NRC FORM 313
(10-87)
10 CFR 30, 32, 33, 34, 35, and 40.

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED BY OMB
3150-0120
Expires 6-30-90

APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATIONS FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIALS SAFETY SECTION B
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION II
NUCLEAR MATERIALS SAFETY SECTION
101 MARIETTA STREET, SUITE 2900
ATLANTA, GA 30323

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III
MATERIALS LICENSING SECTION
799 ROOSEVELT ROAD
GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
MATERIAL RADIATION PROTECTION SECTION
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V
NUCLEAR MATERIALS SAFETY SECTION
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CA 94596

OCT 27 1989

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

1. THIS IS AN APPLICATION FOR *(Check appropriate item)*

- [ ] A. NEW LICENSE
- [X] B. AMENDMENT TO LICENSE NUMBER 42-18273-01
- [ ] C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include Zip Code)*

U.S. Army Corps of Engineers
Southwestern Division
ATTN: CESWD-SO
1114 Commerce Street
Dallas, TX 75242-0216

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED.

SEE ATTACHED SHEET

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

BOBBIE L. PERRY, PE, CSP

TELEPHONE NUMBER: (214) 767-2475

SUBMIT ITEMS 5 THROUGH 11 ON 8½ x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT. NOT APPLICABLE

12. LICENSEE FEES *(See 10 CFR 170 and Section 170.31)*
FEE CATEGORY EXEMPT
AMOUNT ENCLOSED $ N/A

13. CERTIFICATION. *(Must be completed by applicant)* THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN, IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

SIGNATURE-CERTIFYING OFFICER	TYPED/PRINTED NAME	TITLE	DATE
Bobbie L. Perry	BOBBIE L. PERRY	Chief, Safety and Occupational Health Office	4 Oct 89

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	COMMENTS	APPROVED BY
AMOUNT RECEIVED	CHECK NUMBER			DATE

FEE EXEMPT

462775

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

SUPPLEMENTAL SHEET TO ITEM 3

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED.

A. THE GAS CHROMATOGRAPHS WILL BE USED AT 4815 CASS STREET, DALLAS, TEXAS 75235.

B. THE MOISTURE/DENSITY GAUGES WILL BE TRANSPORTED TO THE FIELD AND USED BY THE MATERIALS ENGINEERING TECHNICIAN AT TEMPORARY CONSTRUCTION SITES SUPERVISED BY PERSONNEL UNDER THE SOUTHWESTERN DIVISION, CORPS OF ENGINEERS.

THE SOUTHWESTERN DIVISION CURRENTLY SUPERVISES CONSTRUCTION PROJECTS LOCATED IN TEXAS, LOUISIANA, ARKANSAS, OKLAHOMA, NEW MEXICO, COLORADO, KANSAS, AND MISSOURI.

THE MOISTURE/DENSITY GAUGES WILL BE PHYSICALLY STORED IN A LOCKED STORAGE ROOM AT 4815 CASS STREET, DALLAS, TEXAS 75235, WHEN NOT IN USE BY THE FIELD MATERIALS ENGINEERING TECHNICIAN.

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

SUPPLEMENTAL SHEET TO ITEM 5

5. RADIOACTIVE MATERIAL.

	(a) ELEMENT AND MASS NUMBER	(b) CHEMICAL AND/OR PHYSICAL FORM	(c) MAXIMUM AMOUNT POSSESSED
(1)	NICKEL 63	(1) FOIL SOURCES (PERKIN-ELMER MODEL 330-0119 DETECTOR CELLS)	(1) 15 MCI MAX
(2)	NICKEL 63	(2) ELECTRON CAPTURE DETECTOR (HEWLETT-PACKARD MODEL #19233)	(2) 15 MCI MAX
(3)	CESIUM 137	(3) SEALED SOURCES (TROXLER DWG # A-102112)	(3) 10 MCI MAX
(4)	AMERICIUM 241/BE	(4) SEALED NEUTRON SOURCES (TROXLER DWG # A-102451)	(4) 50 MCI MAX
(5)	CESIUM 137	(5) SEALED SOURCES (CAMPBELL PACIFIC NUCLEAR MODEL CPN131)	(5) 10 MCI MAX
(6)	AMERICIUM 241/BE	(6) SEALED NEUTRON SOURCES (CAMPBELL PACIFIC NUCLEAR MODEL CPN 131)	(6) 50 MCI MAX

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

SUPPLEMENTAL SHEET TO ITEM 6

6. PURPOSE FOR WHICH LICENSED MATERIAL WILL BE USED.

A. LICENSED MATERIAL (1), (REFERENCE PAGES 5-1) WILL BE USED IN THE PERKIN-ELMER GAS CHROMATOGRAPH FOR SAMPLE ANALYSIS.

B. LICENSED MATERIAL (2), (REFERENCE PAGE 5-1) WILL BE USED IN THE HEWLETT-PACKARD GAS CHROMATOGRAPH FOR SAMPLE ANALYSIS.

