

OFFICIAL RECORD COPY

## MATERIALS LICENSE

Amendment No. 5

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee		In accordance with the letter dated May 29, 1996	
1.	Lockheed Missiles and Space Company, Incorporated	3. License Number	SUB-1502
		is amended in its entirety to read as follows:	
2.	102 Lockheed Drive P.O. Box 1068 St. Marys, Georgia 31558	4. Expiration Date	April 30, 2003 (extended)
		5. Docket or Reference No.	040-08944
6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License	
A. Depleted Uranium	A. Solid metal	A. 68.2 kilograms	
B. Nickel 63	B. Electron tube (E. G. & G. Part No. 328986)	B. 40 millicuries total, not to exceed 40 microcuries per source	
C. Americium 241	C. Sealed neutron source registered pursuant to 10 CFR 32.210 or an equivalent Agreement State regulation	C. 270 millicuries total, not to exceed 90 millicuries per source	
9. Authorized Use:			
A. For possession and use as shielding in a Varian Model 1000(a) linear accelerator.			
B. For possession and use in electronic components and transfer to licensed/authorized Department of Defense users.			
C. For possession and use as a neutron detection device check source.			

## CONDITIONS

10. Licensed materials shall be used only at the licensee's facilities located at the Strategic Weapons Facility - Atlantic (SWFLANT), Naval Submarine Base Kings Bay, Kings Bay, Georgia.
11. A. Licensed material shall be used by, or under the supervision of, Larry Austin or Donald Mercado.
- B. The Radiation Safety Officer for this license is Larry Austin.

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PDR ADOCK 04008944  
C PDR

ML 20 11

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License Number SUB-1502

Docket or Reference Number 040-08944

Amendment No. 5

(continued)

## CONDITIONS

12. Sources containing licensed material shall not be opened by the licensee.
13. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory, and shall include the quantities and kinds of byproduct material, manufacturer's name and model numbers, location of the sources and/or devices, and the date of the inventory.
14. In addition to the possession limits in item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.
15. The licensee shall maintain records of information related to decommissioning at the licensee's facilities located at the Strategic Weapons Facility - Atlantic (SWFLANT), Naval Submarine Base Kings Bay, Kings Bay, Georgia as specified in 10 CFR 30.35(g) until this license is terminated by the Commission.
16. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated July 20, 1992 [License renewal]  
B. Letter dated June 2, 1993 [Supplemental information]  
C. Letter dated April 5, 1994 [Change of RSO]  
D. Letter dated May 29, 1996 [Addition of Americium 241 sources and extension of expiration date in accordance with 10 CFR 40.42]  
E. Letter dated September 4, 1996 [Supplemental information]

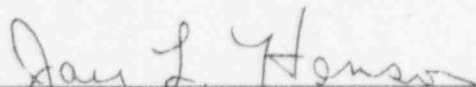
FOR THE U.S. NUCLEAR REGULATORY COMMISSION

JAY L. HENSON

DATE

OCT 15 1996

BY

Region II, Division of Nuclear Materials Safety  
101 Marietta Street, N.W., Suite 2900  
Atlanta, GA 30323-0199

N:\MLICENSE\SUB-1502.A5

10/17/96

**LOCKHEED MARTIN**



United States Nuclear Regulatory Commission  
Region II  
Material Radiation Protection Section  
101 Marietta Street, NW  
Suite 2900  
Atlanta, GA 30323

4 September 1996  
47-20/089

Attn: Mr. Jose Diaz Velez

SUBJECT: Application for Amendment of By-Product Material License  
No. SUB-1502. (Mail control No. 257085, Docket No.  
040-08944)

ENCLOSURES: 1) Answers to your questions dated July 29, 1996.

Mr. Diaz,

Attached are the subject answers to your request for more information concerning our amendment application. I hope you find them satisfactory.

Written correspondence concerning this license should be directed to:

Donald P. Mercado  
O/47-20, B/101  
Lockheed Martin Missiles & Space  
1111 Lockheed Way  
Sunnyvale, CA 94089

If any additional information is required or any clarification is needed, please contact me at (408) 742-0759.

D.P. Mercado  
Radiation Safety Officer

1. Specify whether the facilities EHW1, EHW2 and RBC exist, or are under construction, or are planned for future construction.

The facilities currently exist.

2. Please modify the facilities floor diagram to include all restricted areas (as defined in 10 CFR 20.1003), show all adjacent areas, including above and below restricted areas.

Because of the exposure characteristics of the source, there is no restricted area.

3. 10 CFR 20.1801 requires that licensed material be secured against unauthorized removal from the place of storage. 10 CFR 20.1802 requires that the licensee control and maintain constant surveillance over material in unrestricted areas that are not in storage. In your letters dated May 6, 1996 and July 1, 1996, you did not indicate how you will preclude the unauthorized removal of licensed material from the place of storage and in unrestricted areas.

The facility is used to store and service some of the nations most critical national defense assets. It is guarded 24 hrs a day by heavily armed guards. Nothing and no one goes in or out without proper authorization.

*- Item 9 of application dated 7/21/92*

4. Specify the neutron radiation detection instruments that you have available. Include the manufacturer and model number of instruments available, the range and units, and the intended use (monitoring, surveying, assaying or measuring).

Two Ludlum Model 12-4 neutron detectors (0 -10,000 mrem/hr) and 2 Ludlum model 2225 alpha beta ratemeters (0 - 500,000 cpm) will be used for surveying the sources.

