23

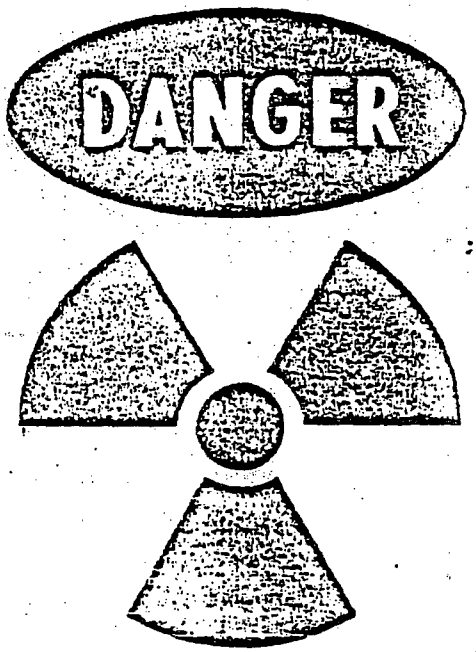
*TM 3-6665-264-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S MANUAL
RADIOACTIVE TEST SAMPLE, KRYPTON 85, GAMMA
MX-7338/PDR-27R

Headquarters, Department of the Army, Washington, DC
7 February 1975

WARNING
RADIATION HAZARD



KRYPTON 85

The MX-7338/PDR-27R contains 5,000 microcuries (uc) of Krypton 85.

Be extremely careful while using this equipment and follow safe procedures in handling, storage, and disposal contained in this manual.

LL/4f

*This manual supersedes TM 3-6665-264-10, 3 February 1969.

Encl 7

SAFETY PRECAUTIONS

When handling Radioactive Test Sample, Krypton 85, Gamma MX-7338/PDR-27R, avoid prolonged exposure to the radiation; do not unchain the test sample from the carrying case except for disposal purposes.

Handle the MX-7338/PDR-27R by the flat (inactive) end only. Protect stored radioactive test sample against unauthorized removal.

BIOLOGICAL SAFETY NOTICE

Personnel working in high radiation dose rate areas must be extremely careful to prevent bodily injury. While the radiation from radioactive substances cannot be felt or seen, prolonged or intensive exposure may result in serious injury. One tenth of a roentgen (100 milliroentgens) per 5-day (40-hour) week is considered to be the maximum dose rate of such radiation to which the body can be exposed continuously without serious damage.

		Paragraph	Page
SECTION I.	GENERAL		
	Scope	1	2
	Indexes of publications	2	2
	Forms and records	3	3
	Reporting of errors	4	3
	Use	5	3
	Authorization for issue	6	3
	Supervision and control	7	3
II.	DESCRIPTION AND DATA		
	Description	8	3
	Tabulated data	9	4
III.	INSPECTION FOR LEAKS		
	General	10	4
	Inspection	11	4
IV.	STORAGE		
	General	12	4
	Bulk storage	13	4
V.	DISPOSITION OF UNWANTED OR UNSERVICEABLE RADIOACTIVE TEST SAMPLES		
	Disposition of test samples in CONUS	14	5
	Disposition of test samples overseas	15	5
VI.	EMERGENCY SITUATIONS AND ACTIONS TO BE TAKEN		
	Loss of test sample	16	5
	Internal exposure of personnel	17	5
	External overexposure of personnel	18	5
APPENDIX	REFERENCES		6

Section I. GENERAL

1. Scope

This manual contains a description of Radioactive Test Sample, Krypton 85, Gamma, MX-7338/PDR-27R (radioactive test sample) and information on its use; instructions for handling, storage, and disposing of damaged or unwanted test samples; and actions to be taken in emergency situations.

2. Indexes of Publications

a. DA Pam 310-4. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-58/NAVSUPINST 4030.29/AFR 71-13/MCO P4030.29A, and DSAR 4145.8.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33/AFM 75-18/MCO P4610.19A, and DSAR 4500.15.

4. Reporting of Errors

Reporting of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forwarded direct to Commander, US Army Electronics Command, ATTN: AMSEL-MA-PSC, Fort Monmouth, NJ 07703.

5. Use

The radioactive test sample is used as a check source to determine if the electrical circuit of an AN/PDR-27( ) radiac set is functioning properly. Detailed instructions for using the radioactive test sample are given in the technical manuals covering Radiac Set AN/PDR-27( ).

NOTE

The MX-7338/PDR-27R replaces the MX-1083( )/PDR-27 radioactive test samples and is used the same way.

6. Authorization for Issue.

Radioactive Test Sample, Krypton 85; Gamma MX-7338/PDR-27R is issued throughout the Army without a specific license being required by the user. This action is made possible by statements and conditions set forth in an Atomic Energy Commission Byproduct Material License issued to Department of the Army, ATTN: AMSEL-SF-H, US Army Electronics Command, Fort Monmouth, NJ 07703.