C. LICENSED MATERIAL (3) AND (4), (REFERENCE PAGE 5-1) WILL BE USED IN TROXLER MODEL 3411-B MOISTURE/DENSITY GAUGES TO MEASURE THE MOISTURE CONTENT AND DENSITY OF SOILS, CEMENT, AND ASPHALT TREATED BASES AND ASPHALT SURFACING.

D. LICENSED MATERIAL (5) AND (6), (REFERENCE PAGE 5-1) WILL BE USED IN CAMPBELL PACIFIC NUCLEAR MODEL CPN 131 MOISTURE/DENSITY GAUGES TO MEASURE THE MOISTURE CONTENT AND DENSITY OF SOILS, CEMENT, AND ASPHALT TREATED BASES AND ASPHALT SURFACING.

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

SUPPLEMANTAL SHEET TO ITEM 7

7. INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

A. RADIATION PROTECTION OFFICER:

BOBBIE L. PERRY, PE, CSP
CHIEF, SAFETY AND OCCUPATIONAL HEALTH OFFICE

TRAINING:

(1) RADIOLOGICAL SAFETY COURSE
U.S. ARMY CHEMICAL SCHOOL
ABERDEEN PROVING GROUND, MD

3 - WEEKS GRADUATED 12 FEB 1980

(2) BASIC RADIOLOGICAL MONITORING COURSE
CITY OF DALLAS, OFFICE OF EMERGENCY PREPAREDNESS
DALLAS, TEXAS

8 - HOURS GRADUATED 10 JUN 1981

(3) RADIOLOGICAL DEFENSE OFFICERS INSTRUCTION
TEXAS DEPARTMENT OF HEALTH
TEMPLE, TEXAS
32 - HOURS GRADUATED 27 JAN 1984

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

CONTINUATION FOR SUPPLEMENTAL SHEET TO ITEM 7

TRAINING:

(4) RADIOLOGICAL MONITOR INSTRUCTING
TEXAS DEPARTMENT OF HEALTH
CORPUS CHRISTI, TEXAS

24 - HOURS GRADUATED 22 JUL 1988

MATERIAL COVERED:

(1) PRINCIPLES AND PRACTICES OF RADIATION PROTECTION, THEORY, TERMINOLOGY, AND PRACTICAL EXPLANATIONS OF RADIOACTIVE MATERIALS, LICENSE REQUIREMENTS, STORAGE, TRANSPORTATION, AND EMERGENCY PROCEDURES TO BE USED WITH EACH TYPE HAVE BEEN DISCUSSED.

(2) RADIOACTIVE MEASUREMENT STANDARDIZATION AND MONITORING TECHNIQUES AND INSTRUMENTS WERE DISCUSSED AND DEMONSTRATED. PORTABLE, CONVENTIONAL SURVEY METERS WERE USED, CONCENTRATION ON INVERSE SQUARE LAW FACTORS, EFFECTS OF SHIELDING WITH TIME AND DISTANCE IN USE OF MATERIALS.

(3) MATHEMATICS AND CALCULATIONS BASIC TO THE USE AND MEASUREMENT OF RADIOACTIVITY WERE DISCUSSED. CALCULATIONS OF RADIATION LEVELS WITHIN WORKING DISTANCE OF DIFFERENT RADIOISOTOPES, THE RELATION OF THAT DOSE TO THE NRC MAXIMUM ALLOWANCES FOR OCCUPATIONAL USE.

(4) BIOLOGICAL EFFECTS OF RADIATION WAS DISCUSSED. ALSO, THE IMPACT OF THE ROUTINE LIFESTYLE EXPOSURE (ENVIRONMENTAL, MEDICAL, ETC.) TO THE OCCUPATIONAL EXPOSURE WAS DISCUSSED.

EXPERIENCE:

MR. BOBBIE L. PERRY IS A GRADUATE CIVIL ENGINEER. HE IS A REGISTERED PROFESSIONAL ENGINEER AND A CERTIFIED SAFETY PROFESSIONAL. HE RECEIVED 4 YEARS OF OJT TRAINING FROM CORPUS CHRISTI ARMY DEPOT RADIATION PROTECTION OFFICER, AND ONE YEAR OJT TRAINING FROM THE U.S. ARMY CORPS OF ENGINEERS, SOUTHWESTERN DIVISION RADIATION PROTECTION OFFICER. MR. PERRY HAS HAD OVER 18 YEARS OF SAFETY ENGINEERING EXPERIENCE AND TRAINING WHICH INCLUDES RADIOLOGICAL SAFETY. SOME OF THE RADIOISOTOPES HE HAS WORKED WITH ARE AS FOLLOWS, CESIUM 137, AMERICIUM 241, BERYLLIUM, RADIUM, COBALT 60, THORIUM, NICKEL 63, and X-RAY.

