



DEPARTMENT OF THE ARMY Mr. Grucci/jal/AUTOVON 284-9340
HEADQUARTERS US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND
5001 EISENHOWER AVENUE, ALEXANDRIA, VA. 22333

DRCSE-P/81-0024

17 February 1981

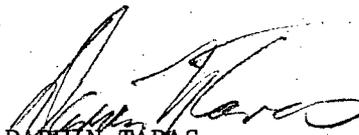
Director
Nuclear Material Safety and Safeguards
ATTN: Radioisotopes Licensing Branch
US Nuclear Regulatory Commission
Washington, DC 20555

Gentlemen:

Forwarded is US Army Communications and Electronics Materiel Readiness Command request for amendment to Source Material License Number SMB-1300. This request is for broad scope coverage of Thorium Fluoride in multi-layer anti-reflective lens coatings on thermal imaging lenses of all types of Forward Looking Infra Red (FLIR) imaging systems and subsystems without resorting to License amendment request whenever a new system or subsystem is developed. The maximum quantity of Thorium-232 possessed will continue to be 1.85 grams per optical system and a total of 80 pounds at any one time.

Please acknowledge receipt of correspondence on inclosed DA Form 209 Mail Reply Card.

Sincerely,


DARWIN TARAS
Chief, Health Physics
Safety Office

2 Incl
as

Copies Furnished:
HQDA (DASG-PSP-E) WASH DC 20310
Dir, DARGOM FSA, Charlestown, IN 47111
Gdr, US Army Communications and Electronics Materiel
Readiness Command, ATTN: DRSEL-SF-H, Fort Monmouth, NJ 07703

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DEPARTMENT OF THE ARMY
HEADQUARTERS US ARMY COMMUNICATIONS AND ELECTRONICS
MATERIEL READINESS COMMAND AND FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703

REPLY TO
ATTENTION OF:

DRSEL-SF-H

29 DEC 1980

SUBJECT: US Nuclear Regulatory Commission (NRC) Source Material License
Number SMB-1300

Commander
US Army Materiel Development and Readiness Command
ATTN: DRCSF-P
5001 Eisenhower Avenue
Alexandria, Virginia 22333

1. Reference is made to letter, DRSEL-SF-H, dated 4 February 1980, subject as above.
2. The US Army Communications and Electronics Materiel Readiness Command (CERCOM) hereby requests an amendment to subject NRC license for the possession and use of ²³²Thorium Fluoride in multi-layer anti-reflective lens coatings on thermal imaging lenses of the Forward Looking Infra Red (FLIR) systems. The purpose of this amendment is to request broad scope coverage for all types of FLIR imaging systems and subsystems thus eliminating the need for additional amendment requests to include specific types of FLIR systems every time a system is being developed for possession and use by the Department of the Army under subject license. The maximum quantity of ²³²Thorium currently possessed under this license will continue to be 1.85 grams per optical system and a total of 80 pounds at any one time.
3. It is to be noted that it is Department of the Army (DA) philosophy for one US Army Materiel Development and Readiness Command (DARCOM) Major Subordinate Command (MSC) to obtain the NRC license for the possession and use of a single commodity containing radioactive material by DA installations and activities world-wide. This command has been designated as the NRC license manager as required by paragraph 1-4(i) of AR 700-64 for FLIR imaging systems which includes all radiation protection management responsibilities. All responsibilities as stipulated in supporting documentation to subject license including those stipulated in reference 1, will be adhered to.
4. Based upon the above, request amendment to subject license be issued authorizing the DA possession and use of broad scope type FLIR imaging systems and subsystems.

FOR THE COMMANDER:

STEVEN A. HORNE
Acting Chief, Safety Office

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DEPARTMENT OF THE ARMY
HEADQUARTERS US ARMY COMMUNICATIONS AND ELECTRONICS
MATERIEL READINESS COMMAND AND FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703

REPLY TO
ATTENTION OF:

4 FEB 1980

DRSEL-SF-H

SUBJECT: US Nuclear Regulatory Commission (NRC) Source Material License
Number SMB-1300

THRU: Commander
US Army Materiel Development and
Readiness Command
ATTN: DRCSF-P
5001 Eisenhower Avenue
Alexandria, Virginia 22333

TO: Director
Nuclear Material Safety and Safeguards
ATTN: Radioisotopes Licensing Branch
US Nuclear Regulatory Commission
Washington, DC 20555

1. Reference is made to the following:

- a. Letter, DRSEL-SF-H, dated 1 March 1978, subject: Memorandum of Understanding (MOU) Manportable Common Thermal Night Sight (MCTNS).
- b. Message, DRCDMR, DTG 111600Z Sep 78, subject: Materiel Readiness Command Fire Control System Responsibilities.
- c. Message, DRCPM-GCM-SW, DTG 282000Z Jan 80, subject: NRC License - XMI Tank System.
- d. Letter, DRSEL-SF-H, dated 11 April 1977, subject: Additional Supporting Information Pertaining to the Nuclear Regulatory Commission Source Material License Application.