7. Supervision and Control

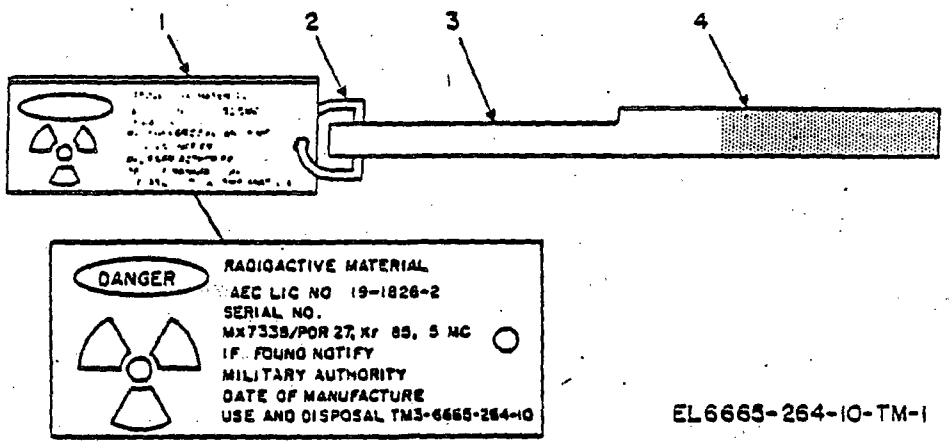
a. The handling, storage, transfer, use and disposal of the radioactive test samples should be under the control of the installation or activity (local) radiological protection officer (RPO), who will assure the radiological safety of all such functions. The items must be handled, used, and stored only by authorized personnel in established, properly placarded radiological controlled areas. Radioactive test samples must be secure against authorized use or removal.

b. Normally each MX-7338/PDR-27R will be chained to the radiac set case and stored in the space provided within the case. The radiac sets will then be stored in a secure, properly placarded radiological control area as determined by the responsible radiological protection officer. To ship the radiac sets off post for calibration, the RPO may authorize temporary removal of the radioactive test samples if they are stored during that period in a suitable, adequately shielded and labeled container within a secure placarded radiological controlled area, then rechained to the radiac set case upon its return from the calibration facility and ready for use. This procedure will permit transportation of the radiac sets as nonradioactive shipments. An exception to this procedure can be made when a number of radiac sets and radioactive test samples are possessed by one organization for training purposes. In this case, the radioactive test samples will be stored in a suitable, adequately shielded and labeled container within a secure, placarded radiological controlled area rather than being chained to the radiac set cases. Use and accountability of the MX-7338/PDR-27R will be controlled by the instructor or similarly positioned person or his specifically designated alternate under the guidance of the local RPO. In all cases, adequate control and personnel radiation protection must be established.

Section II. DESCRIPTION AND DATA

8. Description

The MX-7338/PDR-27R (fig. 1) is an aluminum wand approximately ⅜-inch in diameter and 5 inches in length. A sealed radioactive source containing approximately 5 millicuries of Krypton 85 (Kr85) is sealed in the cylindrical or active end (4) of the wand; the active end is painted purple. an identification tag (1) is attached to the flattened or inactive end (3) of the wand by a D-ring (2); the inactive end is marked MX-7338/PDR-27R. The D-ring also is used to attach the radioactive test sample to a chain in the carrying case of Radiac Set AN/PDR-27( ). While not in use, the MX-7338/PDR-27R is stored in a well in the carrying case.



1 Identification tag
2 D-ring
3 Inactive end
4 Active end

Figure 1. MX-7338/PDR Gamma, Krypton 85, radioactive test sample.

9. Tabulated Data

Type of radiation ..... Gamma.
Quantity (approx) ..... 5 millicuries.
Radioactive material ..... Kr85.
Half life ..... 10 years.

Section III. INSPECTION FOR LEAKS

10. General

If the MX-7338/PDR-27R develops a leak because of gross damage or deterioration, Krypton 85 will dissipate into the air without causing surface contamination.

11. Inspection

Inspect the MX-7338/PDR-27R when issued and each time thereafter when the sample is used to make sure that it is not damaged or deteriorated and that the meter reading on the 50 MR/hr scale of the AN/PDR-27( ) is at least 10 MR/hr. If the meter reading is below 10 MR/hr on the 50 MR/hr scale, double check the functioning of the instrument without the radioactive test sample, using the procedure given in TM 11-6665-230-15. If the double check shows the MX-7338/PDR-27R to be defective, open the D-ring (2, fig. 1) and remove the test sample from the chain. Dispose of the MX-7338/PDR-27R and identification tag as directed in paragraphs 14 or 15, whichever is applicable.

Section IV. STORAGE

12. General

The MX-7338/PDR-27R is numbered serially to permit control of supply and issue. They are not individually controlled items as defined in AR 725-1. Accountability for radioactive test samples must be maintained by serial number only. (Loss of a radioactive test sample must be reported as described in paragraph 16c and an unwanted or unserviceable test sample must be disposed of through a radioactive material disposal facility as described in paragraphs 14 and 15.) Protect stored radioactive test samples against unauthorized removal.

13. Bulk Storage

Bulk storage is authorized only at depots designated by the National Inventory Control Point. Designated depots will be equipped with storage and disposal facilities for radioa materials. The depots will be supported by a h physicist or a qualified radiation protection officer.

Section V. DISPOSITION OF UNWANTED OR UNSERVICEABLE RADIOACTIVE TEST SAMPLES

14. Disposition of Test Samples in CONUS

In CONUS, turn in unwanted or unserviceable MX-7338/PDR-27R to a radioactive material disposal facility in accordance with AR 755-15. Notify Commander, US Army Electronics Command, ATTN: AMSEL-SF-H, Fort Monmouth, NJ 07703 of the completed action. Notification is to include the serial numbers of the MX-7338/PDR-27 disposed.

NOTE

Although the radioactivity is greater than 10 MR/hr when checked with an AN/PDR-27( ), the radioactive test sample is considered unserviceable is the identification tag is damaged, unreadable, or missing, or if the aluminum wand is crushed or corroded.