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

CONTUNUATION FOR SUPPLEMENTAL SHEET TO ITEM 7

B. ALTERNATE RADIATION PROTECTION OFFICER:

WILLIAM S. CRAIG, PE
ELECTRICAL ENGINEER

TRAINING:

(1) RADIOLOGICAL SAFETY COURSE
U.S. ARMY CHEMICAL SCHOOL
FT. MCCLELLAN, AL

3 - WEEKS GRADUATED IN 1968

(2) BASIC RADIOLOGICAL MONITORING COURSE
CITY OF DALLAS, OFFICE OF EMERGENCY PREPAREDNESS
DALLAS, TEXAS

8 - HOURS GRADUATED IN JUNE 1981

MATERIAL COVERED:

(1) PRINCIPLES AND PRACTICES OF RADIATION PROTECTION, THEORY, TERMINOLOGY, AND PRACTICAL EXPLANATIONS OF RADIOACTIVE MATERIALS, LICENSE REQUIREMENTS, STORAGE, TRANSPORTATION, AND EMERGENCY PROCEDURES TO BE USED WITH EACH TYPE HAVE BEEN DISCUSSED.

(2) RADIOACTIVE MEASUREMENT STANDARDIZATION AND MONITORING TECHNIQUES AND INSTRUMENTS WERE DISCUSSED AND DEMONSTRATED. PORTABLE, CONVENTIONAL SURVEY METERS WERE USED, CONCENTRATION ON INVERSE SQUARE LAW FACTORS, EFFECTS OF SHIELDING WITH TIME AND DISTANCE IN USE OF MATERIALS.

(3) MATHEMATICS AND CALCULATIONS BASIC TO THE USE AND MEASUREMENT OF RADIOACTIVITY WERE DISCUSSED. CALCULATIONS OF RADIATION LEVELS WITHIN WORKING DISTANCE OF DIFFERENT RADIOISOTOPES, THE RELATION OF THAT DOSE TO THE NRC MAXIMUM ALLOWANCES FOR OCCUPATIONAL USE.

(4) BIOLOGICAL EFFECTS OF RADIATION WAS DISCUSSED. ALSO, THE IMPACT OF THE ROUTINE LIFESTYLE EXPOSURE (ENVIRONMENTAL, MEDICAL, ETC.) TO THE OCCUPATIONAL EXPOSURE WAS DISCUSSED.

EXPERIENCE:

MR. WILLIAM S. CRAIG IS A GRADUATE ELECTRICAL ENGINEER, AND A REGISTERED PROFESSIONAL ENGINEER. AFTER RECEIVING RADIOLOGICAL TRAINING, HE HAS SERVED AS RADIATION PROTECTION OFFICER AND ALTERNATE RADIATION PROTECTION OFFICER FOR MORE THAN 15 YEARS. HE RECEIVES PERIODIC RADIOLOGICAL MONITORING TRAINING TO REMAIN PROFICIENT IN THE USE OF SURVEY METERS AND CALCULATIONS FOR FALLOUT SHELTERS. MR. CRAIG HAS WORKED WITH THE FOLLOWING RADIOISOTOPES, CESIUM 137, AMERICIUM 241, BERYLLIUM COBALT 60, AND NICKEL 63.

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

SUPPLEMENTAL SHEET TO ITEM 8

8. TRAINING FOR INDIVISUALS WORKING IN OR FREQUENTING RESTRICTED AREAS:

A. BOBBIE L. PERRY, PE, CSP - RADIATION PROTECTION OFFICER
(FOR TRAINING SEE SUPPLEMENT SHEET TO ITEM 7)

B. WILLIAM S. CRAIG, PE - ALTERNATE RADIATION PROTECTION OFFICER
(FOR TRAINING SEE SUPPLEMENT SHEET TO ITEM 7)

C. JOHN E. KIRCHER - USER (MOISTURE-DENSITY GAUGES)
MATERIALS ENGINEERING TECHNICIAN

TRAINING:

(1) TRAINING COURSE FOR THE USE OF NUCLEAR TESTING EQUIPMENT
TROXLER ELECTRONIC LABORATORIES, INC.
ARLINGTON, TEXAS

8 - HOURS GRADUATED 22 FEB 1985

MR. KIRCHER ATTENDED JONES COUNTY JR. COLLEGE FOR A TOTAL OF THREE YEARS, AND SOUTHERN MISSISSIPPI COLLEGE IN MISSISSIPPI, PURSUING AN ENGINEERING DEGREE. THE PHYSICAL SCIENCE AND CHEMISTRY COURSES HE COMPLETED INCLUDED RADIOACTIVE MATERIALS. ALSO, MR. KIRCHER COMPLETED THE TROXLER ELECTRONIC LABORATORIES' TRAINING COURSE FOR THE USE OF NUCLEAR TESTING EQUIPMENT IN 1985. SEE ENCLOSED CERTIFICATE FOR SUBJECT MATTER CONTAINED IN THE COURSE. MR. KIRCHER BEGAN HIS EXPERIENCE WITH THE TROXLER NUCLEAR GAUGE IN 1985, UPON COMPLETION OF HIS TRAINING. HE WAS A MOISTURE-DENSITY GAUGE USER FOR THE US ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT, AT RAY ROBERTS PROJECT OFFICE UNTIL HE WAS ASSIGNED TO THIS OFFICE IN JUNE 1989. MR. KIRCHER HAS BEEN PROVIDED AN ORIENTATION AND BRIEFING BY THE RPO, BOBBIE L. PERRY. HE HAS BECOME FAMILIAR WITH THE SOUTHWESTERN DIVISION'S SOP, AND IS READY TO ASSUME DUTIES AS MOISTURE-DENSITY GAUGE USER.

