DOCKET NO. 40-7354

DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR LOGISTICS
WASHINGTON, D.C. 20310

DALO-MAS-I

3 JUL 1973

Regulatory Docket File

U.S. Atomic Energy Commission
Directorate of Licensing
Materials Branch
Washington, D.C. 20545

Gentlemen:

Forwarded for your approval is an application to amend USAEC Source Material License No. SUB-834 issued to the U.S. Army Aberdeen Proving Ground, Maryland. This license is due to expire on 30 September 1973.

Pen and ink changes (items 8(d) and 8(e)) were made by this office.

Sincerely yours,

B. J. Logan
for PETER M. BALDINO
Chief, Support Division

1 Incl
As stated

DOCKETED
JUL 6 1973
REGULATORY
MAIL SECTION
DOCKET CLERK

RECEIVED
JUL 5 1973

5227

DEPARTMENT OF THE ARMY
ABERDEEN PROVING GROUND
ABERDEEN PROVING GROUND, MARYLAND 21005

STEAP-AD
LETTER ORDER NUMBER 325

18 April 1973

SUBJECT: Letter Order - Amendment

See Distribution

TC 469. Following orders are changed as indicated.

Action: AMENDMENT
So much of: LO 176 this HQ (72)
Pertaining to: Instl Radiation Protection Officer/Alt Instl Radiation Protection Officer
As reads: NA
How changed: IATD: SHECKELLS, JOSEPH R. 220-36-3349 GS-09 Safety Officer 0018 APG Safety Ofc (WCWRAA A) APG MD 21005 (Alt Instl Radiation Protection Officer)
IATA: GRUNDY, MICHAEL J. 227-74-3602 GS-11 Safety Engr 0803 APG Safety Ofc (WCWRAA A) APG MD 21005 (Alt Instl Radiation Protection Officer)
Authority: DF from APG Safety Office, 18 Apr 73

FOR THE COMMANDER:

Robert C. Forrest
ROBERT C. FORREST JR
Assistant Adjutant

DISTRIBUTION:
2-Ea indiv conc
1-STEAP-DC
5-APG Safety Office
1-APG Operations Officer
1-Record Set
1-Admin NCO, Admin Svcs Div

W/ appl. dated May 18, 1973

Supplement B

DEPARTMENT OF THE ARMY
ABERDEEN PROVING GROUND
ABERDEEN PROVING GROUND, MARYLAND 21005

STEAP-AD

16 April 1973

LETTER ORDER NUMBER 305

SUBJECT: Letter Order - Amendment

r

See Distribution

TC 469. Following orders are changed as indicated.

Action: AMENDMENT
So much of: Para 2, LO 2548 this HQ (71) AABY LO's 137 & 984 this HQ (72)
Pertaining to: APG Installation Radiation Protection Committee
As reads: NA
How changed: IATD: SHECKELLS, JOSEPH R. 220-36-3349 GS-09 Safety Off 0018
APG Safety Ofc (WOWRAA A) APG MD 21005 (Alt Member)
IATA: GRUNDY, MICHAEL J. 227-74-3602 GS-11 Safety Engr 0803
APG Safety Ofc (WOWRAA A) APG MD 21005 (Alt Member)
Authority: DF from APG Safety Office

FOR THE COMMANDER:

Robert C. Forrest Jr

ROBERT C. FORREST JR
Assistant Adjutant

DISTRIBUTION:
2-Ea indiv conc
5-Safety Office, APG
1-STEAP-DC
2-Cdr, MEDDAC (Civ Envir Health Clinic)
1-Record Set
1-Admin NCO, Admin Svcs Div

DEPARTMENT OF THE ARMY
ABERDEEN PROVING GROUND
ABERDEEN PROVING GROUND, MARYLAND 21005

STEAP-AD
LETTER ORDERS NUMBER 176

25 February 1972

SUBJECT: Letter Orders - Appointment

TO: See Distribution

TC 453. Following individual(s) APPOINTED/DESIGNATED/CERTIFIED as indicated.

PAPOLA, MARIO P. 046-16-6899 GS-12 Health Physicist 1306 APG Safety Ofc (WONRAA) APG MD 21005 (Instl Radiation Protection Officer)
SHECKELLS, JOSEPH R. 220-36-3349 GS-09 Safety Officer 0018 APG Safety Ofc (WONRAA) APG MD 21005 (Alt Instl Radiation Protection Officer)

Authority: AMCR 385-25
Designated as: NA
Certified as: NA
Appointed as: Instl Radiation Protection Officer/Alt Instl Radiation Protection Officer
Period: Indefinite
Purpose: To perform duties as prescribed in AMCR 385-25
Effective date: 25 Feb 72
Special Instructions: None

FOR THE COMMANDER:

J. ALLAN THOMPSON
Assistant Adjutant

DISTRIBUTION:
2-Ea Indiv concc
1-Ea Indiv 201 file(CPO)
1-STEAP-DO
5-APG Safety Ofc
1-APG Operations Officer
1-Admin NCO, Admin Svcs Div

DEPARTMENT OF THE ARMY
ABERDEEN PROVING GROUND
ABERDEEN PROVING GROUND, MARYLAND 21005

STEAP-AD
LETTER ORDER NUMBER 984

15 November 1972

SUBJECT: Letter Order - Amendment

See Distribution

TC 469. Following orders are changed as indicated.

Action: AMENDMENT
So much of: Para 2, LO 2548 this HQ (71) AAFY LO 137 this HQ CS
Pertaining to: APG Installation Radiation Protection Committee
As reads: NA
How changed: IATD: *CARTER, CHAPEL 081-32-6891 GS-13 Medical Off (Prev Med Admin 0602 Prev Medicine MEDDAC (W2LJAA) APG Md 21005 (Member/2nd Vice Chmn)
FEROLI, JOHN F. 028-16-0874 GS-14 Phy Scientist 1301.1 MTD (W0MRAA) APG Md 21005 (Member/Permit Signing Official)
IATA: *ESMOND, WILLIAM G. 217-18-4471 GS-13 Med Off 0602 Civ Environmental Health Clinic (MEDDAC) (W2LJAA A) APG Md 21005 (Member)
Authority: DF fm APG Safety Ofc, 6 Nov 1972
Effective date: VOCO date confirmed: 6 Nov 1972

*With concurrence, commander concerned

FOR THE COMMANDER:

ROBERT C. FORREST JR
Assistant Adjutant

DISTRIBUTION:
2-Ea indiv conc
1-Ea indiv personnel file (CPD)
5-Safety Ofc, APG
1-STEAP-DC
2-Cdr, MEDDAC (Civ Envir Health Clinic)
1-Admin NCO, Admin Svcs Div

DEPARTMENT OF THE ARMY
ABERDEEN PROVING GROUND
ABERDEEN PROVING GROUND, MARYLAND 21005

STEAP-AD
LETTER ORDERS NUMBER 137

15 February 1972

SUBJECT: Letter Orders - Amendment

TO: See Distribution

TC 169. Following orders are changed as indicated.

Action: AMENDMENT
So much of: Para 2, LO 2548 this HQ (71)
Pertaining to: APG Installation Radiation Protection Committee
As reads: NA
How changed: IATD: WATKINS, JOHN Q. 542-44-1754 GS-11 Safety Off 0018
APG Safety Ofc (MDWRAA) APG Md 21005 (Member)
IATA: PAROLA, MARIO P. 046-16-6899 GS-12 Health Physicist
1306 APG Safety Ofc (MDWRAA) APG Md 21005 (Chairman)
Authority: DF fm APG Safety Ofc, 14 Feb 72
Effective date: VOCO date cfm: 14 Feb 72

FOR THE COMMANDER:

Robert C. Forrest Jr.
ROBERT C. FORREST JR.
Assistant Adjutant

DISTRIBUTION:
2-Ea indiv conc
2-APG Safety Ofc
1-Fa indiv 201 file (CPO)
1-STEAP-DC
1-Admin NCO, Admin Svcs Div

DEPARTMENT OF THE ARMY
ABERDEEN PROVING GROUND
ABERDEEN PROVING GROUND, MARYLAND 21005

STEAP-AD 1 December 1971
LETTER ORDERS NUMBER 2548

SUBJECT: Letter Orders - Rescission and Appointment

TO: See Distribution

1. TC 469. Following orders are changed as indicated.

Action: RESCISSION
So much of: LO 706 this HQ (71)
Pertaining to: APG Installation Radiation Protection Committee
As reads: NA
How changed: NA
Authority: DF fm APG Safety Ofc, dtd 30 Nov 71

2. TC 456. Following BOARD/COMMITTEE appointed subject to call of the PRESIDENT/CHAIRMAN thereof, and will consist of members as follows in position(s) indicated.