15. Disposition of Test Samples Overseas

Disposition of radioactive test samples overseas will be in accordance with the procedures established by the responsible theater commander.

Section VI. EMERGENCY SITUATIONS AND ACTIONS TO BE TAKEN

16. Loss of Test Sample

a. Attempt to recover the test sample.

(1) Review records to determine the responsible individual.

(2) Make a physical survey of the area.

b. If the radioactive test sample is recovered, revise procedures as necessary to prevent a recurrence.

c. If the radioactive test sample is not recovered, report the loss within 25 days through command channels to the major command radioactive material control point and state the serial number of the missing MX-7338/PDR-27R, the circumstances involved, and the procedures taken to prevent recurrence. The radioactive material control point will forward this notification to Commander, US Army Electronics Command, ATTN: AMSEL-SF-H, Fort Monmouth, NJ 07703.

17. Internal Exposure of Personnel

Internal exposure of personnel resulting from ingestion, inhalation, or absorption of radioactive material generally associated with damaged or leaking sources does not apply to the MX-7338/PDR-27R because Krypton 85 is an inert gas.

18. External Overexposure of Personnel

a. External overexposure of personnel can occur if the test sample is in direct contact with the skin for prolong periods.

b. The following actions are required if a known or suspected overexposure occurs:

(1) Seek advice from the medical officer.

(2) If the external exposure is suspected, calculate the exposure by multiplying the length of exposure (in hours) by 10 MR/hr and annotate DD Form 1141 (Record of Occupational exposure to Ionizing Radiation).

(3) Correct procedures to prevent a recurrence.

(4) Notify responsible commands and Commander, US Army Electronics Command, ATTN: AMSEL-SF-H, Fort Monmouth, NJ 07703.

APPENDIX
REFERENCES

AR 725-1	Special Authorization and Procedures for Issues, Sales, and Loans.
AR 755-15	Disposal of Unwanted Radioactive Material
DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8 and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	US Army Index of Modification Work Orders.
TM 11-6665-230-15	Organizational, DS, GS, and Depot Maintenance Manual (Including Organizational Maintenance Repair Parts and Special Tool Lists): Radiac Set, AN/PDR-27R.
TM 38-750	The Army Maintenance Management System (TAMMS).

DRAFT

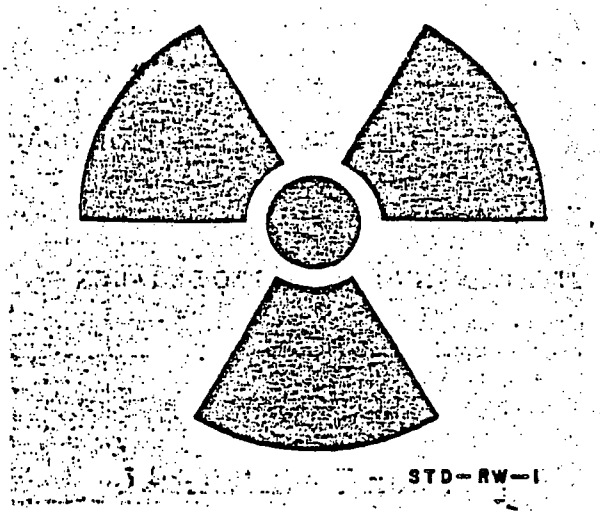
*TM 3-6665-264-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S MANUAL
MX-7338/PDR-27( )
RADIOACTIVE TEST SAMPLE

Headquarters, Department of the Army, Washington, DC

CAUTION
RADIOACTIVE MATERIAL



KRYPTON 85

The MX-7338/PDR-27( ) contains 5 millicuries (mCi) of Krypton 85 (Kr 85).

Exercise caution in the use of this equipment and follow the safety procedures contained in this manual for handling, storage, and disposal.

*This manual supersedes TM 3-6665-264-10, 7 February 1975

Encl 7

SAFETY PRECAUTIONS

Avoid prolonged, unnecessary contact with the MX-7338/PDR-27( ) Radioactive Test Sample; do not unchain the test sample from the carrying case except for disposal purposes or when shipping the AN/PDR-27( ) Radiac Set for calibration.

Handle the MX-7338/PDR-27( ) by the flat (inactive) end only. Protect stored radioactive test sample against unauthorized removal.

		Paragraph	Page
SECTION I.	GENERAL		
	Scope	1	
	Indexes of publications	2	
	Forms and records	3	
	Reporting of errors	4	
	Use	5	
	Authorization for issue	6	
	Supervision and control	7	
II.	DESCRIPTION AND DATA		
	Description	8	
	Radioactive Material Data	9	
III.	INSPECTION FOR LEAKS		
	General	10	
	Inspection	11	
IV.	STORAGE		
	General	12	
	Bulk Storage	13	
V.	DISPOSITION OF UNWANTED OR UNSERVICEABLE RADIOACTIVE TEST SAMPLES		
	Disposition of test samples	14	
VI.	EMERGENCY SITUATIONS AND ACTIONS TO BE TAKEN		
	Loss of test sample	15	
	Internal exposure of personnel	16	
	External exposure of personnel	17	
VII.	TRANSPORTATION	18	
	APPENDIX A	REFERENCES	

SECTION I. GENERAL

1. Scope. This manual contains a description of the MX-7338/PDR-27( ) Radioactive Test Sample, and information/instructions on the use, handling, storage, transportation and disposal of damaged or unwanted test samples and actions to be taken in emergency situations.