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

CONTINUATION FOR SUPPLEMENTAL SHEET TO ITEM 8

D. CATHERINE E. HUTCHINS - USER (GAS CHROMATOGRAPHS)
CHEMIST

TRAINING:

(1) ORIENTATION AND ON-THE-JOB TRAINING FOR THE USE OF BOTH PERKIN-ELMER AND VARIAN GAS CHROMATOGRAPHS
JEFFERSON PARISH WATER QUALITY LABORATORY
JEFFERSON, LA

AS REQUIRED JUNE 1979 - FEBRUARY 1983

(2) ORIENTATION AND ON-THE-JOB TRAINING FOR THE USE OF A PERKIN-ELMER GAS CHROMATOGRAPH U.S. ARMY CORPS OF ENGINEERS, SOUTHWESTERN DIVISION
DALLAS, TEXAS

AS REQUIRED FEBRUARY 1988 - PRESENT

MS. HUTCHINS GRADUATED FROM THE UNIVERSITY OF ILLINOIS WITH A BACHELOR OF SCIENCE DEGREE IN 1976, AND GRADUATED FROM EASTERN ILLINOIS UNIVERSITY WITH A MASTERS DEGREE IN 1978. SHE HAS COMPLETED NUMEROUS SEMESTER HOURS OF CHEMISTRY AND LABORATORY SCIENCE, WHICH INCLUDED RADIOACTIVE MATERIALS.

SHE WORKED AS A CHEMIST FOR THE JEFFERSON PARISH WATER QUALITY LABORATORY, JEFFERSON, LA, FROM JUNE 1979 TO FEBRUARY 1983. WHILE EMPLOYED THERE, SHE WORKED WITH BOTH A PERKIN-ELMER AND A VARIAN GAS CHROMATOGRAPH.

MS. HUTCHINS WAS EMPLOYED BY THE U.S. ARMY CORPS OF ENGINEERS, SOUTHWESTERN DIVISION, DALLAS, TX, IN FEBRUARY 1988. SHE HAS RECEIVED A RADIATION SAFETY ORIENTATION, AND PRENATAL RADIATION EXPOSURE INSTRUCTIONS FOR A NICKEL 63 RADIOACTIVE SOURCE FROM THE RPO. SHE HAS RECEIVED ON-THE-JOB ORIENTATION AND TRAINING FOR THE SOUTHWESTERN DIVISION'S PERKIN-ELMER GAS CHROMATOGRAPH. SHE IS SCHEDULED TO RECEIVE ORIENTATION AND TRAINING FOR A HEWLETT PACKARD GAS CHROMATOGRAPH BY A HEWLETT PACKARD REPRESENTATIVE ON 1 NOVEMBER 1989.

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

CONTINUATION FOR SUPPLEMENTAL SHEET TO ITEM 8

E. ANHMAI P. TRAN - USER (GAS CHROMATOGRAPH)
CHEMIST

TRAINING:

(1) ORIENTATION AND ON-THE-JOB TRAINING FOR MONITORING, IDENTIFICATION, AND HANDLING OF RADIOACTIVE MATERIALS
ALPHA ENERGY LABORATORIES
ARLINGTON, TEXAS

AS REQUIRED NOVEMBER 1988 - APRIL 1989

MS. TRAN GRADUATED FROM THE UNIVERSITY OF OKLAHOMA WITH A BACHELOR OF SCIENCE DEGREE IN 1979, SHE HAD COMPLETED OVER 40 SEMESTER HOURS OF CHEMISTRY AND LABORATORY SCIENCE, WHICH INCLUDED RADIOACTIVE MATERIALS.

SHE WORKED AS A CHEMIST FOR THE ALPHA ENERGY LABORATORIES, ARLINGTON, TX, FROM NOVEMBER 1988 TO APRIL 1989. WHILE EMPLOYED THERE, SHE WORKED WITH RADIOACTIVE MATERIALS.

MS. TRAN WAS EMPLOYED BY THE U.S. ARMY CORPS OF ENGINEERS, SOUTHWESTERN DIVISION, DALLAS, TX, IN APRIL 1989. SHE RECEIVED A RADIATION SAFETY ORIENTATION, AND PRENATAL RADIATION EXPOSURE INSTRUCTIONS FOR A NICKEL 63 RADIOACTIVE SOURCE FROM THE RPO. SHE IS SCHEDULED TO RECEIVE ORIENTATION AND TRAINING FOR A HEWLETT PACKARD GAS CHROMATOGRAPH BY A HEWLETT PACKARD REPRESENTATIVE ON 1 NOVEMBER 1989.

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

SUPPLEMENTAL SHEET TO ITEM 9

9. FACILITIES AND EQUIPMENT

A. (1) THE NICKEL 63 FOIL SOURCES (REFERENCE PAGE 5-1) ARE HOUSED INSIDE THE DETECTOR CELLS, AND THE DETECTOR CELLS ARE HOUSED INSIDE THE GAS CHROMATOGRAPH BODY AT ALL TIMES.