2. The US Army Communications and Electronics Materiel Readiness Command (CERCOM) hereby requests an amendment to subject NRC license for the possession and use of ²³²Thorium Fluoride in multi-layer anti-reflective

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lens coatings on thermal imaging lenses of the Forward Looking Infra Red (FLIR) imaging systems. The purpose of the amendment is to increase the types of FLIR imaging systems and subsystems presently authorized under this license. The maximum quantity of ²³²Thorium currently possessed under this license will continue to be 1.85 grams per optical system and a total of 80 pounds at any one time.

3. Reference 1a is a memorandum of understanding between this command and Commander, US Army Missile Command (MICOM) stipulating responsibilities as it relates to the AN/TAS-5 FLIR imaging system. In essence, it designates this command as NRC license manager as required by paragraph 1-4(i) of AR 700-64 for FLIR imaging systems which includes all radiation protection management responsibilities. Further, it stipulates MICOM's responsibilities for compliance to subject license. It is to be noted that it is Department of the Army philosophy for one US Army Materiel Development and Readiness Command (DARCOM) Major Subordinate Command (MSC) to obtain the NRC license for the possession and use of a single commodity containing radioactive material by the Department of Army installations and activities worldwide.

4. Reference 1b stipulates responsibilities to DARCOM MSCs as it relates to the management fire control systems. In essence, it states that in the case of fire control systems, the primary armament subsystem manager will have the fire control responsibility for the weapon system. He, in turn, will be supported by the secondary armament materiel readiness manager and any other materiel readiness managers as required. This means that the weapon system manager will maintain full responsibility for its fire control system and ancillary subsystems.

5. Reference 1c requested this command to incorporate the XML FLIR imaging system under subject license.

6. This command is designated Primary Inventory Control Activity (PICA) and Secondary Inventory Control Activity (SICA) for Federal Supply Classification (FSC) 5855 commodities which includes all Night Vision equipment. As indicated in paragraph 4 above, the primary armament subsystem manager maintains full responsibility for the fire control system and ancillary subsystems. For FSC 5855 thermal imaging systems authorized under subject license used as ancillary subsystems to fire control systems managed by other commands, CERCOM only maintains SICA responsibilities whereas these managers maintain PICA responsibilities. Table I contains a listing by Radioactive Item, National Stock Number (NSN), Maximum Activity in nano-curies, PICA, End Article Application (EAA), EAA NSN, and EAA PICA, for all

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equipment to be authorized under subject license. This serves as an explanation as to which command is designated the management responsibility for the various thermal imaging subsystems and complete systems.

7. The program for control of the FLIR imaging systems is similar to the radiation protection program originally stipulated in reference 1d and included in subject license. Further, all technical manuals (TM) associated with these equipment will contain radiation warning statements and appropriate warning statements with relation to cleaning and troubleshooting instructions. The following warning instructions appear in both operator's manuals, the Direct Support and General Support Maintenance Manuals and in Depot Maintenance Work Requirements manuals for all thermal imaging devices. These instructions will also appear in all future manuals.

WARNING

RADIATION HAZARD

The anti-reflective coating on all infrared optics contain thorium fluoride which is slightly radioactive. The only potential hazard involves ingestion (swallowing or inhaling) of this coating material. Dispose of broken lenses, etc., in accordance with AR 755-15.

8. The program for control of thermal imaging devices as it relates to this command and the weapon system managers, i.e., MICOM and the US Army Armament Materiel Readiness Command (ARRCOM) in addition to reference 1d is as follows:

A. CERCOM will:

1. Perform all duties as indicated in reference 1d.
2. Maintain required NRC license.
3. Review proposed design and literature changes that may effect the NRC license.
4. Coordinate with MICOM and ARRCOM at the time of renewals/ amendments of NRC license.
5. Assure that all radioactive components are coded on the Army Master Data File (AMDF) with a Special Control Item Code (SCIC) of 8 meaning Radioactive Item.