2. Index of Publications. DA Pam 310-1. Refer to the latest issue of DA Pam 310-1 to determine whether there are new editions, changes, modification work orders (MWO's), or additional publications pertaining to the equipment.

3. Forms and Records.

a. Reports of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports to be used by maintenance personnel, at all maintenance levels, are listed in and prescribed by TM 38-750.

b. Report of Discrepancies (ROD) (SF 364). Fill out and forward SF 364 as prescribed in DLAR 4140.55/AR 735-11-2/NAVSUPINST 4440.127E/AFR 400-54/MCO 4430.3F.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33/AFM 75-18/MCO P4610.19A/DSAR 4500.15.

4. Reporting of Errors. Reporting of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forwarded directly to: Commander, US Army Communications-Electronics Command (CECOM), ATTN: AMSEL-ME-MT, Fort Monmouth, NJ 07703-5007 with a copy furnished to the CECOM Safety Office, ATTN: AMSEL-SF-MR, Fort Monmouth, NJ 07703-5024.

5. Use. The radioactive test sample is used solely as a check source to determine if an AN/PDR-27( ) Radiac Set is functioning properly. Detailed instructions for using the radioactive test sample are given in the technical manuals (TM) for the Radiac Set AN/PDR-27( ).

-NOTE-

The MX-7338/PDR-27( ) replaces the MX-1083( )/PDR-27 Radioactive Test Sample.

6. Authorization for Issue. The MX-7338/PDR-27( ) Radioactive Test Sample is issued throughout the Department of the Army (DA) and at various Department of Defense (DOD) installations/activities without a specific license being required by the user. This is made possible based upon committments set forth in US Nuclear Regulatory Commission (NRC) Byproduct Material License No. 29-01022-11 issued to CECOM. Information required by the NRC license and regulations is provided as follows:

a. Radiation Protection. Users of the MX-7338/PDR-27( ) should refer to this TM for instructions on control, safe handling, inspection, storage, disposition, emergency situations and transportation. Instructions for the proper use of the MX-7338/PDR-27( ) in conjunction with the AN/PDR-27( ) Radiac Sets are contained in the TM's associated with the radiac sets. These publications satisfy the radiation protection requirements set forth in NRC regulations (Title 10, Chapter 1, Code of Federal Regulations, Parts 19 and 20) (10 CFR Parts 19 and 20).

b. Notice to Employees. The NRC requires that users of licensed material post Form NRC 3, Notice to Employees. Normal use of the AN/PDR-27( ) Radiac Sets for tactical (field) purposes, for reasons of practicality, precludes posting of this form as required by the NRC. Therefore, to fulfill posting

requirements, Form NRC 3, Notice to Employees, will be posted at MX-7338/PDR-27( ) Radioactive Test Sample permanent storage locations. A copy of Form NRC 3 is contained at the back of this manual.

c. Section 206, "Energy Reorganization Act of 1974," (10 CFR 21), also contained in the back of this manual, shall be posted in the same manner as Form NRC 3.

d. Reporting of Defects and Noncompliance Actions. The regulations contained in 10 CFR Part 21, establish procedures and requirements for implementation of Section 206 of the Energy Reorganization Act of 1974. Reporting of defects and noncompliance should be made through appropriate radiological command channels to the CECOM Safety Office. Notification shall be made within 24 hours following the discovery of defects or noncompliance.

e. NRC License. NRC Byproduct Material License No. 29-01022-11 and related documents are held by the CECOM Safety Office at Fort Monmouth, NJ. MX-7338/PDR-27( ) users may request further information on these documents by contacting:

Commander
US Army Communications-Electronics Command
ATTN: AMSEL-SF-MR
Fort Monmouth, NJ 07703-5024

or calling AUTOVON 995-4427.

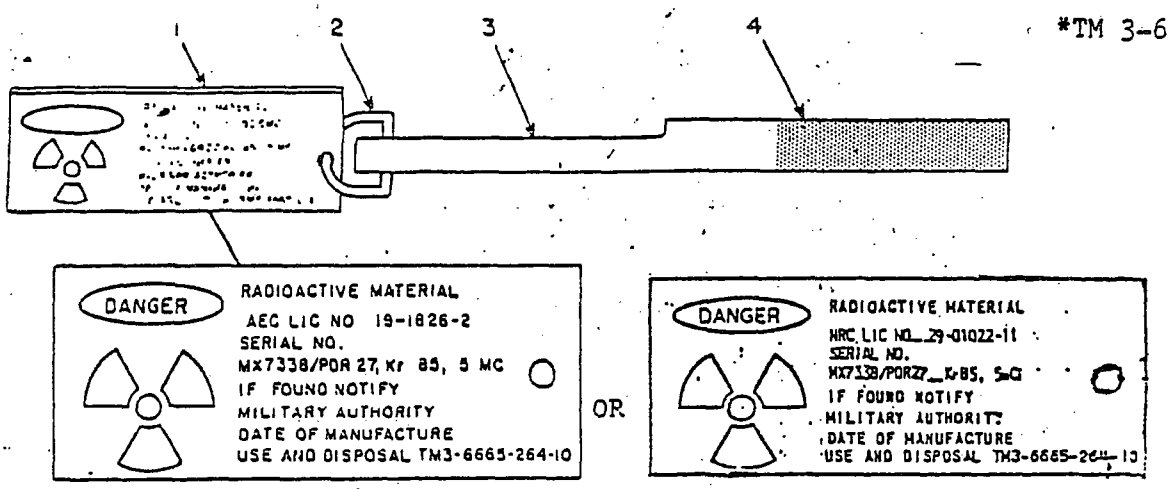
7. Supervision and Control.