5. 10 CFR 20.1502 states the minimum levels (10% of the applicable limit) which requires occupational dose monitoring. If the dose to be received by your radiation workers under normal operations, including use of the additional neutron sources, is determined to be within the 10 % of the limits, dose monitoring is not mandatory. If you do not intend to monitor your radiation workers, please provide your basis for such decision (include any surveys and calculations associated with them). Otherwise, please specify the type of personnel dosimetry you will provide (including monitoring of neutrons doses) and the frequency for changing the dosimeters, and confirm that the dosimetry will be NVLAP-accredited processor as required by 10 CFR 20.1501(c). Also describe your policy and procedures for issuing/using personnel dosimetry, including radiation workers authorized to use and manipulate neutron sources, and other radiation workers with access to restricted areas (as defined in 10 CFR 20.1003).

No dosimetry will be used. Attachment A contains the calculations which shows that they are not necessary.

Sandia National Laboratories  
Albuquerque, New Mexico 87185

Date: March 13, 1990

To: R. S. Case, Jr., 7263

*M. J. McDonald*  
From: M. J. McDonald, 3431

Subject: Dose Calculations for AmLi Neutron Source

The Americium/Lithium neutron source, #C466, was counted with the TSA-470 instrument and the ESP-2 Neutron Radiation Detector. The count rate was 210 c/m and 4.5 c/m, respectively. These instruments are not calibrated to give a dose rate for the energy of the neutrons from this source, 0.4 MeV.

The dose rate was calculated empirically using a dose conversion factor of 12 n/cm<sup>2</sup>-s per mRem/h. This dose factor was furnished by SNL Health Physics Instrumentation group and is applicable to 0.4 MeV. The dose rate was calculated to be 0.2 mRem/h at a distance of 10 cm from the source, 0.002 mRem/h at a distance of 1 meter, based on a neutron flux of 3,000 n/s stated on the source. The dose rate drops off as a factor of  $1/r^2$ , with 'r' being the distance from the source.

Also, I have located a small lead-lined storage container for the source. The container can be locked with a padlock if desired.

MJM:3431:bjh

Copy to:  
3431 J. Kaiser



JUL 29 1996

OFFICIAL RECORD COPY

Lockheed Martin Missiles & Space  
Attn: Don P. Mercado  
Radiation Safety officer  
O/47-20, B/101  
1111 Lockheed Way  
P.O. Box 3504  
Sunnyvale, CA 94088-3504

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION ABOUT A MATERIALS LICENSE  
AMENDMENT (MAIL CONTROL NO. 257085, DOCKET NO. 040-08944)

Dear Mr. Mercado:

This letter is in reference to your amendment request letter dated May 29, 1996. The following information is needed to continue our review of your amendment request:

1. Specify whether the facilities EHW1, EHW2 and RBC exist, or are under construction, or are planned for future construction.
2. Please modify the facilities floor diagram to include all restricted areas (as defined in 10 CFR 20.1003), show all adjacent areas, including above and below restricted areas.
3. 10 CFR 20.1801 requires that licensed material be secured against unauthorized removal from the place of storage. 10 CFR 20.1802 requires that the licensee control and maintain constant surveillance over materials in unrestricted areas that are not in storage. In your letters dated May 6, 1996 and July 1, 1996, you did not indicate how you will secure licensed material in the EHW1, EHW2, and RBC buildings. Describe how you will preclude the unauthorized removal of licensed material from the place of storage and in unrestricted areas.
4. Specify the neutron radiation detection instruments that you have available. Include the manufacturer and model number of instruments available, the range and units, and the intended use (monitoring, surveying, assaying or measuring).
5. 10 CFR 20.1502 states the minimum levels (10 % of the applicable limit) which requires occupational dose monitoring. If the dose to be received by your radiation workers under normal operations, including use of the additional neutron sources, is determined to be within the 10 % of the limits, dose monitoring is not mandatory. If you do not intend to monitor your radiation workers, please provide your basis for such decision (include any surveys and calculations associated with them). Otherwise, please specify the type of personnel dosimetry you will provide (including monitoring of neutrons doses) and the frequency for changing the dosimeters, and confirm that the dosimetry will be a NVLAP-accredited processor as required by 10 CFR 20.1501(c). Also describe your policy and procedures for issuing/using personnel dosimetry,

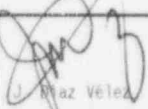

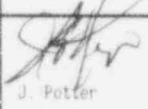
including radiation workers authorized to use and manipulate neutron sources, and other radiation workers with access to restricted areas (as defined in 10 CFR 20.1003).

If you wish to pursue your amendment request, please either contact me by phone or provide your reply within 30 days of receipt of this letter. If additional time to respond to this letter is needed, please request it in writing and state the reason for requesting the extension. When responding, please refer to Mail Control No. 257085 and provide two copies of your reply.

If you have questions about this letter, please call me at 404/331-7438 (FAX: 404-331-7437).