Authority: APGR 385-8
Name of Board/Committee: APG Installation Radiation Protection Committee
Members: WATKINS, JOHN Q. 542-44-1754 GS-11 Safety Off 0018 APG Safety Ofc (WOWRAA) APG Md 21005 (Member)
*HOLLIS, RAYMOND E. 182-24-3308 GS-13 Elec Engr 0855 USAIWL (WO5AAA) APG Md 21005 (Member/1st Vice Chmn/Acting Chairman)
*CARTER, CHAPEL 081-32-6891 GS-13 Medical Off (Prev Med Admin) 0602 Prev Medicine MEDDAC (W2LJAA) APG Md 21005 (Member/2nd Vice Chmn)
SHECKELLS, JOSEPH R. 220-36-3349 GS-09 Safety Off 0018 APG Safety Ofc (WOWRAA) APG Md 21005 (Alt Member)
HUDDLESTON, ROBERT L. 299-32-0294 GS-13 Supv Metallurgist 1320 MTD (WOWRAA) APG Md 21005 (Member/Permit Signing Official)
FINFERA, JAMES 217-40-7392 GS-12 Mech Engr 0830 MTD (WOWRAA) APG Md 21005 (Alt Member)
*WRIGHT, EARL G. 415-62-7756 GS-13 Supv Health Phy 1306 BRL USAARDC (W2ZWAA) APG Md 21005 (Member w/o vote)
*ASSERUDE, ROBERT A. 541-42-5026 GS-13 Supv Health Phy 1306 BRL USAARDC (W2ZWAA) APG Md 21005 (Alt Member w/o vote)
*HANSON, ROGER E. 501-28-7215 MAJ 3306 Rad Svc MEDDAC (W2LJAA) APG Md 21005 (Alt Member)
*DEMPSEY, MICHAEL F. 090-36-6465 CPT 3005 PM Off MEDDAC (W2LJAA) APG Md 21005 (Alt Member)
*WOGSLAND, NEAL C. 396-22-0738 GS-14 Mech Engr 0830 USAIWL (WO5AAA) APG Md 21005 (Alt Member)

Letter Orders Number 2548 this headquarters date 1 December 1971 (cont)

FEROLI, JOHN H. 028-18-0874 GS-14 Phy Scientist 01.1 MTD (WOWRAA) APG
MD 21005 (Member/Permit Signing Official)
CANNON, JAMES A. 433-68-7192 GS-11 Safety Engr (3 APG Safety Ofc (WOWRAA)
APG MD 21005 (Alt Member)
Period: Indefinite
Purpose: Coordinate procedures and provide tech cal guidance related to use of materials or devices that emit nizing radiation
Effective date: 1 December 1971
Special Instructions: NA

*With concurrence, commander concerned

FOR THE COMMANDER:

ROBERT C. FORE T JR
Assistant Adju nt

DISTRIBUTION:
2-Ea indiv conc
2-Ea actv conc
1-Ea indiv 201 file
5-Safety Ofc APG
1-STEAP-DC
1-Admin NCO, Admin Svcs Div

DATE 29 September 1972

RADIOLOGICAL PERSONNEL TRAINING AND EXPERIENCE RESUME
(APGR 385-8)

ESMOND, WILLIAM G., M.D.
NAME (Last, First, Middle)

IONIZING RADIATION PERMIT NUMBER	APPLICANTS PLEASE LEAVE BLANK
AREA RADIATION PROTECTION OFFICER	RESPONSIBLE INVESTIGATOR

LIST BELOW YOUR TRAINING AND EXPERIENCE WITH RADIOISOTOPES AND OTHER SOURCES OF IONIZING RADIATION (Use supplemental sheets if necessary)

1. TRAINING

a. Principles and practices of radiation protection
b. Radioactivity measurement standardization and monitoring techniques & instruments
c. Mathematics and calculations basic to the use and measurement of radioactivity
d. Biological effects of radiation

TYPE	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB	FORMAL COURSE
	SEE ATTACHED RESUME			

2. EXPERIENCE

ISOTOPE OR OTHER SOURCE	MAXIMUM AMOUNT OR DESCRIPTION OF SOURCE	LOCATION	DURATION	TYPE OF USE
	SEE ATTACHED RESUME.			

STEAP Form 2752-(R), 26 Sept 63

DEPARTMENT OF THE ARMY
MEDICAL DEPARTMENT ACTIVITY
ABERDEEN PROVING GROUND, MARYLAND 21005
Phone: 278-2310 or 278-4697

29 September 1972

QUALIFICATIONS FOR RADIOLOGICAL SAFETY COMMITTEE

Graduate of University of Maryland School of Medicine, June 1951. Courses included instruction in radiation physics and the physiological effects of radiation and the interpretation of x-rays and the use of radio isotopes.

Took and interpreted x-rays while working as an Intern at Lutheran Hospital of Maryland Inc., Baltimore, Md., July 1951 to June 1952.

Experience in the use of radio isotopes in clinical practice was gained as a Fellow in Medicine at the University of Maryland School of Medicine Hospital in Baltimore, Md. July 1952 to June 1953.

Further training in radiation health physics and x-ray interpretation was gained during Residence training in medicine at Mercy Hospital in Baltimore, Md. July 1953 to June 1955.

Initiated and directed two research projects as an Assistant Professor at the University of Maryland School of Medicine:

a. in 1965, partially conducted at the Walter Reed Army Institute for Research, Washington, D. C. on a proposed new method of protecting animals from lethal x-radiation injury.

b. in 1969,an evaluation of a new radio isotope method of evaluating artificial kidney membrane dialysis in a new type of radio isotopes cell.

Have had periodic conferences with Physicians in the Cobalt Therapy Unit of the University of Maryland Hospital regarding the treatment of patients with radiation for various types of malignant disease.

Have had periodic conferences with Physicians in the radio isotopes units of University of Maryland Hospital, Baltimore, Maryland, St. Joseph's Hospital, Towson, Maryland, and Lutheran Hospital, Baltimore, Maryland, regarding plans for, and interpretation of, radio isotope tests of thyroid, brain, lung, liver, and kidney function over a period of 20 years.

Experience in the clinical interpretation of patient x-rays from 1949 to the present time.

Author of a new x-ray ray presentation method outlined in a communication in the Journal of the American Medical Association, 25 Oct 1971, Volume 218. Page 598, entitled "Three Dimensional X-ray Movies".

William G. Esmond

WILLIAM G. ESMOND, M.D.

DATE 10 April 1973

RADIOLOGICAL PERSONNEL TRAINING AND EXPERIENCE RESUME'
(APGR 385-8)

GRUNDY, MICHAEL J.

NAME (Last, First Middle)

IONIZING RADIATION PERMIT NUMBER	APPLICANTS PLEASE LEAVE BLANK
AREA RADIATION PROTECTION OFFICER	RESPONSIBLE INVESTIGATOR

LIST BELOW YOUR TRAINING AND EXPERIENCE WITH RADIOISOTOPES AND OTHER SOURCES OF IONIZING RADIATION (Use supplemental sheets if necessary)

1. TRAINING

a. Principles and practices of radiation protection
b. Radioactivity measurement standardization and monitoring techniques & instruments
c. Mathematics and calculations basic to the use and measurement of radioactivity
d. Biological effects of radiation

TYPE	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB	FORMAL COURSE
a, b c & d	USAMC Field Safety Agency	3 weeks	8 months	Yes
	BSE Degree - Georgia Tech			

2. EXPERIENCE

ISOTOPE OR OTHER SOURCE	MAXIMUM AMOUNT OR DESCRIPTION OF SOURCE	LOCATION	DURATION	TYPE OF USE

STEAP Form 2752-(R), 26 Sept 63

DATE 28 February 1972

RADIOLOGICAL PERSONNEL TRAINING AND EXPERIENCE RESUME'
(APGR 385-8)

DEMPSEY, MICHAEL F.

NAME (Last, First, Middle)

IONIZING RADIATION PERMIT NUMBER	APPLICANTS PLEASE LEAVE BLANK
AREA RADIATION PROTECTION OFFICER	RESPONSIBLE INVESTIGATOR

LIST BELOW YOUR TRAINING AND EXPERIENCE WITH RADIOISOTOPES AND OTHER SOURCES OF IONIZING RADIATION (Use supplemental sheets if necessary)

1. TRAINING

a. Principles and practices of radiation protection
b. Radioactivity measurement standardization and monitoring techniques & instruments
c. Mathematics and calculations basic to the use and measurement of radioactivity
d. Biological effects of radiation

TYPE	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB	FORMAL COURSE
d	SUNY Upstate Med College	1966-70		Medical training
d	Albany Medical Ctr Hosp	1970-71		Internship
a & d	USAEHA	Jan 1972		Environmental Hygiene Course

2. EXPERIENCE

ISOTOPE OR OTHER SOURCE	MAXIMUM AMOUNT OR DESCRIPTION OF SOURCE	LOCATION	DURATION	TYPE OF USE

STEAP Form 2752-(R), 26 Sept 63

DATE 30 Jan 1971

RADIOLOGICAL PERSONNEL TRAINING AND EXPERIENCE RESUME'
(APGR 385-8)

FIFTERA, JAMES PHILLIP

NAME (Last. First. Middle)

IONIZING RADIATION PERMIT NUMBER	APPLICANTS PLEASE LEAVE BLANK
AREA RADIATION PROTECTION OFFICER	RESPONSIBLE INVESTIGATOR

LIST BELOW YOUR TRAINING AND EXPERIENCE WITH RADIOISOTOPES AND OTHER SOURCES OF IONIZING RADIATION (Use supplemental sheets if necessary)

1. TRAINING

a. Principles and practices of radiation protection
b. Radioactivity measurement standardization and monitoring techniques & instruments
c. Mathematics and calculations basic to the use and measurement of radioactivity
d. Biological effects of radiation

TYPE	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB	FORMAL COURSE
a, b, c & d	USPHS Rockville, Md.	2 weeks		Yes
c	Park Col of SLU East St. Louis, Ill.	23 Credit Hours Math.		Yes

2. EXPERIENCE

ISOTOPE OR OTHER SOURCE	MAXIMUM AMT OR DESCRIPTION OF SOURCE	LOCATION	DURATION	TYPE OF USE
C_o 60	3 Ci	Bldg 449	3 1/2 yrs	Radiography
C_o 60	4.9 m Ci	Bldg 376	5 1/2 yrs	Calibration of Survey Meters
C_o 60	32.4 m Ci	Bldg 376	5 1/2 yrs	Calibration of Survey Meters
X-Rays	60 KV X-Ray Spectrometer	Bldg 400	5 1/2 yrs	X-Ray Spectrochemical Analysis
X-Rays	150, 180, 600 KV Flash X-Ray	Bldg 400	3 yrs	Flash Radiography

SWRR Form 2759-(R), 25 Sept 63

Training and Experience of
Robert L. Huddleston, Supervisory Physical Metallurgist
BS Metallurgical Engineering - Virginia Polytechnic Institute

	Type of Training	Where Trained	Duration	On the Job	Normal Course
a.	Principles and practices of radiation protection	M.I.T.	2 weeks	No	Yes
b.	Radioactivity measurement standardization and monitoring techniques and instruments	M.I.T.	2 weeks	No	Yes
c.	Mathematics and calculations basic to the use and measurement of radioactivity	M.I.T.	2 weeks	No	Yes
d.	Biological effects of radiation	M.I.T.	2 weeks	No	Yes

The above formal training was received at a two-week course at Mass. Institute of Technology in July 1958, "Principles of Radioisotope Utilization".