a. The accountability, storage and disposal of the radioactive test samples shall be under the guidance of the installation or activity (local) radiation protection officer (RPO), who will assure the radiological safety of all such functions. The items must be stored in established, properly placarded radiation controlled areas and secured against unauthorized use or removal.

b. Each MX-7338/PDR-27( ) will be attached by chain to the radiac set case and stored in the space provided within the case. The radiac sets will then be stored in a secured area. For off post calibration, the RPO may authorize temporary removal of the radioactive test samples. The removed radioactive test samples will stored in a suitable, adequately shielded and labeled container and placed within a designated radiation controlled area. This procedure will permit transportation of the radiac sets as nonradioactive shipments. The radioactive test sample will be rechained to the case upon return of the radiac set from the calibration facility. In all instances, adequate control and personnel radiation protection shall be maintained.

SECTION II. DESCRIPTION AND DATA.

8. Description. The MX-7338/PDR-27( ) (fig. 1) is an aluminum wand approximately 3/8 inch in diameter and 5 inches in length. A sealed radioactive source containing approximately 5 mCi of Kr 85 is sealed in the cylindrical or active end (4) of the wand; the active end is painted purple. An identification tag (1) is attached to the flattened or inactive end (3) of the wand by a D-ring (2); the inactive end is marked MX-7338/PDR-27. The D-ring is also used to attach the radioactive test sample to a chain in the carrying case of Radiac Set AN/PDR-27( ). While not in use, the MX-7338/PDR-27( ) is stored in a well in the carrying case.



1 Identification tag
2 D-ring
3 Inactive end
4 Active end

Figure 1. MX-7338/PDR-27( ) Radioactive Test Sample.

—NOTE—

The logistical and license management responsibilities for the MX-7338/PDR-27( ) Radioactive Test Sample is assigned to CECOM under NRC License Number 29-01022-11. All new procurements made by CECOM will reflect this transition and incorporate NRC License Number 29-01022-11 on the identification tag attached to the test sample. Procurements made prior to the management transition incorporate AEC License Number 19-1826-2 on the identification tag. The NRC has exempted CECOM from exchanging identification tags on those test samples possessed under previous procurements. Therefore, identification tags attached to test samples may bear either of the two license authorization numbers.

9. Radioactive Material Data.

Radioactive material.....Kr-85.

Type of radiation.....Gamma.

Activity (approx).....5 millicuries.

Half-life.....10 years.

SECTION III. INSPECTION FOR LEAKS.

10. General. If the MX-7338/PDR-27( ) develops a leak because of gross damage or deterioration, Krypton 85 will dissipate into the air and will not cause surface contamination.

11. Inspection. Inspect the MX-7338/PDR-27( ) upon issue and use to make sure that it is not damaged or deterioriated and that the meter reading on the 50 mR/hr scale of the AN/PDR-27( ), utilizing the small probe, is at least 10 mR/hr. This procedure is accomplished by placing the active (purple) end of the MX-7338/PDR-27( ) Radioactive Test Sample in direct parallel contact with the center portion of the small probe. If the meter reading is below 10 mR/hr, double check the functioning of the instrument without the radioactive test sample using the procedure given in the TM's for the appropriate AN/PDR-27( ) Radiac Set. If the re-check still indicates that the MX-7338/PDR-27( ) may be defective, open the D-ring, remove and dispose of the MX-7338/PDR-27( ) and identification tag as directed in paragraph 14.

SECTION IV. STORAGE.

12. General. The MX-7338/PDR-27( ) are not individually controlled items as defined in Army Regulation (AR) 385-11. Loss of a radioactive test sample must be reported as described in paragraph 15c. Unwanted or unserviceable radioactive test samples must be disposed of as described in paragraph 14. Stored radioactive test samples must be in properly placarded radiation controlled areas and secured against unauthorized removal.

13. Bulk Storage. Bulk storage is at depots designated by the National Inventory Control Point (NICP). These depots will be equipped with storage and disposal facilities for radioactive materials and supported by a health physicist or a qualified RPO.

SECTION V. DISPOSITION OF UNWANTED OR UNSERVICEABLE RADIOACTIVE TEST SAMPLES.

14. Disposition of Test Samples. The NICP reviews reports of excess, unwanted or unserviceable MX-7338/PDR-27( ) Radioactive Test Samples that are submitted through appropriate command channels for disposition determination. Disposition instructions are provided by the NICP for serviceability, turn-in or disposal of the item as radioactive waste.

-NOTE-

Although the meter reads greater than 10 mR/hr when checked with an AN/PDR-27( ) Radiac Set, the radioactive test sample is considered unserviceable if the identification tag is damaged, unreadable, or missing, or if the aluminum wand is crushed or corroded.

SECTION VI. EMERGENCY SITUATIONS AND ACTIONS TO BE TAKEN.

15. Loss of Test Sample.

a. Attempt to recover the test sample.

(1) Review records to determine the responsible individual.

(2) Make a physical survey of the suspect area.

b. Revise procedures as necessary to prevent recurrence.

c. If the radioactive test sample is not recovered, report the loss immediately through command channels to the major command Radioactive Material Control Point (RMCP) indicating the serial number of the missing MX-7338/PDR-27( ), the circumstances involved, and procedures taken to prevent recurrence. The RMCP will immediately forward this notification to Commander, US Army Communications-Electronics Command, ATTN: AMSEL-SF-MR, Fort Monmouth, NJ 07703-5024.