Sincerely,

José M. Díaz Vélez  
Materials License Reviewer  
Division of Nuclear Materials Safety

SEND TO PUBLIC DOCUMENT ROOM?		YES	NO				
OFFICE	RII:DNMS	RII:DNMS	RII:DNMS	RII:DNMS	RII:DNMS	RII:DNMS	RII:DNMS
SIGNATURE							
NAME	J. Díaz Vélez	J. Henson	J. Potter				
DATE	07 / 29 / 96	07 / 29 / 96	07 / 29 / 96	07 / / 96	07 / / 96	07 / / 96	07 / / 96
COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO



BETWEEN:

License Fee Management Branch, ARM  
and  
Regional Licensing Sections

: (FOR LFMS USE)  
: INFORMATION FROM LTS  
: -----  
: Program Code: 11210  
: Status Code: 0  
: Fee Category: 2B 3P  
: Exp. Date: 20030430  
: Fee Comments:  
: Decom Fin Assur Req'd: N  
: ::::::::::::::::::::::::::::::

1996 JUN 10 AM 11:36

LICENSE FEE TRANSMITTAL

A. REGION II

1. APPLICATION ATTACHED

Applicant/Licensee: LOCKHEED MISSILES & SPACE CO., INC.  
Received Date: 960602  
Docket No: 4008944  
Control No.: 257085  
License No.: SUB-1502  
Action Type: Amendment

2. FEE ATTACHED

Amount: \$290.00  
Check No.: 187414

3. COMMENTS

Signed *Witt* D. Heim  
Date 6/3/96

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered *LN*)

1. Fee Category and Amount

*2B 3P* *\$290*


2. Correct Fee Paid. Application may be processed for:

Amendment ☒  
Renewal ☐  
License ☐

3. OTHER

Signed *Rita Messier*  
Date *6/11/96*

Log	<i>Jun 1 II</i>
Remitter	
Check No.	<i>0187414</i>
Amount	<i>\$290</i>
Fee Category	<i>2B 3P</i>
Type of Fee	<i>Amnd</i>
Date Check Rec'd.	<i>6/11/96</i>
Date Completed	<i>6/11/96</i>
By:	<i>Rita</i>

LOCKHEED MARTIN 

United States Nuclear Regulatory Commission  
Region II  
Material Radiation Protection Section  
101 Marietta Street, NW  
Suite 2900  
Atlanta, GA 30323

29 May 1996  
47-20/080

SUBJECT: Application for Amendment of By-Product Material License  
No. SUB-1502.

ENCLOSURES: 1) LMSC Drawing of the locations of use and storage  
2) Radioactive Material License amendment fee in the  
amount of \$290.00

Gentlemen:

Lockheed Missiles & Space Company, Inc., requests that radioactive  
material license No. SUB-1502 be amended to include the following  
materials:

<u>Isotope</u>	<u>Form</u>	<u>Maximum Amount</u>
Am-241	Sealed source Gammatron model AN-HP	3 sources of 90 mCi each

USE:

For instrument check sources for neutron detection equipment.

USE LOCATION:

The use and storage locations are designated on the attached drawings  
(EHW1, EHW2, and RBC).

The source is a commercially produced Am/Li neutron source for  
checking the function of instruments used to survey Nuclear  
Explosive-Like Assemblies (NELA).

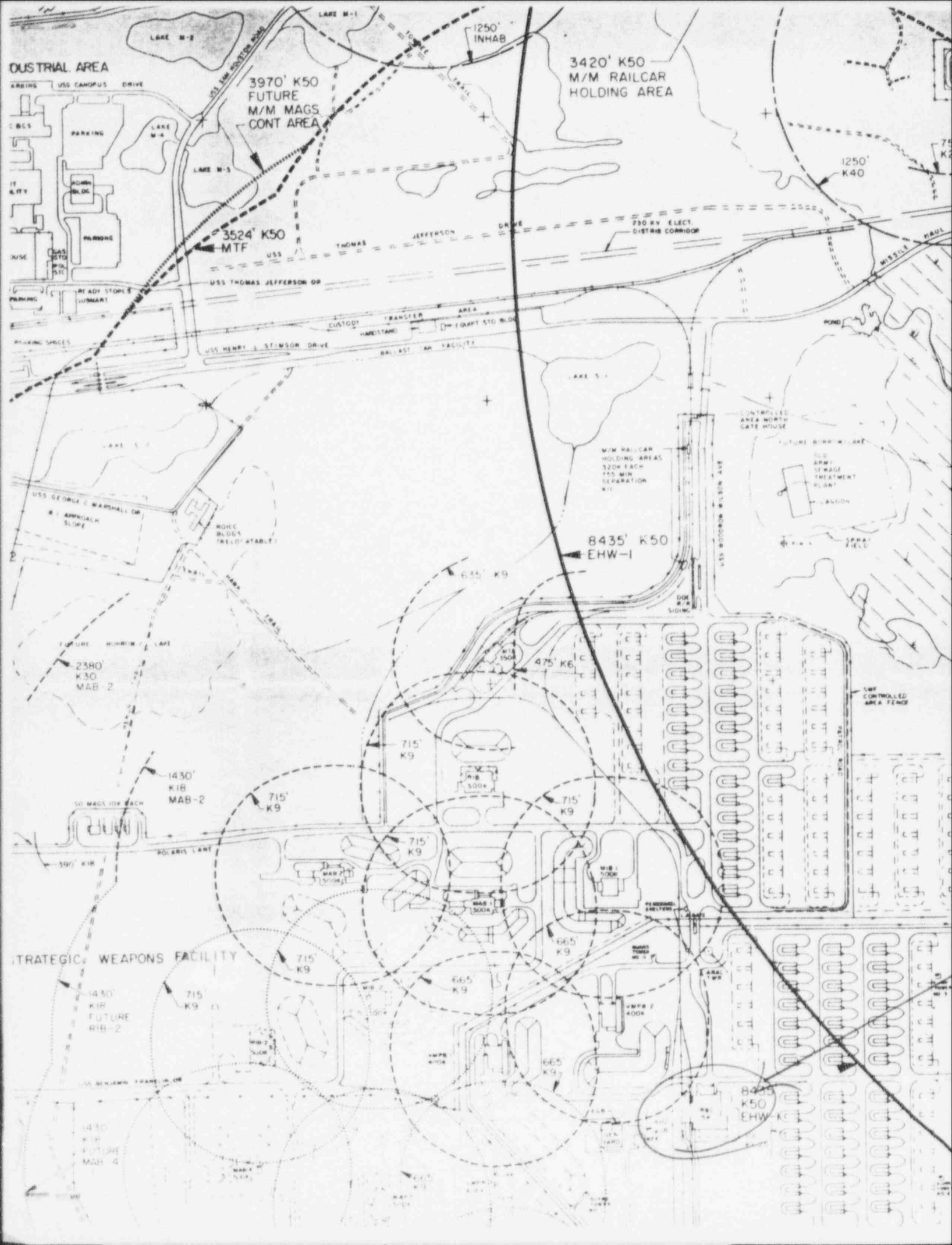
Written correspondence concerning this license should be directed to:

Donald P. Mercado  
O/47-20, B/101  
Lockheed Missiles & Space Co., Inc  
1111 Lockheed Way  
Sunnyvale, CA 94089

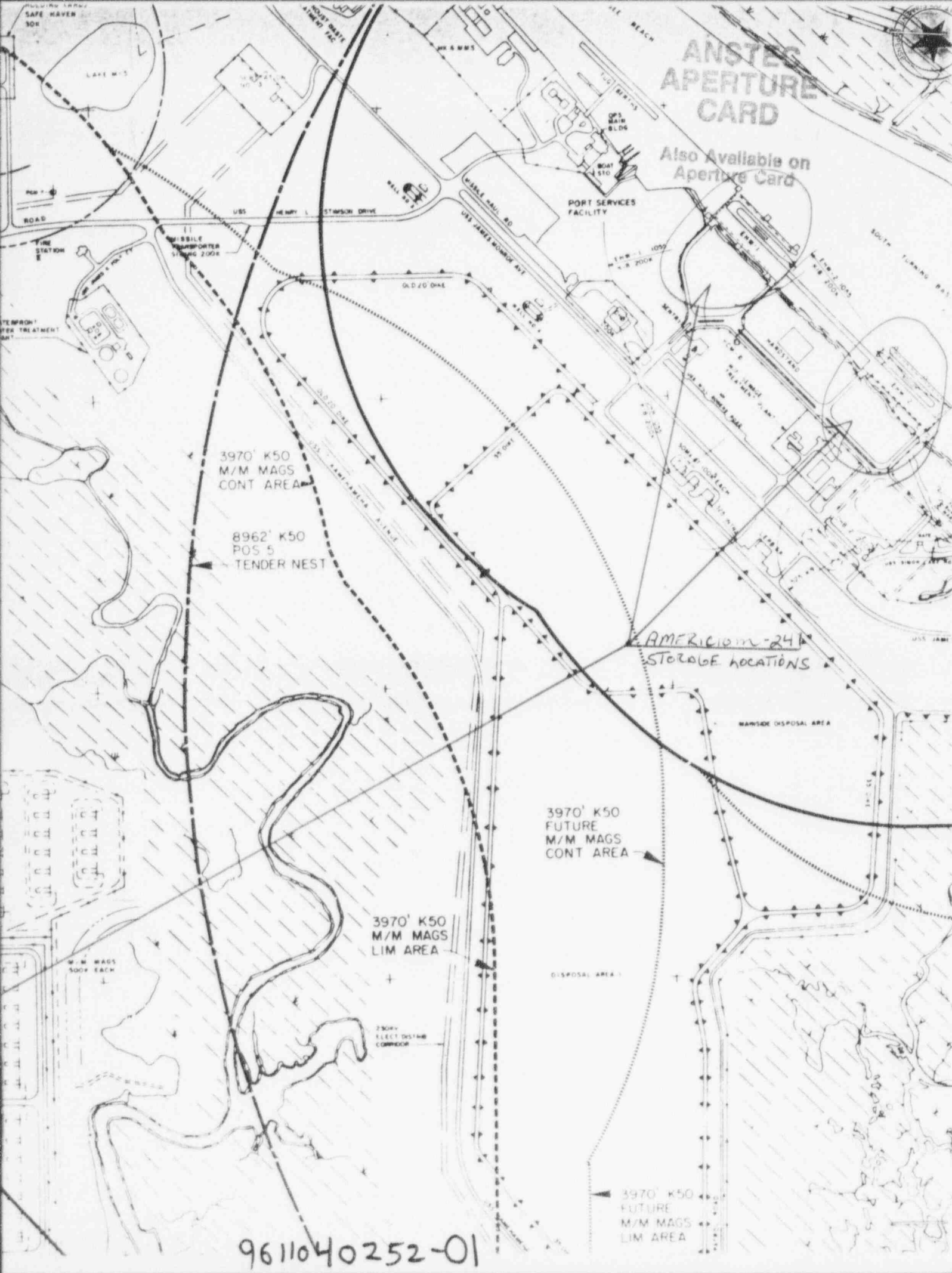
If any additional information is required or any clarification needs,  
please contact me at (408) 742-0759.