(2) THE NICKEL 63 ELECTRON CAPTURE DETECTOR SOURCE (REFERENCE PAGE 5-1) IS HOUSED INSIDE THE DETECTOR CELL, AND THE DETECTOR CELL IS HOUSED INSIDE THE GAS CHROMATOGRAPH BODY AT ALL TIMES.

(3) THE GAS CHROMATOGRAPHS WILL BE LOCATED IN THE CHEMICAL LABORATORY. THERE WILL BE NO NEED FOR REMOTE HANDLING EQUIPMENT, SPECIAL STORAGE, SHIELDING, OR PERSONAL PROTECTIVE EQUIPMENT.

B. THE CESIUM AND AMERICIUM/BE SEALED SOURCES ARE HOUSED INSIDE THE GAUGE BODY WHEN THE SOURCE ROD IS IN THE RETRACTED POSITION.

FURTHER, EACH MOISTURE DENSITY GAUGE HAS A TRANSPORT CASE PROVIDED BY THE MANUFACTURER. IT WILL BE OUR PRACTICE TO PACKAGE EACH GAUGE (WITH THE SOURCE ROD LOCKED IN SAFE POSITION) IN THE TRANSPORT CASE BEFORE IT IS PLACED IN CONTROLLED STORAGE.

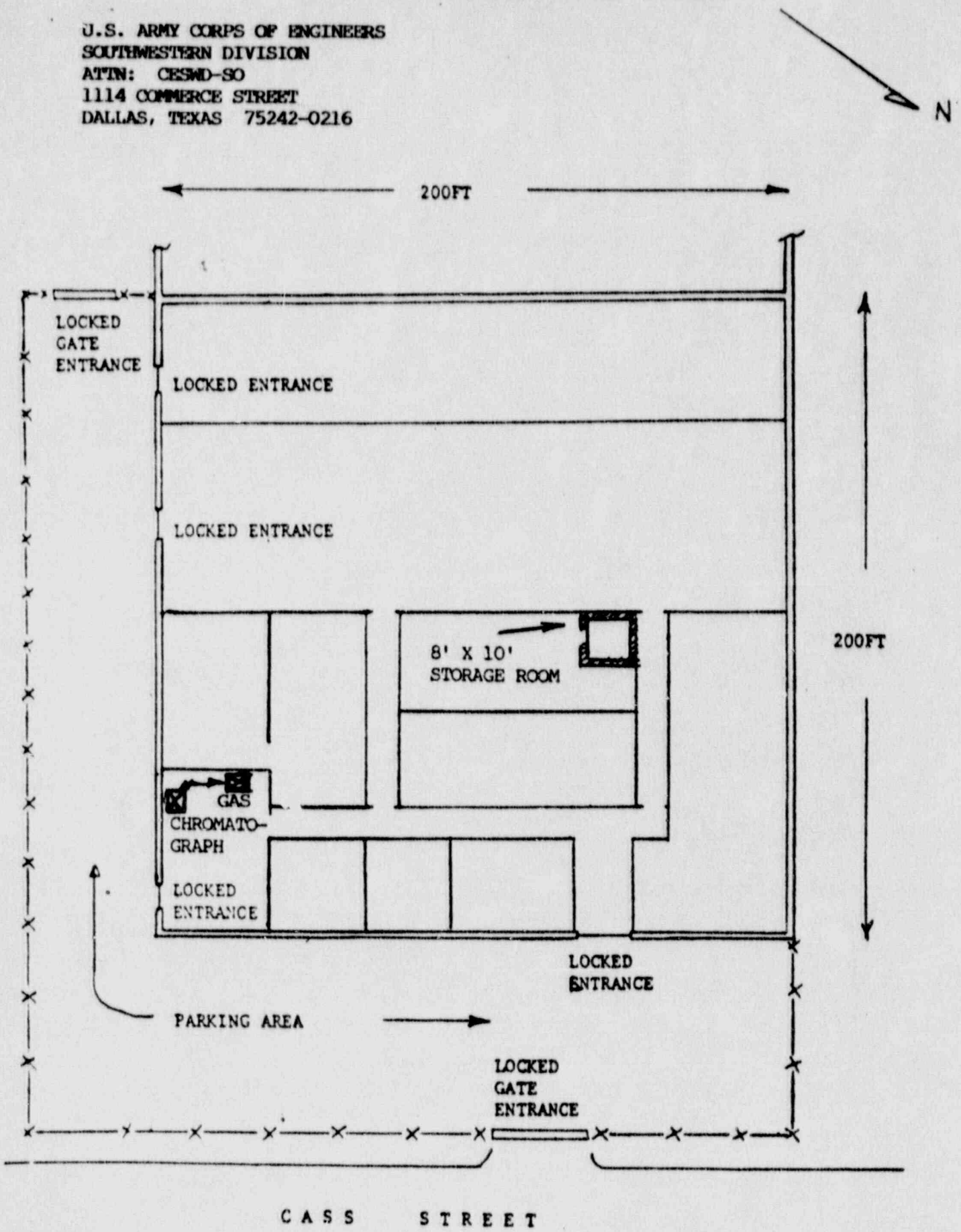
THE MOISTURE DENSITY GAUGES (PACKAGED IN THE TRANSPORT CASE) WILL BE STORED IN A LOCKED STORAGE ROOM IN THE SOUTHWESTERN DIVISION LABORATORY AT 4815 CASS STREET, DALLAS, TEXAS. THE LABORATORY FACILITY IS A 200FT X 200FT BRICK BUILDING, DIVIDED INTO OFFICE, LABORATORY, WORK AND STORAGE AREAS. THE MOISTURE DENSITY GAUGES WILL BE LOCATED IN A LOCKED CEMENT BLOCK STORAGE ROOM 8' X 10'. THERE WILL BE NO NEED FOR REMOTE HANDLING EQUIPMENT, SPECIAL STORAGE, SHIELDING, FUME HOODS OR RESPIRATORY PROTECTION.