16. Internal Exposure of Personnel. Internal exposure of personnel due to ingestion, inhalation, or absorption of radioactive material, generally associated with damaged or leaking sources, does not apply to the MX-7338/PDR-27( ) because Krypton 85 is an inert gas.

17. External Exposure of Personnel.

a. External overexposure can occur if the test sample is in direct contact with the individual for periods of time longer than that required for normal use.

b. The following actions are required if a known or suspected overexposure occurs:

(1) Seek advice from the medical officer.

(2) Contact the local RPO.

(3) Correct procedures to prevent recurrence.

(4) Notify responsible commands and Commander, US Army Communications-Electronics Command, ATTN: AMSEL-SF-MR, Fort Monmouth, NJ 07703-5024.

SECTION VII. TRANSPORTATION.

18. Transportation of MX-7338/PDR-27( ) Radioactive Test Sample.

a. The MX-7338/PDR-27( ) requires shipment in accordance with the requirements of the US Department of Transportation (DOT) as set forth in 49 CFR, AR 385-11 and NRC License 29-01022-11.

b. Shipment of the MX-7338/PDR-27( ) can be made as: Radioactive Material, Limited Quantity, N.O.S., UN 2910. The shipment is exempt from specification packaging, shipping papers, certification, marking, and labeling requirements in accordance with 49 CFR 173.421 provided that the following conditions are fulfilled:

(1) The MX-7338/PDR-27( ) must be shipped in a strong tight package (49 CFR 173.421a).

(2) The exposure rate at the package surface must be less than 0.5 mR/hr.

(3) The shipping package must be certified as being acceptable for transportation by having a notice enclosed in, or on the package, included with the packing list, or otherwise forwarded with the package. This notice must include the name of the consignor (sender) or consignee (receiver) and the statement: "This package conforms to the conditions and limitations specified in 49 CFR 173.421 for excepted Radioactive Material, Limited Quantity, N.O.S., UN2910."

(4) The outside of the inner packaging or if there is no inner packaging, the outside of the packaging itself must bear the marking "Radioactive."

(5) The results of the radiation survey and "NRC License Number 29-01022-11" must be annotated on the shipping records (AR 385-11, paragraph 4-1a).

c. Shipment of the MX-7338/PDR-27( ) when incorporated into the AN/PDR-27( ) Radiac Set will qualify as: Radioactive Material, Instruments and Articles, UN 2911; and is exempt from specification packaging, shipping papers, certification, marking, and labeling requirements in accordance with 49 CFR 173.422 provided that the following conditions are fulfilled:

(1) The exposure rate at the package surface must be less than 0.5 mR/hr.

(2) The shipping package must be certified as being acceptable for transportation by having a notice enclosed in, or on the package, included with the packing list, or otherwise forwarded with the package. This notice must include the name of the consignor (sender) or consignee (receiver) and the statement: "This package conforms to the conditions and limitations specified in 49 CFR 173.422 for excepted Radioactive Material, Instruments and Articles, UN2911."

(3) Results of the radiation survey and "NRC License Number 29-01022-11" must be annotated on the shipping records (AR 385-11, paragraph 4-1a).

d. Mailing of the MX-7338/PDR-27( ) by the US Postal Service is permitted for those shipments which may be classified as limited quantities of radioactive materials or excepted instruments, articles and devices as prescribed in 49 CFR 173.421, 173.422 or 173.424, provided that the activity content of any package, instrument or article does not exceed one-tenth the activity limits specified in 49 CFR 173.423. Based on this, shipment of single quantities of MX-7338/-PDR -27( ) Radioactive Test Samples or single quantities of AN/PDR-27( ) Radiac Sets incorporating the MX-7338/PDR-27( ) Radioactive Test Sample is permitted by US Postal Service regulations provided that the requirements stipulated in subparagraph b and c above are complied with.

-NOTE-

Transportation requirements are continually being reviewed and revised with respect to the movement of hazardous materials. If questions regarding the proper transport of radioactive materials should arise, contact your local Radiation Protection Officer or the CECOM Safety Office (AV 995-4427) for assistance.

APPENDIX A

REFERENCES

AR 40-14	Control and Recording Procedures for Exposure to Ionizing Radiation and Radioactive Materials (DLAR 1000.28).
AR 385-11	Ionizing Radiation Protection (Licensing, Control, Transportation, Disposal, Radiation Safety).
AR 385-30	Safety Color Code Marking and Signs.
DA PAM 310-1	Consolidated Index of Army Publications and Blank Forms.
MIL-STD-129H	Marking for Shipment and Storage.
TM 11-6665-209-10	Operator's Manual, Radiac Sets AN/PDR-27J (NSN 6665-00-543-1435), AN/PDR/27L (NSN 6665-00-856-3456) and AN/PDR/27Q (NSN 6665-00-017-8903)
TM 11-6665-224-15	Operator's, Organizational, DS, GS, and Depot Maintenance Manual Radiac Set AN/PDR-27P (NSN 6665-00-975-7222)
TM 11-6665-228-15	Operator's, Organizational, DS, GS, and Depot Maintenance Manual Including Repair Parts and Special Tools List, Radiac Set AN/PDR-27G
TM 11-6665-230-15	Operator's, Organizational, Direct Support, General Support, and Depot Maintenance Manual (Including Repair Parts and Special Tools List), Radiac Set AN/PDR-27R (NSN 6665-00-961-0846)
TM 11-6665-249-14	Operator's, Organizational, Direct Support, and General Support Maintenance Manual for Radiac Set AN/PDR-27S (NSN 6665-01-080-4418)
TM 38-750	The Army Maintenance Management System (TAMMS).