In addition, formal training was received at ORINS, the "C" course (2 weeks). "Industrial Radioisotope Techniques", in May 1960.

Experience with Radiation

Isotope	Max. Amt.	Where Experience Was Gained	Duration	Type of Use
Co^{60}	5 curies	ORINS	2 weeks	Radiography
Ir^{192}	10 curies	ORINS	2 weeks	Radiography
Au^{198}	20 mc	ORINS	2 weeks	Mixing and flow rates
Co^{60}	5 mc	Aberdeen Proving Ground, Md.	4½ years	Instrument Calib
Co^{60}	3 curies	Aberdeen Proving Ground, Md.	3½ years	Radiography

In addition, applicant has operated, and supervised operation of 1000, 400, and 250 KVP X-ray machines for approximately 8 years. Experience also includes operation of X-ray diffraction and flash radiographic equipment for the same length of time. Applicant has been a member of the APG Radiation Safety Committee for more than six years.

June 14

TRAINING AND EXPERIENCE OF Raymond E. Hollis

8. TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
a. Principles and practices of radiation protection	Univ. of Delaware	6 semesters	Yes (No)	(Yes) No
	USHEW, PHS, DRH, Rockville, Md.	2 weeks		
b. Radioactivity measurement standardization and monitoring techniques and instruments	Univ. of Delaware	6 sem.	No	Yes
	" " "	4 "	Yes	No
	USHEW, PHS, DRH	2 weeks	No	Yes
c. Mathematics and calculations basic to the use and measurement of radioactivity	Univ. of Delaware	6 sem.	No	Yes
	" "	4 "	Yes	No
	USHEW, PHS, DRH	2 weeks	No	Yes
d. Biological effects of radiation	Univ. of Delaware	6 sem.		
	USHEW, PHS, DRH	2 weeks	Yes (No)	(Yes) No

9. EXPERIENCE WITH RADIATION (Actual use of radioisotopes or equivalent experience.)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
Co-60	12.5 mc	University of Delaware	1959-1960	Measurements Research
"	1 mc	Aberdeen Proving Ground	1961-1963	Measurements Survey
Ra-Be	10 mc	University of Delaware	1960-1961	Reactor Work
Pu-Be	1 curie	University of Delaware	1960-1961	Reactor Work
Mn-90, In-116, Au-198, Tl-204, Cs-137, Cr-51, I-131, Fe-59, C-14	small lab samples	USHEW, PHS, DRH	May 1962 (2 wks)	Lab.Experiements and Calibrations
Sc-46	2 curies	Franklin Systems, Inc. at West Palm Beach, Fla. and Aberdeen Proving Ground	1960-1962	Tagging of Projectiles for Distance Measurements.
Elements 3-63 (specifically) Al-27 Cu-63, Cu-65 Mg-24, Mg-25 Mg-26, Mn-55 Fe-54, Fe-56 Fe-57, Fe-58 Cr-50, Cr-52 Cr-53, Cr-54 Ni-58, Ni-60 Ni-61, Ni-62 Ni-64	200 mc	DORF, Irradiation Facilities," Washington, D.C. and Aberdeen Proving Ground	1963	Study of Nuclear Effects on Electronic Equipment after Submission to Neutron Bursts
H-3, Pm-147, Kr-85, Ra-226	1 Ci	USA Limited War Lab APG, Maryland	1965-1968	Illumination Devices

Mr. Hollis received his BE degree in Electrical Engineering from the University of Delaware in 1960 and his ME degree in Electrical Engineering from the University of Delaware in 1963. He is currently enrolled in the Graduate School of the same University.

Mr. Hollis completed a 2-week course in "Basic Radiological Health", Course #221, on 18 May 1962. This course was presented by the USHEW Public Health Service, Division of Radiological Health Training Branch at Rockville, Maryland.

Mr. Hollis is appointed Radiation Protection Officer of USA Limited War Laboratory and is also a member of Installation Radiation Protection Committee of APG. Md.

As of Feb 72

Resume' of Training and Experience of Radiation Protection Officer

MARIO P. PAROLA

1. Educational Background.

a. Leavenworth High School, Waterbury, Connecticut, April 1943.

b. US Navy School of Deep Sea Divers and Submarine Medicine, Naval Gun Factory, Washington, D.C., June 1949.

c. US Navy School of Hospital Administration, National Medical Center, Bethesda, Maryland, June 1953.

d. US Naval Nuclear Power School, Basic Nuclear Engineering and Health Physics Specialized Training, Submarine Base, New London, Connecticut, June 1960.

e. Attended University of Maryland.

2. Work Experience.

a. Health Physics Department Instructor at Nuclear Power School, Submarine Base, New London, Connecticut, 1960.

b. Served as Health Physicist in two nuclear submarines, 1960-1963.

c. Health Physics Department, Electric Boat Division, General Dynamics Corporation, Groton, Connecticut, 1963.

d. Alternate Chief, Health Physics Office, Alternate Radiation Protection Officer, US Army Nuclear Defense Laboratory, Edgewood Arsenal, Maryland, October 1963 to October 1969.

e. Health Physics Branch, Med Dept, Charleston Naval Shipyard, Charleston, S.C., October 1969 to Jan 1972.

3. Radioisotope Handling Experience - See Attached Sheet.

RADIOISOTOPE INVENTORY FORM - INSTRUCTIONS

USE OF FORM

This form is to be used both for the semiannual radioisotope inventory (a complete listing of all radioisotopes held) and for all changes in inventory which occur between semiannual inventories (only affected items need be listed). In each case 4 copies will be sent to the Chairman, Radiation Protection Committee.

GENERAL INSTRUCTIONS

List together alphabetically by chemical symbol all sources held under a given authority (All sources of a set may be listed together without regard to this instruction). Leave one blank space between sources listed under different authority.

SPECIFIC INSTRUCTIONS BY COLUMN HEADING

1. Authority - Identify specific authority under which source was obtained (Identify USAEC licenses by number, e.g., 19-294-13 and DA Authorization 19-01-01).

2. Isotope - Chemical symbol and mass number.

3. Date Received - Date source was received by organization.

4. Original Amount* - Amount at time of original determination (usually given by supplier).

5. Date of Original Amount - Date of original determination of amount.

6. Present Amount* - Amount corrected to date of this inventory.

7. S or U - Enter S for sealed or U for unsealed.

8. S, L or G - Physical state, S for solid, L for liquid, or G for gas.

9. L T - If leak test is required indicate with an "X".

10. Physical Location - Normal storage location.

11. Disposal Date - Date source was transferred for disposal.

*Amounts will be given in appropriate units, i.e. uCi, mCi or Ci for byproduct material and Surgeon General approved sources, grams or milligrams for special nuclear material and pounds for source material. The unit may be indicated under the column heading or with each entry.

A "less than" value, a dose rate (mr/hr) or a count rate (c/min) at a given distance may be substituted for amount for sources listed in 10 CFR 30.70 Schedule A or 30.71 Schedule B.

RADIOISOTOPE INVENTORY

ABERDEEN PROVING GROUND, MARYLAND

Date of Inventory _____

PERSON PERFORMING INVENTORY

Sheet _____ of _____

ORGANIZATION _____

_____ _____

Authority	Isotope	Date Received	Original Amount	Date of Original Amount	Present Amount	S or U	S, L or G	L T	Physical Location	Disposal Date	Remarks

EAP Form 1118, 12 Apr 73 (APG Suppl 1 to AMCR 385-25) (Over for Instructions)

RADIOISOTOPE RECORD OF USAGE

Date: _____

ORGANIZATION _____ BUILDING _____

RESPONSIBLE INVESTIGATOR _____ ROOM OR AREA _____

ALL QUANTITIES ARE IN MILLICURIES UNLESS OTHERWISE INDICATED

DAY OF MONTH	ISOTOPE	POSSESSION LIMIT	QUANTITY INVOLVED: INITIAL QUANTITY ON HAND	QUANTITY INVOLVED: RECEIVED	QUANTITY INVOLVED: USED IN OPERATION BUT NOT DISPOSED OF	QUANTITY INVOLVED: DISPOSED OF	QUANTITY INVOLVED: TRANSFERRED FROM PROGRAM	QUANTITY INVOLVED: CALCULATED LOSS BY DECAY	QUANTITY INVOLVED: FINAL QUANTITY ON HAND	REMARKS (Type of use, disposal, permit transferred to, etc.)