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B. MICOM and ARRCOM will:

1. Insure that the thermal imaging systems and subsystems assigned to them are coded in the AMDF with an SCIC of either 8, A meaning Regulated and Contains a Radioactive Item, or B meaning Regulated-Principal and Contains a Radioactive Item.

2. Insure that the CBS World-wide Asset Quarterly Posture pertaining to these items are furnished to the CERCOM Safety Office.

3. Insure that all procurements pertaining to these items are coordinated with the CERCOM Safety Office.

4. Insure that all radioactive items assigned to them are disposed of as radioactive waste and notify the CERCOM Safety Office annually of the total number disposed.

5. Insure that the technical literature contain the required radiation warnings and that proposed changes effecting these warnings are coordinated with the CERCOM Safety Office.

6. Inspect depots not inspected by CERCOM annually to determine compliance with NRC licenses and regulations. This shall include annual quality assurance inspections of MICOM or ARRCOM thermal imaging systems and subsystems.

7. Insure that all optical elements and lens coatings of thermal imaging systems and subsystems are in compliance with Title 10, Code of Federal Regulations and with NRC license requirements and regulations.

9. Based upon the above, it is requested that subject license be amended to include all thermal imaging systems and subsystems as incorporated into the inclosed Table 1.

FOR THE COMMANDER:

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LOUIS A. REINKEN, Jr.
Colonel, GS
Chief of Staff

TABLE 1

<u>RADIOACTIVE ITEM</u>	<u>NATIONAL STOCK NUMBER (NSN)</u>	<u>MAXIMUM ACTIVITY (NANO CURIES)</u>	<u>PICA</u>	<u>END ARTICLE APPLICATION (EAA)</u>	<u>EAA NSN</u>	<u>EAA PICA</u>
1. Detector-Dewar DT-591/UA	5855-01-030-8595	1.0	CERCOM	AN/TAS-4 AN/TAS-5 AN/TAS-6	5855-01-037-7339 5855-01-045-3459 5855-01-037-7340	CERCOM MICOM CERCOM
2. Detector-Dewar DT-594/UA	5855-01-061-6751	2.0	CERCOM	AN/VSG-2 XM-1	5855-01-060-8521 *	ARRCOM ARRCOM
3. Imager, Optical SU-97/UA	5855-01-030-8601	10.0	CERCOM	AN/TAS-4 AN/TAS-5 AN/TAS-6	5855-01-037-7339 5855-01-045-3459 5855-01-037-7340	CERCOM MICOM CERCOM
4. Imager, Optical SU-103/UA	5855-01-058-6687	20.0	CERCOM	AN/VSG-2 XM-1	5855-01-060-8521 *	ARRCOM ARRCOM
5. Afocal-Cover SU-94/TAS-4	5855-01-029-8732	40.0	CERCOM	AN/TAS-4	5855-01-037-7339	CERCOM
6. Afocal-Cover *	*	10.0	MICOM	AN/TAS-5	5855-01-045-3459	MICOM
7. Afocal-Cover SU-95/TAS-6	5855-01-030-8596	40.0	CERCOM	AN/TAS-6	5855-01-037-7340	CERCOM
8. Afocal-Cover *	5855-01-062-3115	81.0	ARRCOM	AN/VSG-2	5855-01-060-8521	ARRCOM
9. Afocal-Telescope *	*	12.0	ARRCOM	XM-1	*	ARRCOM
10. IR Window Assembly	5855-01-063-1346	44.0	ARRCOM	AN/VSG-2	5855-01-060-8521	ARRCOM
11. IR Window Assembly	*	23.0	ARRCOM	XM-1	*	ARRCOM

<u>RADIOACTIVE ITEM</u>	<u>NATIONAL STOCK NUMBER (NSN)</u>	<u>MAXIMUM ACTIVITY (NANO CURIES)</u>	<u>PICA</u>	<u>END ARTICLE APPLICATION (EAA)</u>	<u>EAA NSN</u>	<u>EAA PICA</u>
12. Boresight Collimator SU-93/TAS	5855-01-029-8730	6.0	CERCOM	AN/TAS-4 AN/TAS-6	5855-01-037-7339 5855-01-037-7340	CERCOM CERCOM

* Nomenclature identification and NSN have not as yet been assigned. When assigned, this information will be forwarded as part of the license file.