used, date of calibration and calibration technique used) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.

(d) METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MANUFACTURED PRODUCT.

CERTIFICATE

(This item must be completed by applicant)

15. The applicant, and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 40, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

McGraw-Hill Company

(Applicant named in Item 2)

Dated **28 December 1966**

BY:

W. L. Hunter

(Print or type name under signature)

Scientist, Chairman, Isotope Committee

(Title of certifying official authorized to act on behalf of the applicant)

WARNING: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

1. (Check one) <input type="checkbox"/> (a) New license <input type="checkbox"/> (b) Amendment to License No. _____ <input checked="" type="checkbox"/> (c) Renewal of License No. 222-42 <input type="checkbox"/> (d) Previous License No. _____		2. NAME OF APPLICANT McDonnell Company	
3. PRINCIPAL BUSINESS ADDRESS P. O. Box 516 St. Louis, Missouri 63166			
4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED McDonnell Company P. O. Box 516 St. Louis, Missouri 63166			
5. BUSINESS OR OCCUPATION Mfr. Missiles, Aircraft, Spacecraft		6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP (b) AGE 	
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THORIUM (ISOTOPE)	Oxide or Magnesium alloy	Sheets, castings, forgings	114,000
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Same as # 9 above

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Same as # 9 above

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NONE

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CERTIFICATE

(This item must be completed by applicant)

15. The applicant, and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 40, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

McDonnell Company

(Applicant named in Item 2)

Dated 28 December 1966

BY:

W. L. Kester

(Print or type name under signature)

Scientist, Chairman, Isotope Committee

(Title of certifying official authorized to act on behalf of the applicant)

WARNING: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

DML:CHN
40-29

JAN 24 1967

McDonnell Company
Post Office Box 516
St. Louis, Missouri 63166

Attention: Mr. W. L. Kester
Scientist, Research Division

Gentlemen:

This refers to your application dated December 28, 1966, requesting renewal and amendment of Source Material License No. STD-49.

Your initial application for a source material license was filed more than six years ago and during this time there have been considerable correspondence and amendments pertaining to the license. Therefore, we are requesting that a new application, complete in itself, without reference to previous applications, be submitted within thirty (30) days from the date of this letter on the enclosed Form AEC-2 in accordance with the instructions provided with the form. We believe that the submission of such a consolidated application will enable the Commission staff to evaluate it and subsequent amendments more expeditiously. Also, since the application becomes a condition of the license, such a consolidated application will facilitate an understanding of the terms and conditions of the license.

Enclosed is a copy of "A Guide for the Preparation of Licensing Applications for Processing Thorium-Magnesium Alloys Containing Not More Than 4% Thorium", which might assist you in the completion of part of your application.

input pending

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McDonnell Company

- 2 -

Your renewal application was filed thirty (30) days prior to the expiration date of the license. Accordingly, pursuant to Section 40.43, your license shall not expire until your renewal application has been finally determined by the Commission.

Very truly yours,

Don F. Harmon
Source & Special Nuclear Materials Branch
Division of Materials Licensing

Enclosures:

1. "A Guide ...
2. 10 CFR 20
3. 10 CFR 40
4. Form ABC-2

→ DISTRIBUTION:
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Branch Reading File
Division Reading File

OFFICE ▶	DML	DML				
SURNAME ▶	CEMacDonald:jf	DEHarmon				
DATE ▶	1-16-67	1/24/67				

DOCKET NO. 40-29

MCDONNELL *Aircraft Corporation*
Lambert-Saint Louis MUNICIPAL AIRPORT • BOX 516, ST. LOUIS, MO. 63166

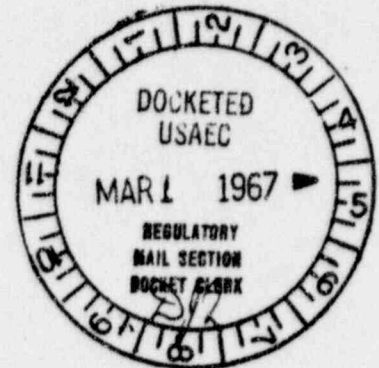
Regulatory Suppl File Cy.

27 FEB 1967
Ref: USAEC-220-3587

United States Atomic Energy Commission
Washington, D. C.

Attention: Source and Special Nuclear
Materials Branch
Division of Material Licensing

Subject: Application for Source Material License



1. Your letter DML:CEM 40-29 dated 24 January 1967 requested that McDonnell submit a new application for a source material license.
2. A review of our present and projected requirements for thorium-containing materials reveals that we no longer have need for quantities of source material in excess of those permitted under a general license as defined in 10 CFR 40, Paragraph 40.22.
3. Our present inventory consists of:
 1. 100 kilograms of magnesium - 4% thorium sheet containing approximately 9 pounds of thorium.
 2. One 146 pound tungsten - 2% thorium oxide ballast for use in an experimental missile.
 3. 40 pounds of thorium oxide for use in research or ceramics to be used in re-entry heat shields.
4. Estimates of near future needs indicate a downward trend rather than an increased use for source material. Should spacecraft or missiles now in early design stage cause a change in this forecast, we will of course re-apply for a specific license.
5. Should you require any further information do not hesitate to contact us.

Very truly yours,

MCDONNELL COMPANY

W. L. Kester
W. L. Kester
Scientist
Research Division

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ACKNOWLEDGED

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MCDONNELL DOUGLAS

CORPORATION

14 MAR 1968

Ref: USAEC-220-5443

DOCKET NO. 40-29

Regulatory Suppl File Cy.

United States Atomic Energy Commission
Washington, D. C. 20545

Attention: Director
Division of Materials Licensing

Subject: Application for Source Material License

Enclosures: (1) Form AEC-2 (4 copies)
(2) Supplemental Sheets to Encl. (1)

1. Enclosed herewith are forms AEC-2 in application for modification of Source Material License STB-49 issued to the McDonnell Company.
2. Upcoming programs will require that we use the indicated quantities of both magnesium-thorium alloys and thorium.
3. Should you require any further information do not hesitate to contact us.

Very truly yours,

MCDONNELL COMPANY, St. Louis

W. L. Kester
W. L. Kester
Scientist
Research Division

WLK:emc

ACKNOWLEDGED

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