EAP Form 1119, 12 Apr 73

(APG Suppl 1 to AMCR 385-25)

DATE February 1972

RADIOLOGICAL PERSONNEL TRAINING AND EXPERIENCE RESUME'
(APGR 385-8)

rola, Mario Peter

ME (Last. First. Middle)

ONIZING RADIATION PERMIT NUMBER	APPLICANTS PLEASE LEAVE BLANK
REA RADIATION PROTECTION OFFICER	RESPONSIBLE INVESTIGATOR

IST BELOW YOUR TRAINING AND EXPERIENCE WITH RADIOISOTOPES AND OTHER SOURCES OF IONIZING ADIATION (Use supplemental sheets if necessary)

TRAINING

Principles and practices of radiation protection
Radioactivity measurement standardization and monitoring techniques & instruments
Mathematics and calculations basic to the use and measurement of radioactivity
Biological effects of radiation

YPE	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB	FORMAL COURSE
b. d.	Nuclear Power School Basic Nuclear Eng	36 weeks	X	X
b. d.	Ind. Specialized Training on Health Physics	24 weeks	X	X
b. d.	Occupational Rad Protect. USPHS Cincinnati, Ohio	2 weeks	X	X
	Statistics Edgewood Arsenal, Md.	40 hours		X
d.	Charleston Naval Shipyard Charleston, S.C.	40 hours	X	X

EXPERIENCE

SOTOPE OTHER OURCE	MAXIMUM AMOUNT OR DESCRIPTION OF SOURCE	LOCATION	DURATION	TYPE OF USE
[illegible] No. 83	180 mCi	HP Dept Nvc Power School New London, CT	9 mo	Instruction Calibration & Supervision
26 Ra	50 mgm	HP Dept Nvc Power School New London, CT	9 mo	Instruction Calibration & Supervision
a-Be	5 Ci	HP Dept Nvc Power School New London, CT	9 mo	Instruction Calibration & Supervision
ower actors	Core, fission corrosion prod	Nuclear Submarines	3 yr	HP Supervision
a-Be	5 Ci	Instrumentation Check source	3 yr	HP Supervision
Co	52 Ci	General Dynamics EB Co Groton, CT	1 mo	HP Supervision
Ir	[illegible] Ci	General Dynamics EB Co Groton, CT	1 mo	HP Supervision

20

. EXPERIENCE (Cont'd)

ISOTOPE R OTHER SOURCE	MAXIMUM AMOUNT OR DESCRIPTION OF SOURCE	LOCATION	DURATION	TYPE OF USE
26 Ra	100 Ci	General Dynamics EB Co Groton, CT	1 mo	H.P. Supervision
ixed ission rod.	Reactor Components & Waste	General Dynamics EB Co, Groton, CT	1 mo	H. P. Supervision
3	100 Ci	HPO NDL Edgewood Ars, Md	6 yr	H.P. Supervision
^{0}Co	Gamma Cell 27,300 Ci	HPO NDL Edgewood Ars, Md	5 yr	H. P. Supervision
^{37}Cs	815Ci	HPO NDL Edgewood Ars, Md.	6 yr	H. P. Supervision
37 Cs	120 Ci	HPO NDL Edgewood Ars, Md.	6 yr	Calibration
^{26}Ra	29.3 mgm	HPO NDL Edgewood Ars, Md.	6 yr	H. P. Supervision Calibration
^{23}U	5 gm	HPO NDL Edgewood Ars, Md.	4 yr	H. P. Supervision Calibration
^{35}U	310 gm	HPO NDL Edgewood Ars, Md.	6 yr	H. P. Supervision Calibration
^{37}Np	31 gm	HPO NDL Edgewood Ars, Md.	6 yr	H. P. Supervision Calibration
^{38}U	730 gm	HPO NDL Edgewood Ars, Md.	6 yr	H. P. Supervision Calibration
^{39}Pu	300 gm	HPO NDL Edgewood Ars, Md.	6 yr	H. P. Supervision
u-Be	960 gm	HPO NDL Edgewood Ars, Md.	6 yr	H.P. Supervision Calibration

2. EXPERIENCE (Cont'd)

ISOTOPE OR OTHER SOURCE	MAXIMUM AMOUNT OR DESCRIPTION OF SOURCE	LOCATION	DURATION	TYPE OF USE
^{241}Am	100 mCi	HPO NDL Edgewood Ars, Md.	4 yr	H. P. Supervision Calibration
Mixed Fission Prod	Agueous Reactor Coolant	HPO NDL Edgewood Ars, Md.	6 yr	H. P. Supervision Calibration
C-W Accelerator		HPO NDL Edgewood Ars, Md.	6 yr	H. P. Supervision Calibration
Tandem Van de Graaff Accelerator		HPO NDL Edgewood Ars, Md.	1 yr	H. P. Supervision
Electron - X-Ray Generator		HPO NDL Edgewood Ars, Md.	2 yr	H. P. Supervision
Atomic No. 3-83	1 Ci	HPO NDL Edgewood Ars, Md.	6 yr	H. P. Supervision
FBR Reactor		HPO NDL Edgewood Ars, Md.	1 yr	H. P. Supervision
^{60}Co	20 Ci	Naval Shipyard Charleston, S.C.	2 yr	H. P. Supervision
^{192}Ir	240 Ci	Naval Shipyard Charleston, S.C.	2 yr	H. P. Supervision
^{226}Ra	0.25 mCi	Naval Shipyard Charleston, S.C.	2 yr	H. P. Supervision

James A. Cannon, Safety Engineer
433-63-7192

Aberdeen Proving Ground
Aberdeen Proving Ground,
Maryland 21005

Type of Training	Where Trained	Duration of Training	On Job	Formal Course
a. Principles and practices of radiation protection	Public Health Service courses: Basic Radiological Health #211, and Occupational Radiation Protection #212. (Courses conducted at U.S. AMC Field Safety Agency in Charlestown, Ind.)	160 hours	Yes	Yes
b. Radioactivity measurement standardization and monitoring techniques and instruments	Public Health Service courses as listed in part a., and On-the-Job Health Physics orientation given at the U.S. Army Aberdeen Research and Development Center; Edgewood, Maryland.	200 hours (to include above)	Yes	Yes
c. Mathematics and calculations basic to the use and measurement of radioactivity	Public Health Service courses as listed in part a.	see above	Yes	Yes
d. Biological effects of Radiation	Public Health Service courses as listed in part a.	see above	Yes	Yes

Experience with Radiation (Actual use of radioisotopes or equivalent experience)

Description of Isotope or Other Sources	Where Experience was Gained	Duration of Training	Type of Use
a. Sealed and unsealed microcurie amounts of the following isotopes: Radium 226, Iodine 131, Sodium 22, Cobalt 60, and Phosphorus 32.	Laboratory work sessions of the Public Health Service courses as listed in Item a, above	160 hours	Instrument calibration, Half life determinations, and Assay work.
b. 200 Kvp Industrial Laboratory X-ray unit	U.S. AMC Field Safety Agency-Public Health Service Courses.	6 hours	Calibration

James A. Cannon

Job Experience

1971 (Apr) to present	Safety Engineer for Aberdeen Proving Ground, Aberdeen, Maryland
1970 (Sept)- 1971 (June)	Safety Engineering Intern at the U. S. AMC Field Safety Agency, Charlestown, Indiana.
1969 (July)- 1970 (Sept)	Safety Engineering Intern at the Intern Training Center, Red River Army Depot, Texarkana, Texas.

Education

1970 (Sept)- 1971 (June)	Safety Engineering courses and training at the U.S. AMC Field Safety Agency, Charlestown, Indiana.
1969 (Oct)- 1970 (Sept)	Texas A & M University, ME - Industrial Engineering (Emphasis on Safety Engineering).
1969 (July)- 1969 (Oct)	Safety Engineering courses and training at the Intern Training Center, Red River Army Depot, Texarkana, Texas.
1969 (Jan)- 1969 (July)	Louisiana State University - Graduate work (9 semester in Industrial Engineering Field. hours)
1964 (Sep) 1969 (Jan)	Louisiana State University, BS - Civil Engineering.

Pertinent Experience

March 1971 -	Basic Radiological Health (211) - 80 hours, Public Health Service
March 1971 -	Occupational Radiation Protection (212) - 80 hours, Public Health Service
April 1971 -	On-the-Job Health Physics Orientation - 40 hours, U.S. Army Aberdeen Research and Development Center.

HEADQUARTERS
ABERDEEN PROVING GROUND
ABERDEEN PROVING GROUND, MARYLAND

APG REGULATION
NO. 40-10
CHANGE 1

21 August 1970

MEDICAL SERVICES

MANAGEMENT OF RADIATION CASUALTY

APGR 40-10, dated 15 October 1968, is changed as follows:

1. Para 2a: Change (OPLAN 4-63) to read: "(Annex M, Appendix 9)."

2. Para 5c(4): Delete. Renumber remaining subparagraphs.

3. Para 5e(2) and (3): Change Bldg 2473 to read: "Bldg 2381."

4. Para 5e(10) and (11): Change Post Surgeon to read: "Commander, MEDDAC."
(AH2LJ-PM)

FOR THE COMMANDER:

OFFICIAL:

ARLENE A. ACKERMAN
Major, AGC
Adjutant

J. ALAN THOMPSON
Admin Officer

DISTRIBUTION
B plus 2 USKAH
100 Rad Safety Committee

w/ appl dated May 15, 1973

Supplement C

HEADQUARTERS
ABERDEEN PROVING GROUND
ABERDEEN PROVING GROUND, MARYLAND

APG REGULATION
NO. 40-10*

15 October 1968

MEDICAL SERVICES

MANAGEMENT OF RADIATION CASUALTY

1. PURPOSE: To establish procedures for the initial management and routing of known or suspected casualties arising from occupational overexposure to radiation at Aberdeen Proving Ground.

2. APPLICABILITY AND SCOPE: The provisions of this regulation apply to all commands, staff offices and activities at Aberdeen Proving Ground. Exceptions to this regulation are:

a. Casualties occurring from the use of nuclear or thermonuclear devices, in which case the APG Emergency Plan (OPLAN 4-63) will take precedence, and medical guidance will be obtained from the Radiological Emergency Medical Teams in accordance with AR 40-13.

b. Personnel exposed to radiation for the purpose of medical or dental examination or treatment.