C. A SKETCH OF THE GAS CHROMATOGRAPH AND STORAGE ROOM LOCATIONS IS INCLOSED.

AMENDMENT TO BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

CONTINUATION FOR SUPPLEMENTAL SHEET TO ITEM 9

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216



AMENDMENT TO BYPRODUCT LICENSE
INDUSTRIAL

U.S. ARMY CORPS OF ENGINEERS
SOUTHWESTERN DIVISION
ATTN: CESWD-SO
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

SUPPLEMANTAL SHEET TO ITEM 10

10. RADIATION SAFETY PROGRAM.

RADIATION PROTECTION OFFICER: BOBBIE L. PERRY, PE, CSP
ALTERNATE RADIATION PROTECTION OFFICER: WILLIAM S. CRAIG, PE

THE ENCLOSED RADIOLOGICAL SAFETY PROGRAM,

A. CHAPTER 6, SWDR 385-1-1, RADIOLOGICAL SAFETY, 1 OCT 1984

B. SOP FOR MOISTURE DENSITY GAUGE USER, 1 OCT 1988

WILL BE OBSERVED AT ALL TIMES. COPIES OF THESE PROGRAMS WILL BE MAINTAINED AT THE DIVISION LABORATORY AS WELL AS IN THE LICENSE FILE OF THE DIVISION SAFETY AND OCCUPATIONAL HEALTH OFFICE, WITH THE RADIATION PROTECTION OFFICER.

THE LEAK TESTING WILL BE PERFORMED SEMI-ANNUALLY USING THE LEAK TEST KIT PROVIDED BY NUCLEAR SOURCES & SERVICES, INC. (NSSI) OR IT'S EQUIVALENT.

A FILM BADGE PROGRAM WILL BE IMPLEMENTED FOR THE USE OF MOISTURE DENSITY GAUGES. THE FILM BADGE SERVICE WILL BE PROVIDED BY THE U.S. ARMY IONIZING RADIATION DOSIMETRY CENTER, LEXINGTON, KY.

CHAPTER 6

RADIOLOGICAL SAFETY
IONIZING AND NONIONIZING RADIATION

6-1. PURPOSE. To furnish guidance and establish procedures for controlling the purchase, use, and transfer of radioactive materials, equipment containing radioactive materials, and radiation-producing machines.

6-2. APPLICABILITY. This regulation is applicable to all government or contract work under the supervision of the Southwestern Division.

6-3. REFERENCES.

a. Title 10, part 20, Code of Federal Regulations.

b. ER 385-1-80.

c. ER 385-1-82.

6-4. GENERAL. It is the policy of the Chief of Engineers to permit the use of by-product material when such use results in economics or improved quality control and production. However, because of the inherent dangers in the use of these materials the Radiation Protection Officer (RPO) must approve the application or use of all radioactive materials or radiation machines prior to their use on projects, operations or in laboratories under the supervision of the division or district offices.

6-5. PROCEDURES.

a. Contractors. When the use of radioactive materials or radiation machines is contemplated, the operations must be reported by letter to the District or Division Commander, as appropriate, ATTN: Safety and Occupational Health Office. The letter must state the type and quantity of material, the purpose and use, operational procedures, number and type of supporting equipment and test equipment, whether the proposed use is licensed by the Nuclear Regulatory Commission or a state agency for this equipment, and any other information pertinent to the subject. This procedure must be followed to ensure that the storage, handling, and use of all radioactive materials and radiation machines comply with all state and Federal regulations. Contractor operations involving these materials must be included in the accident prevention preplan for that phase of work.

b. Government.

(1) The Division or District Commander shall designate a member of the district or division who meets the qualifications of ER 385-1-80 as the Radiation Protection Officer prior to obtaining or using radiation sources.

(2) No purchase order will be issued for the purchase or rental of equipment using by-product materials or for radiation machines without prior approval of the RPO. No transfer, loan, or acceptance on loan of the restricted materials or machines will be permitted except as stated in paragraph 6d.

6-6. RESPONSIBILITY.

a. The Radiation Protection Officer will:

(1) Meet the qualification requirements of paragraph 12, ER 385-1-80.