*D.P. Mercado* 257085

D.P. Mercado  
Radiation Safety Officer



Also Available on  
Aperture Card



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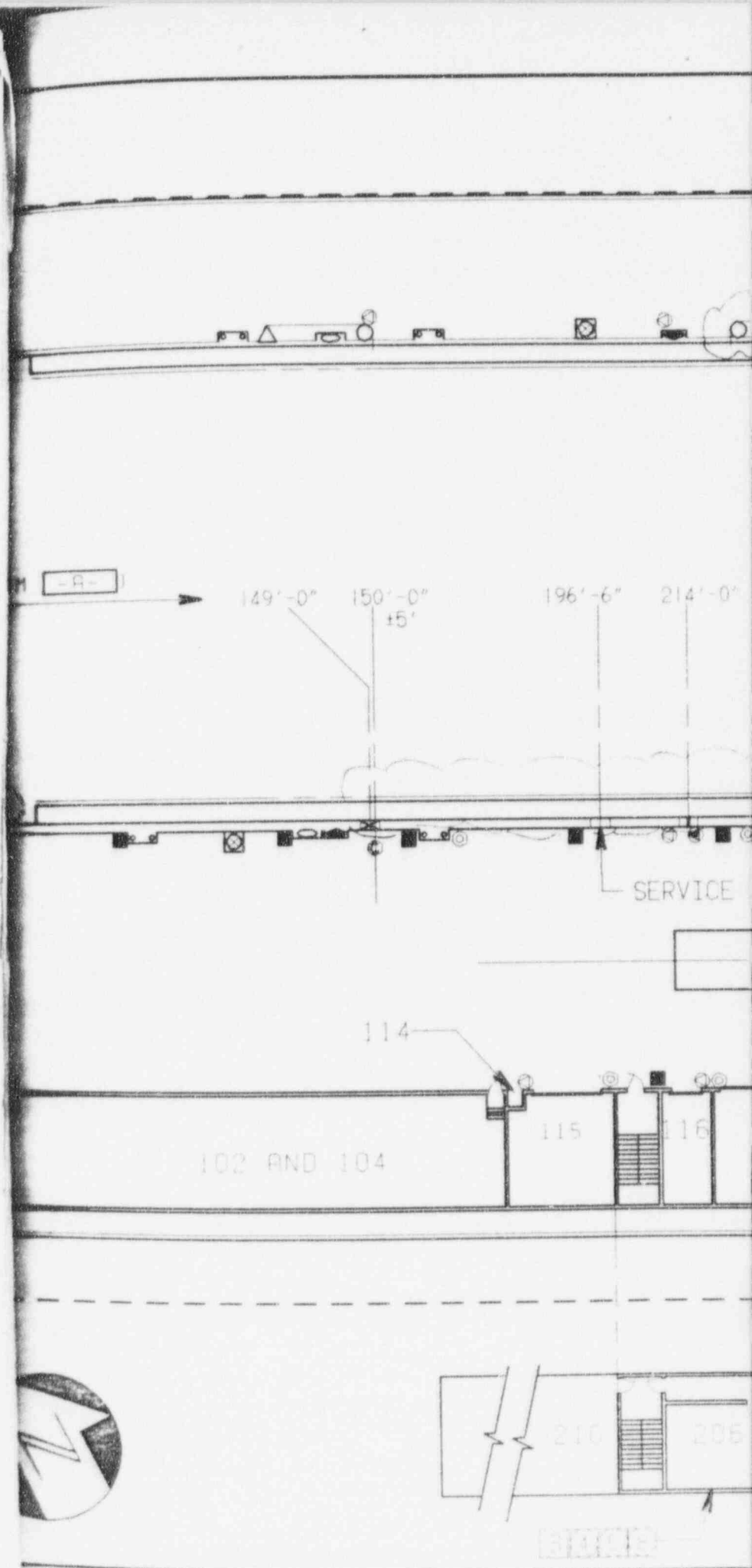
EHWL FOC  
'Rev. B'