3. GENERAL: This regulation is intended to provide initial operating procedures for the primary use of immediate area supervisors or section chiefs (referred to as senior persons) and for local medical personnel in situations where individuals may have received occupational overexposures to ionizing radiation arising out of incidents or accidents of a limited nature. This regulation will supplement and implement those portions of APGR 385-8, Radiation Protection Program, dealing with radiological emergencies.

4. DEFINITION: For the purpose of this regulation: A radiation casualty is a person who has received or is suspected of having received an external exposure dose exceeding 25 rem, or has received or is suspected of having received an internal exposure dose via ingestion, inhalation, absorption through the unbroken skin or contamination of a wound.

5. PROCEDURES:

a. Initial Reporting of Radiation Casualty:

(1) The senior person present will immediately notify the area

*Supersedes APGR 40-10, 29 Mar 65

Radiation Protection Officer and the appropriate Medical Facility by telephone. These actions will serve both to initiate immediate investigation, and to provide the senior person with interim verbal instructions.

(2) The Area Radiation Protection Officer will then notify the Installation Radiation Protection Officer, who will provide supervision as outlined in APGR 385-8.

(3) The appropriate Medical Facility to be notified is:

(a) During Normal Duty Hours: 0800-1630 hours, Monday thru Friday, Occupational Health Service, Bldg. 305.

(b) Nights and Weekends: Medical Officer of the Day, US Kirk Army Hospital, who will notify one of the following in the order named:

1. Chief, Preventive Medicine Service

2. Chief, Radiology Service

3. Post Surgeon

(4) Notification by the Emergency Telephone System ("17") is not indicated unless the occurrence is accompanied by conditions of fire, area damage, or serious injury requiring the services of police, fire or ambulance personnel.

b. Initial Information Needed for Evaluation of Radiation Casualty: Initial information will be furnished in duplicate on EAP Form 1077 immediately by the casualty or the senior person present. One form will remain at the site for the use of the Area Radiation Protection Officer and one form will accompany the casualty. EAP Form 1077 may be obtained through publication supply channels.

c. At-the-Site Initial Management of Casualties:

(1) The contaminated area will be isolated and all unauthorized personnel removed to a "clean" area.

(2) Contaminated clothing and personal articles will be removed and placed in a closed, leak proof container within the contaminated area.

(3) If no, or only minor trauma (injury) is present and shower facilities are available at the site, the casualty should shower and scrub 10-15 minutes using abundant quantities of soap and hot water, washing all areas thoroughly. If only a minor part of the body is contaminated, e.g., the hands, a vigorous scrub should be performed on that area alone.

(4) Apply a tourniquet, if the wound is so located that a tourniquet is applicable.

(5) If serious injury is present, give emergency first-aid, e.g., control major bleeding, maintain airway for respiration, and treat shock until medical aid arrives. Follow through as thorough decontamination as is practicable under the circumstances as soon as life saving first-aid measures have been performed.

(6) If no shower facilities are immediately available, and removal of all clothing is impractical due to injuries or inclement weather, contamination is managed by containment, e.g., prevention of spread of radioactive material by wrapping the casualty with a sheet, blanket or other clean material.

(7) Monitoring devices should be used to determine the thoroughness of decontamination procedures. If inhalation of radioactive material is suspected, an immediate attempt should be made to determine the atmospheric concentration of isotope.

d. Transportation of Casualty:

(1) Casualty brought to appropriate medical facility as per telephone advice of facility after initial decontamination, or containment has been performed.

(2) Casualty with only minor injuries, once decontaminated at-the-site and so confirmed by monitoring, may be brought to the medical facility by any convenient form of transportation.

(3) Ambulance is reserved for use of seriously injured patients.

e. Initial Management of Casualty at Medical Facility:

(1) All casualties who are not critically or seriously injured, or otherwise in need of immediate medical attention, will be thoroughly decontaminated and monitored before being brought into the hospital.

It is imperative that this be done in order to prevent the spread of radioactive materials throughout the hospital.

(2) Patients with minor traumatic injuries who have not been thoroughly decontaminated and monitored will not be brought into the hospital environment. If the patient's physical condition permits, he will undergo decontamination by showering, as described in para 5c(3). Showers located in the US Kirk Army Hospital Ward Annex, Bldg. 2473, may be used for this purpose. Following satisfactory decontamination and monitoring, the patient will be issued hospital clothing and may be handled as any other patient.

(3) If several radiation casualties are involved and heavy contamination of hospital areas appears likely, the medical officer in charge may elect to perform decontamination, sorting and treatment in the Hospital Ward Annex, Bldg. 2473. This building has adequate shower and latrine facilities, floor space and hospital beds.

(4) Casualties requiring immediate medical attention will be managed as outlined in para 5c(4). Casualties will be placed upon paper or linen sheets before being brought into the emergency room area of the hospital. Casualties will be confined to this emergency area until monitoring confirms the absence of radioactive contamination. Contaminated clothing, sheets, paper, blankets, etc., will be placed in covered leak proof containers.

(5) All body wounds must be considered contaminated and should be thoroughly washed with soap and irrigated prior to closure. If the wound is of the puncture type, or the opening is quite small, an incision should be made to promote free bleeding and to facilitate cleaning and flushing of the wound.

(6) If exposure is by ingestion, early induction of emesis should be performed. All vomitus will be saved for radiological examination.

(7) When any type of internal exposure (ingestion, inhalation, or absorption through the skin), is suspected, a 24 hour urine collection will be initiated as soon as possible.

(8) Film badges will be worn by medical personnel caring for any radiation casualty until decontamination is complete. Badges are available in the Radiology Service, US Kirk Army Hospital.

(9) Patients brought into the hospital emergency area or ward annex will be remonitored prior to admission to a hospital ward or prior to discharge from these areas. If residual contamination is still present and the patient's condition permits, thorough decontamination will be carried out.

(10) The Post Surgeon will assure that immediate telegraphic reporting of radiation casualty incidents is initiated, and that an appropriate description of the incident resulting in overexposure will be attached to the patient's DD Form 1141 (Record of Occupational Exposure to Ionizing Radiation).

(11) Details of clinical management of radiation casualties will vary according to the circumstances involved. The Post Surgeon will assume the overall responsibility for the handling of individual cases.

6. REFERENCES: AR 40-5, 40-13, 40-14 and APGR 385-8.

90

APPENDIX A

INITIAL INFORMATION - RADIATION CASUALTY

1. Name _____ _____ Organization _____

2. Social Security or Service Number _____

3. Time and place of occurrence _____

4. Witness to occurrence _____

5. Details of exposure:
   a. Radioisotope:
      (1) Name (element) and atomic weight _____
      (2) Total amount involved _____
      (3) Chemical and physical form _____
   b. Device:
      (1) Device description _____
      (2) Types of radiation emitted _____
   c. Type exposure:
      (1) Inhalation:
         (a) Known or estimated air concentration _____
         (b) Duration of exposure _____
      (2) Ingestion:
         (a) Estimated amount ingested _____
         (b) Exact time of ingestion _____
      (3) Skin contamination:
         (a) Estimated amount on body _____
         (b) Extent of body contamination _____
         (c) Was contamination of broken skin (wound) present? _____ If so, estimated amount in wound. _____
      (4) Irradiation:
         (a) Estimated total dose in rem received _____
         (b) Was estimated dose total body or localized? _____
         (c) Was pocket dosimeter or film badge worn at time of exposure? ____ If so, give dosimeter reading or film badge number _____

APGR 40-10

15 October 1968

(STEAP-ME)

FOR THE COMMANDER:

J. ALAN THOMPSON
Acting Adjutant

DISTRIBUTION
B Plus 2 USKAH
100 Rad Safety Committee

SUPPLEMENT D

RADIATION AND RELATED INSTRUMENTS

	Type	No.	Rad. Detected	Sensitivity Range	Window	Use
1.	GM Counter Eberline BC-4	1	Beta		Less than $2mg/cm^2$	Measuring
2.	Scint. Counter Eberline SAC4	1	Alpha		N/A	Measuring
3.	Liquid Scint. Counter Beckmen Beta Mate II	1	Beta		N/A	Measuring
4.	Nuc. Data 512 Channel Analyzer	1	X-ray Spect.	10keV-10meV	N/A	Analysis
5.	Eberline PAC1SA	2	Alpha	$0-2x10^6$cpm	$1.5mg/cm^2$	Survey
6.	REAC GM Meter	1	Beta, Gamma	0-50mr/hr	$30mg/cm^2$	Monitoring
7.	B-A GM Meter	2	Beta, Gamma	0-100mr/hr	$30mg/cm^2$	Monitoring
8.	AN/PDR27 GM Meter	1	Beta, Gamma	0-500mr/hr	0.005 mica	Monitoring
9.	Victoreen Meter* Model 440	2	Beta, Gamma X-ray		Ion Chamber	Survey
10.	Victoreen Dosimeter Charger 2000A	3	Gamma	0-200mr 0-5R		Dosimetry
11.	Gelman Hurricane Air Sampler	1	N/A	N/A		Air Sampling

* Due in on purchase order

Supplement D

SUPPLEMENT D

RADIATION AND RELATED INSTRUMENTS

	Type	No.	Rad. Detected	Sensitivity Range	Window	Use
12.	Victoreen Pers Dos. Model 541/A	11	X & Gamma	0-200mr	N/A	Pers Monitoring
13.	Bendix Low Energy Dos., Model 1200	2	X & Gamma	0-200mr	N/A	Pers Monitoring
14.	AN/PDR27R GM Meter	2	Beta, Gamma	0-500mr/hr	0.005 mica	Monitoring
15.	Victoreen Ion Chamber Model 592B	3	Gamma	0-1000mr/hr	550mg/cm^2	Monitoring
16.	Numico Pers Rad Mon.	2	Gamma	0-10mr/hr	N/A	Pers Monitoring
17.	Eberline GM Meter	1	Beta, Gamma	0-200mr/hr	30mg/cm^2	Monitoring

Supplement E

Process	Instantaneous maximum amount per process	Step	Potential Radiation Hazards
A. Firing from weapons (See D&PS SOP 385-67, Supplement No. 2 attached)	Several rounds, each containing several pounds may be used in a given test.	1. Loading 2. Firing & Impact 3. Recovery	1. External radiation hazard and personnel contamination potential which could lead to ingestion. 2. Air contamination potential which could lead to inhalation plus potential contamination hazard. 3. External radiation hazard, personnel contamination potential and air contamination potential when recovering finely divided material.
B. Static Detonation	Single test may involve several hundred pounds	1. Set-up 2. Detonation 3. Recovery	1. External radiation hazard and personnel contamination potential (for unclad rounds) which could lead to ingestion. 2. Air contamination potential which could lead to inhalation plus potential contamination hazard. 3. External radiation hazard, personnel contamination potential and air contamination potential when recovering finely divided material.

w/ appl dated May 18, 1973

Supplement E

C. Laboratory processing	50 pounds	1. Sizing of particulates 2. Chemical reaction	1. External radiation hazard, personnel contamination potential and air contamination potential. 2. Potential air contamination and contamination of personnel, equipment and facilities.