(2) Provide consultation and advice on the degree of hazards associated with ionizing radiation and the effectiveness of measures to control these hazards.

(3) Review all proposed uses of ionizing radiation with the user to ensure that each operational procedure involving the ionizing radiation equipment will comply with Corps of Engineers, Department of the Army, State and Federal requirements. During this review, standard operating procedures will be developed based upon the manufacturer's recommendations for operation and the job dictated operational procedures.

(4) Assure that government personnel using the material or equipment suers are adequately trained in areas specified in ER 385-1-80 by reviewing their training, conducting personal interviews, and by any other means thought necessary before certifying them as Users.

(5) Provide Users with instructions in Title 10, part 20, Code of Federal Regulations.

(6) Perform leak tests on all radioactive materials when they are first received and semiannually thereafter. Conduct a radiation survey on all sources annually. Maintain records of these tests and surveys on ENG Form 3309; file and forward test results to USACE as required.

(7) Maintain an inventory control and locator file system on ENG Form 3309.

(8) Review and evaluate all exposure records prior to the DD Form 1141 being posted to individual's Official Personnel File.

(9) Prepare all applications for NRC licenses, renewals, amendments and correspondence related thereto.

(10) Prepare requests to the Chief of Engineers for approval of possession and use of unlicensed materials.

(11) Prepare all applications for state-required licenses.

(12) Make certain Users are provided personal dosimetric devices (film badges).

(13) Forward reports to higher authority as required in ER 385-1-80.

b. The Alternate Radiation Protection Officer will:

(1) Meet the qualification requirements of paragraph 12, ER 385-1-80.

(2) Serve as Radiation Protection Officer during the RPO's absence.

(3) Perform leak tests and radiological surveys when requested by the Radiation Protection Officer.

(4) Assist in or supervise training of persons selected to become Users.

(5) Assist in preparation of licensing correspondence.

c. User Assignment and Qualification:

(1) Persons who are to become Users of radioactive materials shall be selected from the unit or branch to which the equipment is assigned.

(2) The Division designating a person to become a User shall arrange for the person's training in the proper use of the device containing the radioactive materials, by an official representative of the manufacturer.

(3) The person selected will also receive as a minimum, the instructions required by ER 385-1-80 and any prescribed in the NRC licensing conditions, in addition to other specific instructions from the Radiation Protection Officer.

(4) Persons will officially designated as Users of the equipment by the Radiation Protection Officer after they have successfully completed their training and been interviewed by the RPO.

(5) Users will use, operate and store the equipment in strict compliance with the Standard Operating Procedures and NRC, Corps of Engineers and Army Regulations.

(6) The User to whom the equipment is assigned shall check radiation levels around the storage or using facility at least monthly. The results shall be recorded and maintained on an ENG Form 3309, which will be used solely for this purpose.

(7) If a leak test reveals the presence of 0.005 microcuries or more of removable contamination, the sealed source shall be immediately withdrawn from use and the Radiation Protection Officer will be notified immediately. Instructions for handling or decontamination will be given at that time.

(8) Each User shall wear the assigned film badge while working with the radiation sources. Film badges shall be worn, handled, and forwarded to the processor as required in the SOP and ER 385-1-80.

(9) Persons who may occasionally accompany the User to observe the operations shall be supplied with a CD V-138 dosimeter. The User shall record the visitor's exposure and report the exposure amount to the visitor. This data will be forwarded to the Radiation Protection Officer when the User's film badge is forwarded for processing.

d. Transfer, Loan or Storage.

(1) The equipment can be moved from one project to another only after obtaining clearance from the Radiation Protection Officer.

(2) Any contemplated transfer, loan or disposal of the equipment must be handled by the Radiation Protection Officer.

(3) Transportation of the materials will comply with NRC, ICC, and ER 385-1-80 requirements.

(4) Notification of incident or report of lost, damaged, or defective source capsule will be made immediately to the Radiation Protection Officer.

6-7. SOP FOR USE OF 30-MILLICURIE Co^{60} SOURCE SET IN RADIOLOGICAL TRAINING.

ER 385-1-82 establishes standard procedures to be followed for handling and use of the CD V-784 Sealed Radioactive Source Sets.

DEPARTMENT OF THE ARMY
SOUTHWESTERN DIVISION, CORPS OF ENGINEERS
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

REPLY TO ATTENTION OF
CESWD-SO

1 October 1988

Radiological Safety Program
STANDARD OPERATING, TRANSPORTATION AND SHIPPING AND EMERGENCY PROCEDURES
For
Moisture Density Gauge
Users

1. PURPOSE. To establish Safe Operating Procedures, Transportation and Shipping Procedures, and Emergency Procedures for controlling the use of the Moisture-Density Gauges.

2. APPLICABILITY. This SOP is applicable to all users of Moisture Density Gauges.

3. REFERENCES.

a. Title 10, part 19, part 20 & part 30, Code of Federal Regulations

b. ER 385-1-80

c. SWDR 385-1-1

4. GENERAL. It is the policy of the Southwestern Division Office that the Moisture-Density Gauges will be used only by users specifically authorized by the Radiation Protection Officer. Authorized users will become familiar with the Radiological Safety Program, Manufacturer's Instruction Manual of the Moisture-Density Gauge and follow all safety precautions.