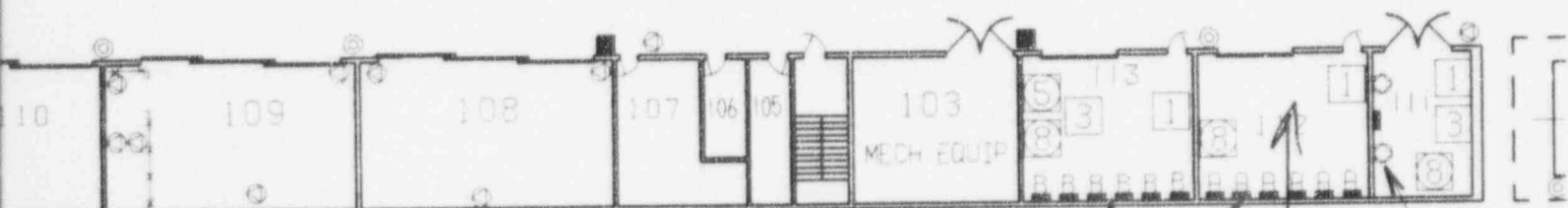
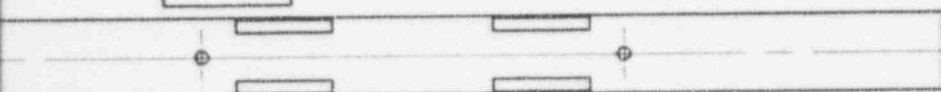
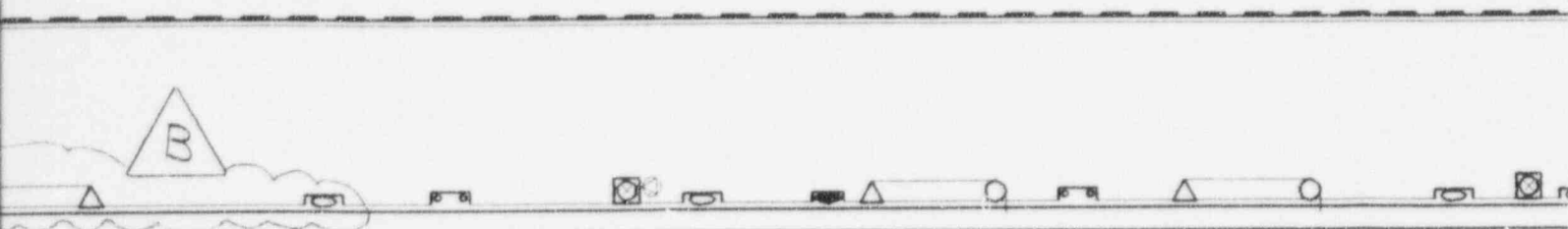
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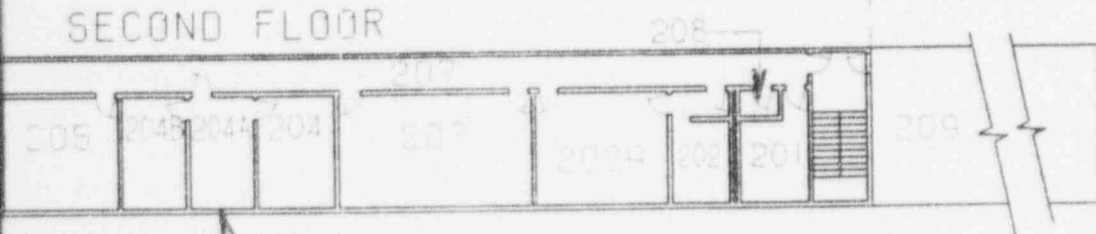
EHW-1

ace Company, Inc.