MATERIEL TESTING DIRECTORATE
ABERDEEN PROVING GROUND
ABERDEEN PROVING GROUND, MARYLAND 21005

STANDING OPERATING PROCEDURE
NO. 385-67 (Supplement No. 2) 31 October 1966

FIRING OF WEAPONS WITHIN D&PS
(GROUND TO GROUND AND GROUND TO AIR)

RESCISSION: Supplement No. 3, dated 9 Jan 1963 and all changes thereto.

REFERENCES: APGR 385-8

1. PURPOSE: To extend coverage of the basic SOP to include firings involving depleted uranium (including D38, tuballoy or U238).

2. APPLICABILITY: This supplement is applicable only to firing of ammunition items containing depleted uranium and the firing of projectiles loaded with high explosives against depleted uranium targets. All provisions of the basic procedure apply except where specifically exempted or superseded by this supplement.

3. RESPONSIBILITY: Radiation Protection Officer functions in the APG area are performed by the APG Safety Office. The RPO assigned from that office will:

a. Instruct all personnel connected with the test of the radiation hazards involved and the precautions to be observed.

b. Issue and collect all film badges and dosimeters daily, maintaining a current log of all personnel exposures.

c. Ensure that absolute filter respirators are available to personnel actively working within the area and are worn by them when required by conditions existing at the time of their engagement in the operation. (see Para 8c).

d. Ensure that all personnel entering the impact area wear protective coveralls, gloves and boots, and that these garments are not removed from the area except when:

(1) Monitoring has definitely revealed that they are free of contamination or

(2) They are being transported in suitable closed containers to Edgewood Arsenal for decontamination or disposal (APGR 385-8).

e. Be responsible for the area location of all impacts and maintaining an up-to-date log of the location and quantity of D-38 within the impact area for purposes of later removal or destruction. A plot of the impact area showing the exact location, if known, or general location of the D-38 material will be furnished to the Area Radiation Protection Officer by the Test Director.

f. Monitor all personnel and equipment prior to their vacating the impact area, or any other area where there is reason to believe D-38 has been deposited, except when the Installation Radiation Protection Committee, after review of the log, has determined that the contamination is negligible. Monitoring may be discontinued when records indicate that such a condition exists.

g. Institute decontamination procedures and supervise collection of all surface radioactive material for return to customer if requested or for delivery to Edgewood Arsenal for disposal in accordance with APGR 385-8. Also supervise scraping of any surface area containing uncollectable radioactive material and arrange for the covering of this material with earth, posting the area and logging its location. This work must be accomplished and approval of the Installation Radiation Protection Committee obtained prior to opening of the area to general access, to ensure that no contamination may be carried or spread from the area.

4. LOCATION OF OPERATIONS: All D&PS impact areas may be considered as suitable for the impacting of D-38 projectiles providing all provisions of this procedure are observed. However, the number of impact areas should be limited as far as possible and should include only those areas which can easily be monitored and bulldozed should such requirements arise. Normally, the firings will be conducted so as to impact the projectiles on the contaminated area of the New Bombing Field except where test requirements make it impractical or uneconomical to do so, and after command approval has been obtained. A portion of the New Bombing Field has been recorded as containing buried D-38 deposited during test operations. If the D-38 were exposed, the area would be considered mildly contaminated but presenting no health hazard. Whenever recovery operations or shell detonations have the potential of causing a substantial disturbance of the soil sufficient to penetrate the overburden, monitoring will be conducted as deemed appropriate by the Area Radiation Protection Officer.

5. PERSONNEL LIMITS: Same as in basic procedure.

6. MATERIAL LIMITS: Same as in basic procedure.

7. Safety Requirements:

a. Medical examinations will be given, as prescribed by APGR 385-8, to personnel expected to be assigned to regular duty in radiation exposure areas.

b. Eating, drinking and smoking are prohibited at the firing site and within the impact areas. Furthermore, neither food nor tobacco will be carried into these areas.

c. Storage areas containing 5 millicuries or more of D-38 will be conspicuously posted with applicable radiation signs.

d. Firing will not be conducted when the wind direction is such that a dust cloud resulting from a detonation can be expected to be blown toward personnel.

e. Following a plate impact or a detonation, either over or upon an impact area, personnel will not enter the area until after a waiting period of at least fifteen (15) minutes or until the dust has settled, whichever period is greater. Monitoring of the air will be accomplished at the discretion of the Area Radiation Protection Officer.

f. Upon completion of a program resulting in residual contamination, the Area Radiation Protection Officer will request a judgement from the Installation Radiation Protection Committee as to the subsequent control required in the impact area and the decontamination procedures to be employed prior to returning the area to normal usage. Plate, plate butts and immediate surrounding area will be decontaminated at completion of each test and restored to service in their former condition.

g. Personnel will not physically handle any D-38 projectiles or fragments of tuballoy for more than six (6) hours in any seven-day period without prior approval of the Area Radiation Protection Officer.

h. All personnel at the firing site must be under adequate cover when a round is fired as prescribed in the basic SOP. Cover must also provide shelter from any radioactive contamination as may be received from airborne particles of D-38 resulting from malfunction of the weapon or ammunition at the time of firing.

i. The line of fire will be established so as to reduce as far as possible any danger of contamination of personnel or facilities from an airburst occurring at any point along the trajectory. Efforts will be made to minimize water impact with D-38 projectiles.

j. A layer of absorbent material will be spread at the base of the plate butt, at the discretion of the Area Radiation Protection Officer. Approval of the Area Radiation Protection Officer will be required before resuming normal test operations in the affected area.

k. Washing facilities will be provided for personnel and, prior to eating, drinking or smoking, each person will remove protective clothing and thoroughly wash his face and hands.

l. Film badges will be worn by all personnel coming in contact with or required to handle in any way, items containing radioactive material.

m. No allowance shall be made for the use of protective equipment or clothing in determining exposures to concentrations of airborn radioactivity.

8. PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT:

a. All operational personnel required to work on or near the plate and butts during conduct of the test will wear coveralls and rubber boots.

b. Foot coverings, of rubber or plastic, will be worn by all personnel entering an area where D-38 projectiles have impacted, except when the Installation Radiation Protection Committee has previously determined that the amount of contamination is so negligible that their use is not necessary.

c. Coveralls and gloves, will be worn by all personnel handling known or suspected sources of radiation (projectiles, fragments, or recovery media), except that gloves are unnecessary when the D-38 is covered in a way that prevents direct contact with the D-38 metal.

d. Full face respirators with absolute filters will be kept available and donned immediately by personnel wherever airborne activity is suspected. Respirators will be removed at the discretion of the Area Radiation Protection Officer.

9. TOOLS: N/A

10. PROTECTIVE EQUIPMENT:

a. General: Same as in basic procedure.

b. First Aid: N/A

11. OPERATING EQUIPMENT: Same as in basic procedure and:

a. GM survey meters.

b. Wipe or smear material.

c. Laboratory counting system.

d. Film badges in required quantities.

e. Dosimeters in required quantities.

12. PROCEDURE: Same as in basic procedure.

13. ELECTRICAL STORMS: Same as in basic procedure.

14. EXEMPTIONS FOR NON-FRAGMENTING D-38 PROJECTILES FIRED INTO IMPACT AREAS: In those instances in which only non-fragmenting D-38 projectiles are involved, the measures stipulated in Paragraphs 3c, 3d, 3f, 7b, 8b need not be observed unless otherwise directed by the Area Radiation Protection Officer.

15. POSTING: A copy of this basic SOP and one of this supplement must be posted at each test site during actual operations.