5. OPERATING PROCEDURES.

a. All users will wear film badges when using a Moisture-Density Gauge and/or performing Leak test. Badges will be stored away from gauge when not in use and will be protected from external heat.

b. The Moisture-Density Gauges will be permanently stored in the locked storage room of the Southwestern Division Laboratory at 4815 Cass Street, Dallas, Texas. The storage room is 8' X 10'. The Laboratory is a 200' X 200' brick building. The fence around the entrance to the building will be locked during nonduty hours.

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c. The gauges will be securely locked in the permanent storage room when not in use. Keys will be restricted to authorized individuals only. The gauges will not be left unattended. After use, each gauge will be returned to it's permanent storage location and secured.

d. Each gauge will be leak tested semi-annually using the leak test kit provided by Nuclear Sources & Services, INC. (NSSI), or Troxler Laboratories. The leak test will be performed by the RPO, alternate RPO, or a designated user.

e. All records as required by license and regulations will be maintained by the RPO in the Safety and Occupational Health Office. These records shall include personnel exposure records, leak test records and training certificates for all users.

f. When the gauge is in the field, the authorized user must maintain control over the gauge at all times. The gauge must never be left unattended.

g. Only user maintenance will be performed on the gauge. Maintenance requiring dismantling of the shielding or shutter devices and/or repair to the source will be done by the manfacturer.

h. Disposal of a source or of a gauge will be performed by the licensee directly. The RPO will be contacted for disposal instructions.

6. TRANSPORTATION AND SHIPPING PROCEDURES.

a. Transportation activities will be carried out IAW the requirements of 10 CFR Part 71 and DOT regulations.

b. The Moisture-Density Gauge will be transferred only to authorize licensees for this specific gauge/source and a record of transfer will be retained in the RPO files, with proof of license authority by the recipient, in the event of sale, trade, loan or other transfer.

c. When the gauge is to be transported by motor vehicle to or from the field, the following requirements will be met:

(1) The gauge will be transported in the Troxler transportation case, displaying the proper DOT labels.

(2) The gauge will be securely restrained in the transporting vehicle, and away from the passenger compartment. When transporting in an enclosed vehicle (car or van), the vehicle will be locked. When transporting in an open bed vehicle, the gauge will be securely fastened and locked to the truck bed.

(3) The gauge and it's shipping case will be hidden from view while in an unattended vehicle to minimize attractive nuisance value.

(4) At all times during the transportation of a Moisture-Density Gauge, the vehicle operator will have a properly completed set of transportation documents for each gauge as follows:

A. Bill of Lading (or equivalent document) - Visible to individuals entering vehicle.

B. Type A Package Certificate - Accessible to driver.

C. Source Certificate - Accessible to driver.

D. Emergency Procedures - Accessible to driver.

E. Copy of Radioactive Materials License - Accessible to driver.

(5) No vehicle placards will be required when transporting only Moisture-Density Gauges.

7. EMERGENCY PROCEDURES.

a. In any EMERGENCY situation, such as lost, stolen, or physically damaged to the extent that the source shielding is or could be compromised, the following steps will be taken:

(1) If the gauge is determined to be lost or stolen, immediately notify Bobbie L. Perry, RPO, at (214)767-2475 Office or (214)552-3617 Home for instructions.

(2) In the event of physical damage to the gauge, the following action will be taken:

A. Secure the area around the gauge, or accident site, for a distance of 15 feet, to prevent entry by unauthorized persons.

B. If a vehicle or heavy equipment is involved, it must not be moved until the extent of contamination of the vehicle is determined by radiation monitoring equipment.

C. A visual inspection of the gauge will be made to determine whether any damage to the source housing or shield has been sustained.

D. The damaged gauge will not be left unattended.

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E. As soon as possible, after the emergency has been stabilized and is under control, notify Bobbie L. Perry, RPO, at (214)767-2475 Office or (214)552-3617 Home. Describe the present existing conditions and follow the instructions of the Radiation Protection Officer.

(3) The RPO will notify the appropriate regulatory agency and gauge manufacturer.

(4) Other emergency numbers are provided as follows:

EMERGENCY NUMBERS

A. SOUTHWESTERN DIVISION OFFICE RPO (214) 767-2475

B. TROXLER FACTORY (817) 275-0571

C. CPN CORP. FACTORY (415) 228-9770

D. DALLAS POLICE DEPARTMENT (911)

E. DALLAS OFFICE OF EMERGENCY PREPAREDNESS 670-4275

F. DALLAS FIRE DEPARTMENT (MEDICAL EMERGENCY) (911)

G. DALLAS ENVIRONMENTAL HEALTH OFFICER 670-7510

H. USNRC REGION IV (817) 860-8100

FOR THE COMMANDER

Bobbie L. Perry

BOBBIE L. PERRY, PE, CSP
Radiation Protection Officer

462775