SECOND FLOOR



ORDNANCE  
GROUND BUS BARS  
SEE DETAIL A

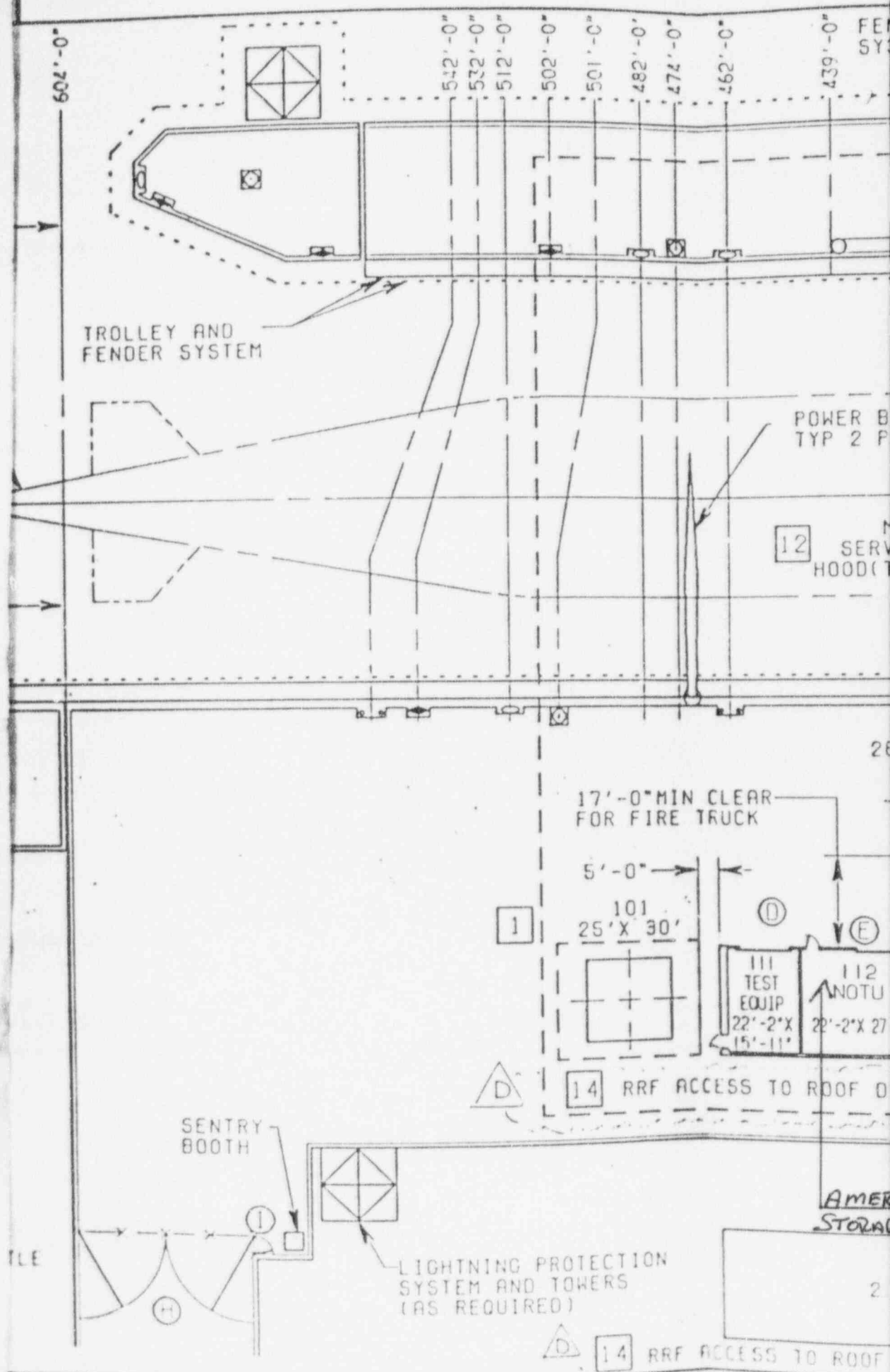
AMERICIUM 241  
STORAGE LOCATION

9611040252-02

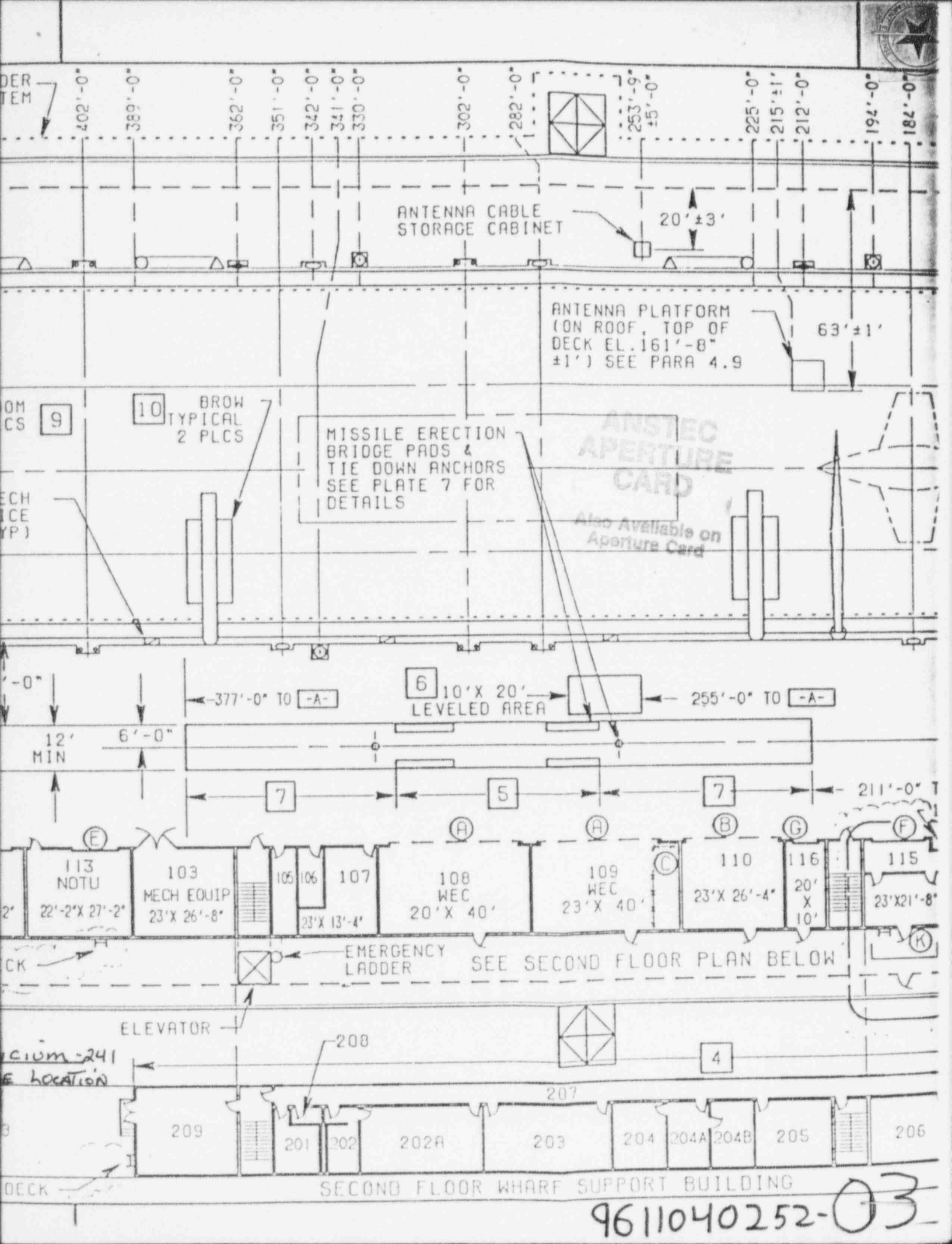


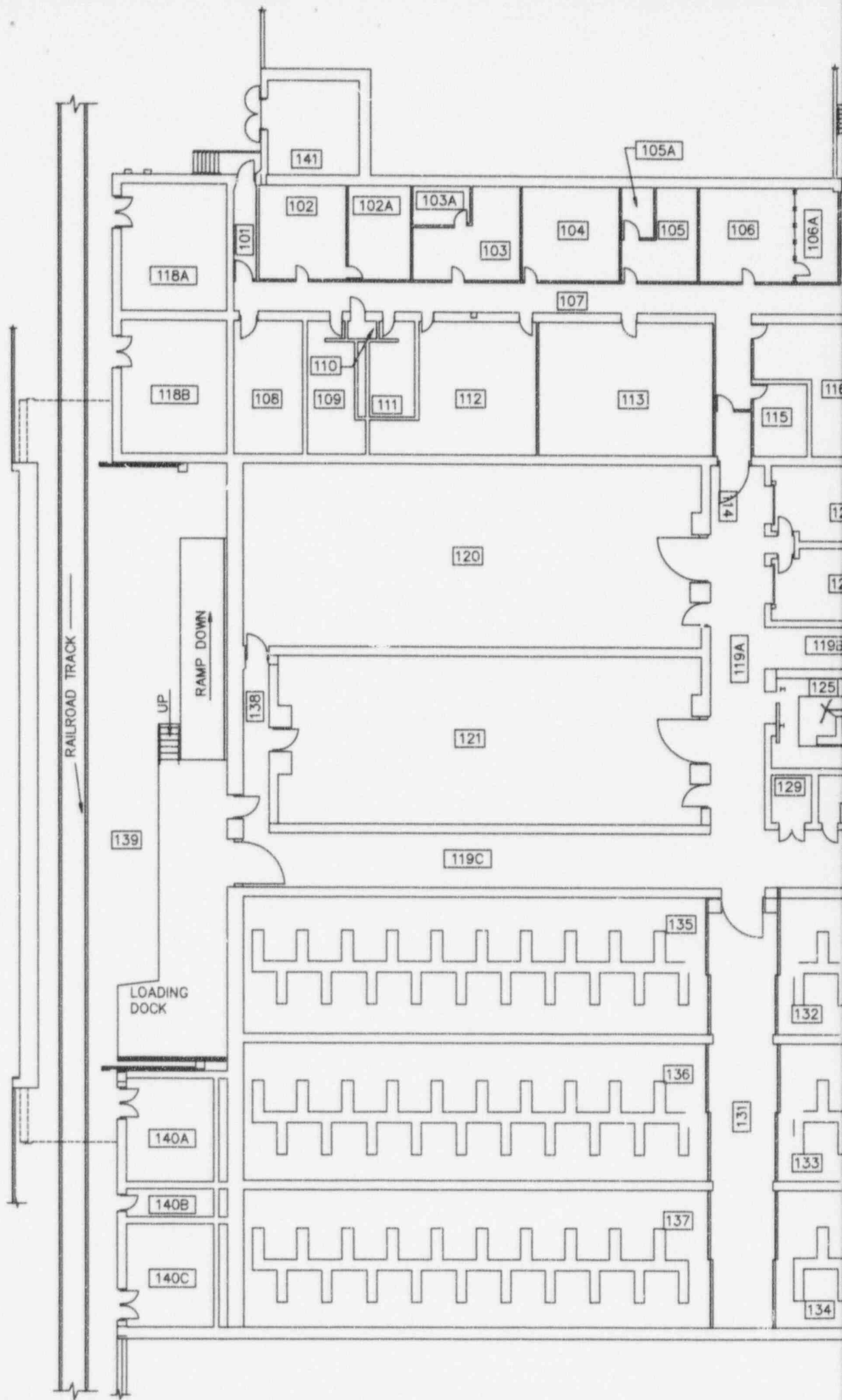