SUBMITTED BY:

Walter H. Ramsey

WALTER H. RAMSEY
Chief, Operations Division

RECOMMENDING APPROVAL:

Galen Webster

GALEN A. WEBSTER
Chief, Range Engineering Branch

William V. Warren

W. V. WARREN
Chairman
Installation Radiation Protection Committee

APPROVED:

George C. Clowes

GEORGE C. CLOWES
Colonel, Inf
Acting Director, D&PS

H. P. Thune

H. P. THUNE
Director of Safety, APG.

SUPPLEMENT F

FORMS USED WITH APG SUPPLEMENT 1 TO AMCR 385-25

1.	EAP Form 1113	Radiological Permit No
2.	EAP Form 1114	Radiological Permit [illegible]tion
3.	EAP Form 1115	Radiological Permit Appli[illegible]ion Supplement
4.	EAP Form 1116	Request and Approval of Radioisotope Procurement
5.	EAP Form 1117	Radiation Survey Report
6.	EAP Form 1118	Radioisotope Inventory
7.	EAP Form 1119	Radioisotope Record of Usage
8.	EAP Form 1120	Dosimetry Record
9.	EAP Form 1121	Radioactive Material Receipt/Transfer
10.	EAP Form 1122	Film Badge Application and Record of Occupational Radiation Exposure
11.	EAP Form 1123	Physical Examination
12.	EAP Form 1124	Registry of Radiation Producing Device
13.	EAP Label 1002	Health Physics Clearance
14.	EAP Label 1003	Leak Test Label

w/ appl. dated May 18, 1993

Supplement F

RADIOLOGICAL PERMIT NO ORIGINAL AMENDMENT RENEWAL	DATE OF ISSUE	DATE OF EXPIRATION

1. THRU: TO:	2. FROM
3. RESPONSIBLE INVESTIGATOR	4. AREA RADIATION PROTECTION OFFICER or RADIATION PROTECTION SUPERVISOR

5. RADIOISOTOPE(S) AND/OR OTHER SOURCES OF IONIZING RADIATION

	ELEMENT AND MASS NUMBER	CHEMICAL FORM	PHYSICAL FORM	POSSESSION LIMIT (CURIES)

6. LOCATION(S)

7. AUTHORIZED USE (S)

8. SPECIAL CONDITIONS

APPROVED	
AUTHENTICATED: TITLE:	CHAIRMAN, RADIATION PROTECTION COMMITTEE

EAP Form 1113, 12 Apr 73 (APG Suppl 1 to AMCR 385-25)

RADIOLOGICAL PERMIT APPLICATION

DATE _____

CHECK ONE
- ☐ INITIAL PERMIT APPLICATION
- ☐ APPLICATION FOR AMENDMENT TO PERMIT NO. _____
- ☐ APPLICATION FOR RENEWAL OF PERMIT NO. _____

(Use supplemental sheets if necessary)

1. TO:	2. ORGANIZATION APPLYING FOR PERMIT:
RADIOLOGICAL PERMIT SUPPLEMENT (SMUEA Form 1295) MUST BE FILED WITH THE HEALTH PHYSICS OFFICE FOR INDIVIDUALS NAMED IN 3 AND 4 BELOW.	
3. RESPONSIBLE INVESTIGATOR NAME _____ SIGNATURE	4. RADIATION PROTECTION SUPERVISOR NAME _____ SIGNATURE

5. RADIOISOTOPE (S) AND/OR OTHER SOURCES OF IONIZING RADIATION DESIRED

ELEMENT AND MASS NUMBER	CHEMICAL FORM	PHYSICAL FORM	POSSESSION LIMIT DESIRED (CURIES)

6. OPERATIONAL PERSONNEL

7. LOCATIONS WHERE SOURCE (S) OF IONIZING RADIATION WILL BE

	BLDG	ROOM OR AREA
A. USED		
B. STORED		

EAF Form 1114, 12 Apr 73

(APG Suppl 1 to AMCR 385-25)

8. DESCRIBE PROCEDURE (S) IN WHICH RADIOISOTOPE (S) AND/OR OTHER SOURCES OF IONIZING RADIATION WILL BE USED.
INCLUDE HEALTH PHYSICS PRECAUTIONS TO BE TAKEN.
ATTACH COPIES OF PERTINENT SOP AND EMERGENCY SOP TO BE POSTED.

9. RADIATION DETECTION INSTRUMENT AVAILABLE,

	TYPE OF INSTRUMENT	NUMBER ON HAND	RADIATION DETECTED	FULL RANGE	USE E.G., MONITORING SURVEYING	CALIBRATION	
						FREQUENCY	SOURCE

10. DESCRIBE LABORATORY FACILITIES AND EQUIPMENT, STORAGE CONTAINERS, SHIELDING, FUME HOODS, AND PROTECTIVE CLOTHING.

11. SIGNATURE OF DIRECTOR OR DIVISION CHIEF.

RADIOLOGICAL PERMIT APPLICATION SUPPLEMENT

NAME: _____
(Last) (First) (Middle)

LIST BELOW YOUR TRAINING AND EXPERIENCE WITH RADIOISOTOPES AND OTHER SOURCES OF IONIZING RADIATION (use supplemental sheets if necessary)

1. TRAINING (To be completed by Responsible Investigator, Radiation Protection Supervisor)

WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
a. Principles and practice of radiation protection.		Yes No	Yes No
b. Radioactivity measurement standardization and monitoring techniques and instruments.		Yes No	Yes No
c. Mathematics and calculations basic to the use and measurement of radioactivity.		Yes No	Yes No
d. Biological effects of radiation.		Yes No	Yes No

2. EXPERIENCE

ISOTOPE OR OTHER SOURCE	MAXIMUM AMT OR DESCRIPTION OF SOURCE	LOCATION	DURATION	TYPE OF USE

3. Health Physics Orientation (To be completed by Health Physics Office)

Date given _____

Instructor's Name _____

Employee's signature verifying attendance _____

4. On-the-job Training (To be completed by Responsible Investigator)

Inclusive dates of training _____ to _____

Instructor's Name _____

Employee's signature verifying attendance _____

5. Qualification Exam: Responsible Investigator ☐ Radiation Area Sup ☐
(To be completed by Health Physics Office)

Date given _____

Instructors's Name _____

Qualified _____ Not Qualified _____

Instructor's apprisal of employee's understanding of standard operating and emergency procedures and health physics and safety regulations:

_____
Instructor's Signature

File in individual's radiation work folder.

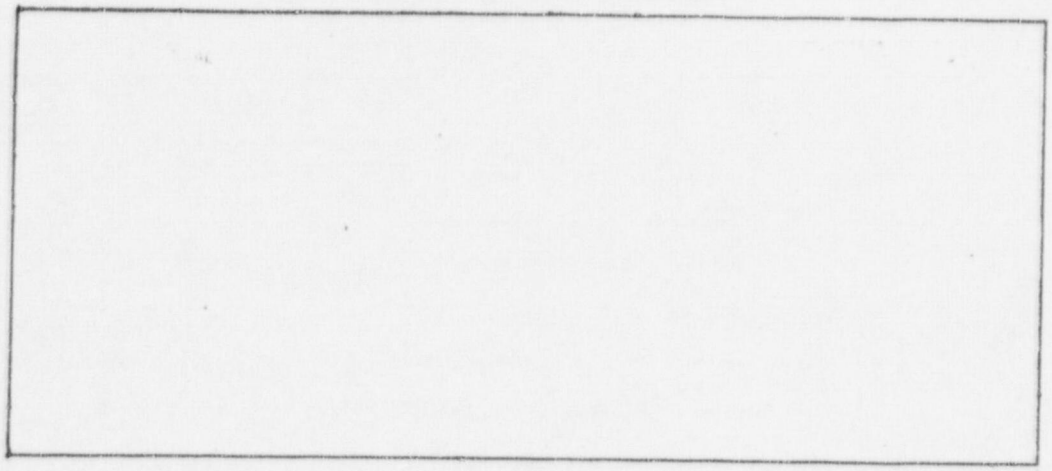
REQUEST AND APPROVAL OF RADIOISOTOPE PROCUREMENT	TO:	DATE:
Identification and Date of Requisition		
Quantity of Activity (curies or mc)	Radioactive Isotopes (Element and Mass No.)	
Description		
Chemical Form	Physical Characteristics	
Radioistope(s) ☐ will ☐ will not be administered to animals or humans.		
Responsible Investigator		
Delivery Schedule		
Intended Use (Unclassified if possible)	Test Program No. (Sufficient information if given)	
Requested by	Organization	
Approvals		
RADIATION PROTECTION OFFICER:	License or Authorization Number:	

(Please sign all copies)

EAP Form 1116, 12 Apr 73

(APG Suppl 1 to AMCR 385-25)

SKETCH OR DESCRIPTION OF AREA SURVEYED



COUNTING DATA

Instrument(s) used: Make_____
Model No. _____
Serial No. _____

Sample No.	Type of Count	Counting Time	ACTIVITY (DPM) Alpha	Beta Gamma

Sample No.	Type of Count	Counting Time	ACTIVITY (DPM) Alpha	Beta Gamma

Name of Person Performing Count

RADIATION SURVEY REPORT

No. _____

TO:	FROM:	DATE:

a. Type of Survey: Routine_____ Special_____ Date Performed_____

b. Location _____ Bldg. No. _____ Room_____

c. Instrument(s) used: Make & Model _____ Serial No._____

d. Summary of Results:

(1) Airborne Activity - beta/gamma _____µCi/cc Alpha _____µCi/cc

(2) Removable Contamination exceeds established limits -Yes_____ No _____

(3) External radiation levels exceed established limits - Yes_____ No_____

(4) Notification of Contamination - Date ___ _____Time_____

(5) Survey performed by _____

APPROVED _____
Radiation Protection Officer

CHECK LIST

1. Materials and equipment labeled to indicate hazard: Yes _____No_____

2. Radioactive materials secured against unauthorized removal: Yes_____No_____

3. Working surfaces covered to prevent contamination: Yes_____No_____

4. Materials stored in a manner to prevent spills: Yes _____No_____

5. Radiation workers wearing proper dosimetry and protective clothing: Yes _____ No _____

6. Properly calibrated and operable radiac survey instruments available and being used: Yes _____No_____

7. Handling Technique proper: Yes _____No_____

8. Proper Ventilation: Yes _____No_____

9. Copies of SOP's and Radiological Permits available: Yes _____No_____

10. Personnel familiar with contents of above items: Yes _____No_____

11. Exposure records of radiation workers reviewed: Yes _____No_____

12. Remarks:

FILM BADGE APPLICATION AND RECORD OF OCCUPATIONAL RADIATION EXPOSURE

(Print legibly or type all information requested.)