Title 10, Code of Federal Regulations, Parts 19, 20 and 21.

Title 49, Code of Federal Regulations.

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

NOTICE TO EMPLOYEES

STANDARDS FOR PROTECTION AGAINST RADIATION (PART 20); NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS; INSPECTIONS (PART 19); EMPLOYEE PROTECTION

:AT IS THE NUCLEAR :GULATORY COMMISSION?

Nuclear Regulatory Commission is an ;endent Federal regulatory agency re- ;sible for licensing and inspecting nuclear r plants and other commercial uses of ;ctive materials.

:AT DOES THE NRC DO?

NRC's primary responsibility is to ;re that workers and the public are ;ected from unnecessary or excessive ;nsure to radiation and that nuclear ilities including power plants are con- ;cted to high quality standards and ;rated in a safe manner. The NRC does ; by establishing requirements in Title 10 ;he Code of Federal Regulations (10 ;R) and in licenses issued to nuclear users.

:IAT RESPONSIBILITY DOES Y EMPLOYER HAVE?

y company that conducts activities ;sed by the NRC must comply with NRC's requirements. If a company ;ates NRC requirements, it can be fined ;ave its license modified, suspended or ;ked.

;r employer must tell you which NRC ;tion requirements apply to your work ; must post NRC Notices of Violation ;lving radiological working conditions.

WHAT IS MY RESPONSIBILITY?

For your own protection and the protection of your co-workers, you should know how NRC requirements relate to your work and should obey them. If you observe violations of the requirements, you should report them.

HOW DO I REPORT VIOLATIONS?

If you believe that violations of NRC rules or of the terms of the license have occurred, you should report them immediately to your supervisor. If you believe that adequate corrective action is not being taken, you may report this to an NRC inspector or the nearest NRC Regional Office.

WHAT IF I WORK IN A RADIATION AREA?

If you work with radioactive materials or in a radiation (controlled) area, the amount of radiation exposure that you may legally receive is limited by the NRC. The limits on your exposure are contained in sections 20.101, 20.103, and 20.104 of Title 10 of the Code of Federal Regulations (10 CFR 20). While those are the maximum allowable limits, your employer should also keep your radiation exposure as far below those limits as is "reasonably achievable."

MAY I GET A RECORD OF MY RADIATION EXPOSURE?

Yes. Your employer is required to tell you, in writing, if you receive any radiation exposure above the limits set in the NRC regulations or your employer's license. In addition, if your job involves radiation, you may request from your employer a record of your annual radiation exposures and a written report of your total exposure when you leave your job.

HOW ARE VIOLATIONS OF NRC REQUIREMENTS IDENTIFIED?

NRC conducts regular inspections at licensed facilities to assure compliance with NRC requirements. In addition, your employer and site contractors conduct their own inspections to assure compliance. All inspectors are protected by Federal law. Interference with them may result in criminal prosecution for a Federal offense.

MAY I TALK WITH AN NRC INSPECTOR?

Yes. Your employer may not prevent you from talking with an NRC inspector and you may talk privately with an inspector and request that your identity remain confidential.

MAY I REQUEST AN INSPECTION?

If you believe that your employer has not corrected violations involving radiological working conditions, you may request an inspection. Your request should be addressed to the nearest NRC Regional Office and must describe the alleged violation in detail. It must be signed by you or your representative.

HOW DO I CONTACT THE NRC?

Notify an NRC inspector on-site or call the nearest NRC Regional office collect. NRC inspectors want to talk to you if you are worried about radiation safety or other aspects of licensed activities, such as the quality of construction or operations at your plant.

CAN I BE FIRED FOR TALKING TO THE NRC?

No. Federal law prohibits an employer from firing or otherwise discriminating against a worker for bringing safety concerns to the attention of the NRC. You may not be fired or discriminated against because you:

- ask the NRC to enforce its rules against your employer;
- testify in an NRC proceeding;
- provide information or are about to provide information to the NRC about violations of requirements;
- are about to ask for or testify, help, or take part in an NRC proceeding.

WHAT FORMS OF DISCRIMINATION ARE PROHIBITED?

No employer may fire you or discriminate against you with respect to pay, benefits, or working conditions because you help the NRC.

HOW AM I PROTECTED FROM DISCRIMINATION?

If you believe that you have been discriminated against for bringing safety concerns to the NRC, you may file a complaint with the U.S. Department of Labor. Your complaint must describe the firing or discrimination and must be filed within 30 days of the occurrence.

Send complaints to:

Office of the Administrator
Wage and Hour Division
Employment Standards Administration
U.S. Department of Labor
Room 53502
200 Constitution Avenue, N.W.
Washington, D.C. 20210

or any local office of the Department of Labor, Wage and Hour Division. Check your telephone directory under U.S. Government listings.

WHAT CAN THE LABOR DEPARTMENT DO?

The Department of Labor will notify t employer that a complaint has been file and will investigate the case.