EHw-2

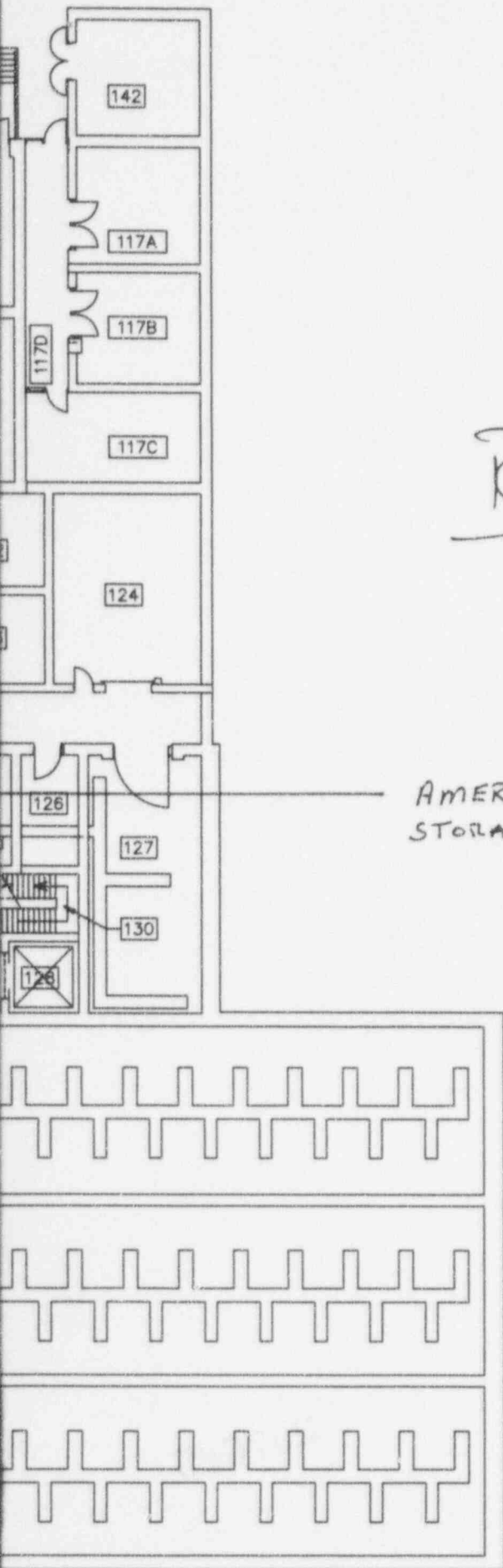
, Inc.











RBC

REENTRY BODY COMPLEX

AMERICIUM-241  
STORAGE LOCATION

ANSTEC  
APERTURE  
CARD

Also Available on  
Aperture Card

9611040252-04