FULL NAME (Last, First, Middle)	DATE OF BIRTH (Day, Mo, Yr)	SOCIAL SECURITY ACCOUNT NO

DUTY SECTION (Dept., Ward, Unit, etc.)	DUTY PHONE	DUTY STATUS ☐ PERMANENT ☐ *TRANSIENT 6 WKS OR LESS

GRADE/RANK

MIL _____ CIV _____

*IF TRANSIENT, SHOW MAILING ADDRESS OF LOCATION OF HEALTH RECORDS:

_____

_____

_____

RADIATION PHYSICAL

DATE _____

Have You Worn a Film Badge Issued by this Command in Past? ☐ YES ☐ NO

EXPOSURE INFORMATION - FOR HEALTH PHYSICS USE ONLY

CLASSIFICATION

☐ EXTERNAL
☐ NEUTRON
☐ INTERNAL

BADGES REQUIRED

☐ WHOLE BODY _____
☐ WRIST _____
☐ NEUTRON _____

BIOASSAYS REQUIRED

WHOLE BODY COUNT ☐ YES ☐ NO

THYROID UPTAKE ☐ YES ☐ NO

URINALYSIS ☐ β ☐ β-γ ☐ MON ☐ QTR ☐ ANN

OCCUPATIONAL EXPOSURE HISTORY

INSTRUCTIONS: This section only applies to the individual who has worked with radiation-producing devices or radio-isotopes in a permanent status. List only those employers for whom you worked with radiation.

NAME AND ADDRESS OF EMPLOYER (Print)	FROM MO	FROM YR	TO MO	TO YR	Do not write in this space
TOTAL EXPOSURE DATA					

** CERTIFICATION **

I hereby certify that the exposure history listed above is correct and complete to the best of my knowledge and belief.

** STATEMENT **

Under the provisions of 10CFR20.404 and 29CFR1910.96 I authorize the release of, and request that all of my radiation exposure records be furnished to the Radiation Protection Officer, Aberdeen Proving Ground, Maryland 21005.

_____ (Signature)

_____ (Date)

EAP Form 1122, 12 Apr 73

(APG Suppl 1 to AMCR 385-25)

DOSIMETRY RECORD

Location _____ Division Branch _____

NAME	DATE	DOSIMETER SERIAL NO.	TIME IN	INITIAL READING	TIME OUT	FINAL READING	DOSE RECEIVED

EAP Form 1120, 12 Apr 73 (APG Suppl 1 to AMCR 385-25)

'ISTRY OF RADIATION PRODUCING D)CE

A. LOCATION: Installation & Building		B. MFG & MODEL NO.
C. TYPE:	D. PORTABLE ☐ STATIONARY ☐	R.P. NO
E. AUTHORIZED USE: (R&D, Medical, Industrial, etc.)		DATE:
SPECIFICATIONS: Peak Voltage	Maximum Current	Pulse Duration Repetition Rate
F. ISOTOPES PRODUCED:	ANNUAL PRODUCTION:	DISPOSITION:
REMARKS:	SUPERVISOR: OPERATORS:	

EAP Form 1124, 12 Apr 73 (APG Suppl 1 to AMCR 385-25)

RESULTS OF EXAMINATION

TO:		FROM:	
NAME	RANK	ASN	DATE COMPLETED

SECTION I - PHYSICAL

1. Individual is qualified/disqualified* for work with _____

2. Additional instructions:

*Strike out one. Signature of Examining Physician

SECTION II - ANNUAL MEDICAL

PHYSICAL PROFILE PHYSICAL CODE

P U L H E S R T D

SUMMARY OF DEFECTS: (Brief, non-technical diagnosis/diagnosis number; assignment limitations, if any)

FOR THE SURGEON:	DATE:

PHYSICAL EXAMINATION

TO:

You have been scheduled for an examination as indicated below at the US Army Dispensary on _____ at _____ hours.

☐ Type of Physical Examination:

☐ Type of Radiation Physical Examination:

☐ Initial ☐ Follow-up CBC ☐ Annual ☐ Termination ☐ Special

Previous Examination: _____ (Date), _____ (Type)

(Failure to report for this examination will result in temporary disqualification)

THIS CARD SHOULD BE TAKEN TO THE DISPENSARY WHEN REPORTING FOR THE EXAMINATION.

EAP Form 1123, 12 Apr 73 (APG Suppl 1 to AMCR 385-25)

H. P. Number_____
Posted by_____

RADIOACTIVE MATERIAL RECEIPT/TRANSFER

1. Isotope:_____ ☐ Received ☐ Transferred Date:_____
(element, mass No.)

From:_____
(Shipper's or Transferrer's Name and Address)

Via:_____ Carrier's Receipt No._____
(carrier) Bill of Lading No._____

2. Monitoring Results:

a. Outer Pkg._____ mr/hr
b. Inner Container_____ mr/hr
c. Removable Cont._____ µc
d. Instrument Make _____
Model: _____
Serial No: _____
e. Monitored by:_____

3. Description of Shipment:

a. Number of packages_____
b. Shipment packaged properly_____
c. Container Returnable_____
d. Compound _____
e. Solid ☐ Liquid ☐ Gas ☐
f. Total activity_____ mc
g. Remarks:

4. Requisition No._____ Requested by:_____
Other Reference Nos._____ For use in Rad Permit No._____

5. Receipts for above material:

a. INITIAL RECEIPT:

_____ at Bldg._____ by _____
(Quantity) (Signature, Organization)

b. TRANSFER:

_____ to Bldg._____ Room _____ Received by_____
(Quantity) Signature, Organization

c. STORAGE:

_____ at Bldg. 5962 until _____
(Quantity) (Date, if indefinite, so state)

Distribution: Orig to Health Physics
1 cy to Transferrer
1 cy to Receiver

EAP Form 1121, 12 Apr 73 (APG Suppl 1 to AMCR 385-25)

HEALTH PHYSICS CLEARANCE

Date _____

I certify that this item is free of radioactive contamination.

_____
Signature

EAP Label 1002, 17 Apr 73 (Replaces USEAP-SA Label 1000, 17 May 72)
(APG Suppl 1 to AMCR 385-25)

LEAK TEST LABEL

TYPE	ACTIVITY
DATE	SERIAL NO.
MODEL	DUE DATE
BY	BY
(ORGN)	(SIGNATURE)

EAP Label 1003, 17 Apr 73(APG Suppl 1 to AMCR 385-25)

SUPPLEMENT H

SUBJECT: Waste Material

1. Reference Form AEC-2, Item 13(a) and (b).

2. Item 13(a) - Projectiles and plates of depleted uranium or thorium alloy will be contained by projectile traps or in blast chambers. Detonation of projectiles is a rare occurrence; however, should such tests be required, previously designated used impact areas will be used. Waste material will consist of metal fragments up to a total of 1,000 lbs. and oxides of material up to 5 lbs. total. Target plate contamination has proven to be fixed; these plates are reused to minimize the quantity of source material contaminated items. The requirements of Supplement E (SOP 385-67, Suppl No. 2) will obtain should impact and detonation be required. The final disposition of "duds" will be subject to review and judgement by the Radiation Protection Committee, Safety Director and Materiel Testing Directorate. Procedure for recovery or destruction in-place will prevail. Recovery and disassembly will be performed remotely and source material will be recovered. In-place destruction will require collection of waste fragments and other contaminated material. Waste will be placed in metal drums and held pending disposal.

3. Item 13(b) - Source material waste disposal is to be through Commander, Edgewood Arsenal, Aberdeen Proving Ground, Md 21010, in accordance with AR 55-55 and AR 755-15.

w/ltr dated May 18, 1973

SUPPLEMENT G

Aberdeen Proving Ground reservation and temporary job sites anywhere in the United States approved by the APG Installation Radiation Protection Committee (See Supplement B). Temporary job sites may include Department of Defense and Atomic Energy Commission installations and contractor locations. Approval of the host will be obtained for each off-post use. APG Installation personnel, approved by the APG Installation Radiation Protection Committee, will be present and supervise all off-post use.

w/ltr dated May 18, 1973
Supplement G

HQ-3401
(9-66)

INTERMEDIATE ACTION FORM

REFERENCE NUMBERS

Source & SNM Licens[illegible]

01. PROG. CODE	03. DOCKET NO.	09 TASK	42. PURPOSE OF TASK	12. CONTROL NO.	15. LICENSE NUMBER
62	40-7354	3199	renewal	3199	SUB-834

18. APPLICANT	54. AM. NO. RESULTING FROM TASK
Dept. of the Army	

21. STREET & BUILDING	45. CLASSIFICATION	63. ASG. TO:
	U	

24. CITY	27. STATE	30. ZIP
Aberdeen Proving Ground	MD	21005

33. RECEIVED			36. ISSUED			39. EXPIRED		
YR.	MO.	DAY	YR.	MO.	DAY	YR.	MO.	DAY
68	09	12						

57. APPLICANT'S COMMUNICATION DATED	YR.	MO.	DAY
	68	09	10

58. DESCRIPTION (MUST BE UNCLASSIFIED)

Ltr. 9-11-68 fm Office of Deputy Chief of Staff for Logistics trans:

59. ENCLOSURES

Ltr. req. renewal and amendment of SUB-834 and trans:
Supplements A - H

60. DISTRIBUTION

1-PDR cy.
1-compliance cy. (Region)

INTERMEDIATE ACTIONS

TYPE	ON YR.	ON MO.	ON DAY	ACTIV.	RETURNED YR.	RETURNED MO.	RETURNED DAY
ADDL. INFO. REQUESTED FROM APPLICANT	91			92 1	93		
REFERRED TO:	94			95 2	96		
REFERRED TO:							

OTHER REFERRALS

	DATE YR.	DATE MO.	DATE DAY
Russbaumer w/file cy. & file	68	0[illegible]	17

DO NOT REMOVE

DJQ