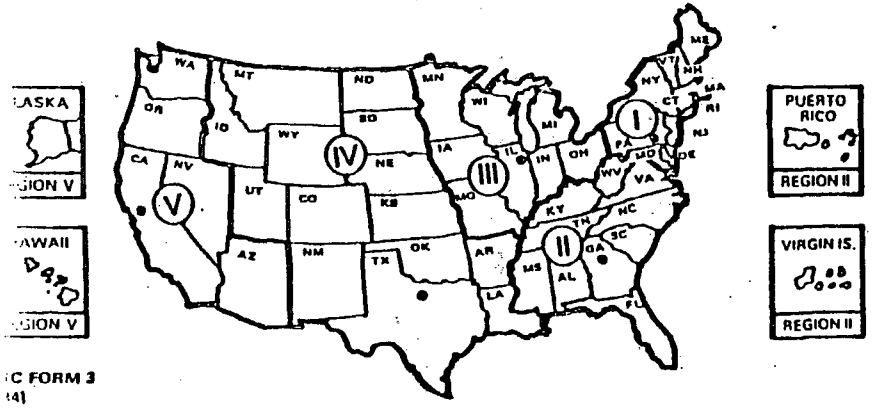
If the Department of Labor finds that yc employer has unlawfully discriminated against you, it may order you to be rei stated, receive back pay, or be compensa for any injury suffered as a result of th discrimination.

WHAT WILL THE NRC DO?

The NRC may assist the Department o Labor in its investigation. NRC may co duct its own investigation where necess to determine whether unlawful discrimi tion has prevented the free flow of info mation to the Commission. Also, if th NRC or Department of Labor finds tha unlawful discrimination has occurred, t NRC may issue a Notice of Violation to your employer, impose a fine, or suspe modify, or revoke your employer's NR license.

UNITED STATES NUCLEAR REGULATORY COMMISSION REGIONAL OFFICE LOCATIONS

A representative of the Nuclear Regulatory Commission can be contacted at the following addresses and telephone numbers. The Regional Office will accept collect telephone calls from employees who wish to register complaints or concerns about radiological working conditions or other matters regarding compliance with Commission rules and regulations.



Regional Offices

REGION	ADDRESS	TELEPHONE
I	U.S. Nuclear Regulatory Commission Region I 631 Park Avenue King of Prussia, PA 19406	215 337-5000
II	U.S. Nuclear Regulatory Commission Region II 101 Marietta St., N.W., Suite 2900 Atlanta, GA 30323	404 221-4503
III	U.S. Nuclear Regulatory Commission Region III 799 Roosevelt Road Glen Ellyn, IL 60137	312 790-5500
IV	U.S. Nuclear Regulatory Commission Region IV 611 Ryan Plaza Drive, Suite 1000 Arlington, TX 76011	817 860-8100
V	U.S. Nuclear Regulatory Commission Region V 1450 Maria Lane, Suite 210 Walnut Creek, CA 94596	415 943-3700

:C FORM 3
:4)

PUBLIC LAW 93-438
93rd CONGRESS, H. R. 11510
OCTOBER 11, 1974

AN ACT

To reorganize and consolidate certain functions of the Federal Government in a new Energy Research and Development Administration and in a new Nuclear Regulatory Commission in order to promote more efficient management of such functions.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

Section 1. This Act may be cited as the "Energy Reorganization Act of 1974".

NONCOMPLIANCE

Section 206. (a) Any individual director, or responsible officer of a firm constructing, owning, operating, or supplying the components of any facility or activity which is licensed or otherwise regulated pursuant to the Atomic Energy Act of 1954 as amended, or pursuant to this Act, who obtains information reasonably indicating that such facility or activity or basic components supplied to such facility or activity--

(1) fails to comply with the Atomic Energy Act of 1954 as amended, or any applicable rule, regulation, order, or license of the Commission relating to substantial safety hazards, or

(2) contains a defect which could create a substantial safety hazard, as defined by regulations which the Commission shall promulgate, shall immediately notify the Commission of such failure to comply, or of such defect, unless such person has actual knowledge that the Commission has been adequately informed of such defect or failure to comply.

(b) Any person who knowingly and consciously fails to provide the notice required by subsection (a) of this section shall be subject to a civil penalty in an amount equal to the amount provided by section 234 of the Atomic Energy Act of 1954, as amended.

(c) The requirements of this section shall be prominently posted on the premises of any facility licensed or otherwise regulated pursuant to the Atomic Energy Act of 1954, as amended.

(d) The Commission is authorized to conduct such reasonable inspections and other enforcement activities as needed to insure compliance with the provisions of this section.

DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY COMMUNICATIONS-ELECTRONICS COMMAND
AND FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5000

REPLY TO
ATTENTION OF

AMSEL-SF-MR

5 February 1986

MEMORANDUM FOR RECORD
SUBJECT: Application for Consolidated US Nuclear Regulatory Commission License

1. Reference:

a. 1st End, AMXTM-SR, 3 February 1986, subject as above.

b. FONECON, 5 February 1986, between Mr. Delbert Loney, US Army, TMDE Support Group (USATSG), and Mr. Joseph M. Santarsiero, CECOM Safety Office, subject as above.

2. Reference 1a provided concurrence to subject license application and recommended comments to be incorporated for the purpose of clarity.

3. During reference 1b FONECON, indication was made that comments provided by USATSG were to be incorporated, as written, into subject application.

Prepared by: Joseph M Santarsiero
JOSEPH M. SANTARSIERO
Health Physicist

Reviewed by: Joseph M Santarsiero
for BARRY J. SILBER
Acting Chief, Mtl Sfty Engr Div

Approved by: Steven A Horne
STEVEN A. HORNE
Acting Chief, Safety Office

CF:
Cdr, AMXTM-SR