



STATE OF MINNESOTA  
DEPARTMENT OF PUBLIC SAFETY  
SAINT PAUL 55155

May 31, 1984

Ms. Evelyn Matson  
Materials Licensing Section Region III  
Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Re: Renewal License No. 22-06714-02  
Control No. 75799

Dear Ms. Matson:

Enclosed are resumes for the Isotope Committee and the 23 April 1984 revision of Bulletin #11, which is our standard operating procedure for use of sources. Due to a reduction in staff, the duties stated as performed by the Radiological Defense Officer and Radiological Equipment Officer have been assigned to the Radiological Protection Officer.

1. The following persons are members of the Isotope Committee

John F. Deef - Protection Officer - Chairman  
Carl Edquist - Technician - Member  
John Hand - Technician - Member  
Randy Lanari - Radiological Officer - Member  
Edmund S. Jasinski - Training Director - Member

2. CDV 700 instruments will be used for required surveys. These instruments will be calibrated at least annually using the CDV 790 calibrator and current procedure. Procedure at this time is to check two or more points on the X10 and X100 ranges. Record is kept inside the case.

3. CDV 138 Dosimeters are checked in the CDV 792 calibrator annually for 10% of true radiation level.

4. The Ludlum 2200 scaler is calibrated each time the wipes are evaluated by counting .02uCi Cesium 137 standard. Decay is calculated and the average count is used to determine the efficiency of the Ludlum Scaler. Wipe average count/counter efficiency = DM.  $DM/2.22 \times 10^6 = \text{uCi}$ . If this is more than .005 uCi, the background must be subtracted for true count. When available a microcomputer is used to calculate the above.

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5. a. Leak test analysis will be done by or under the supervision of the Radiation Protection Officer.

b. Survey meter calibration will be done by John F. Deef, Carl B. Edquist, John P. Hand.

c. Calibration of the Ludlum will be done by or under the supervision of the Radiation Protection Officer.

6. Sealed sources are inventoried each time they are wiped for leak test, which is every six months in September and March. Condition is noted on Leak Test Report.

7. Please add CDV 797 to our license. There is one CDV 797 for use in the five states of FEMA, Region V. It is permanently stored in Michigan, Lic #21-06962-04 Amendment 07.

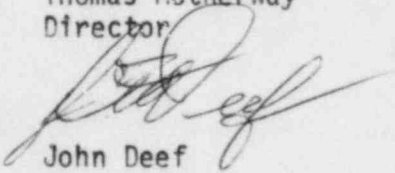
a. When it is temporarily in Minnesota, it will be stored in Bldg # 644 in the source store room when not in use.

b. The CDV 797 will be kept locked when not in use. When in storage, the room will be locked. During transportation, the vehicle will be locked when not attended.

c. The CDV 797 will be used by or under the supervision of the Radiation Protection Officer in accordance with the instruction manual supplied by FEMA.

Sincerely,

Thomas Motherway  
Director



John Deef  
Technician

TM:JD:kb

enclosures

John F. Deef    Electronic Technician and Radiation Protection Officer

4-7 April 1966 - Radiological Monitor Instructor Course taught in  
Arden Hills, Minnesota.

12, 19, 27 January & Feb. 2, 1967 - Radiological Defense Officer  
Course taught in Arden Hills, Minnesota

17-19 September 1968 - Orientation on CDV-792 at Springfield, Illinois.  
Course taught by Charles Ketcham.

3 October 1968 - Radiological Monitor Instructor Refresher Course  
at Arden Hills, Minnesota.

23-24 March 1970 - Radiological Defense Officer Refresher Course  
at Arden Hills, Minnesota

6-17 July 1970 - US Public Health Course #211 taught in Minneapolis,  
Minnesota

1967-1973 - On the job training with the CDV 794/2 under Mr. Feder's  
supervision.

2 March 1979 - NRC Radiological Emergency Response Operations Course.

Working as Electronic Technician since 1952

Working in the Radiological Instrument Program since 1965

Instructor in Radiological Monitoring

Instructor in source handling & wipe test procedure.

John P. Hand

Electronic Technician

Training

Radiological Monitor Practium	1967
CD - USA/HS	1969
Radiological Monitoring/HS	1970
REP Response/Las Vegas	1979
Basic RDO	1980
Radiological Defense Instr. Wkshp	1980
Radiological Monitor Refresher	1980
Police Officer Training City of Bloomington	1981

Working in the Radiological Instrument Program since 1966

Working with the CDV 794/2 Calibrator since 1968

Instructor in Radiological Monitoring

Randy Lanari

Radiological Officer

1. Education

a. University of Minnesota, Minneapolis, Minnesota

Bachelor of Science Degree  
Major - Biology  
Minors - Math and Chemistry  
Honors - Graduated cum laude

b. Mankato State University, Mankato, Minnesota

Bachelor of Science Degree  
Major - Professional Education  
Honors - Graduated cum laude

2. Science Work Experience

a. Radiation Specialist  
Minnesota Department of Health  
Minneapolis, Minnesota

- (1) Member of the Radiological Emergency Response Team
- (2) Responsible for radiological safety surveys in hospitals, clinics, and dental offices.
- (3) Conducted radiation surveys of radioactive waste shipments.

b. Life Science Teacher  
LeCenter High School  
LeCenter, Minnesota

- (1) Biology
- (2) Ecology
- (3) Life Science

3. Radiation Course Work

- a. Basic Radiological Health (40 hours)
- b. Environmental Radioactivity (30 hours)
- c. Introduction to Radiological Monitoring (Programmed Text)
- d. Radiological Monitoring Practicum (8 hours)
- e. Radiological Defense Instructor Workshop (24 hours)
- f. Radiological Emergency Response Course (69 hours)
- g. Basic Radiological Defense Officer Course (36 hours)



Edmund S. Jasinski - Training Director - Minnesota Department of  
Public Safety

1. Education:

Edison High School, Minneapolis - 1948  
University of Minnesota - AA Degree - 1954  
University of Minnesota - BA Degree - 1956  
United States Army  
Command and General Staff College - 1965  
Civil Defense  
Phase I, II and III of Professional Development Series - 1980

2. Work Experience:

Personnel - State of Minnesota - 1956-1962  
Civil Defense - State of Minnesota - 1962-1970  
Personnel - State Public Safety - 1970-1973  
Training Director - State Public Safety - 1973-1984

3. Training Experience:

United States Army Command and General Staff College Instructor - 6 years.  
United States Army Radiological Training Instructor - 3 years

STATE OF MINNESOTA  
DEPARTMENT OF PUBLIC SAFETY  
DIVISION OF EMERGENCY SERVICES  
B5 - State Capitol  
St. Paul, Minnesota 55155

BULLETIN NO. 11  
April 23, 1984  
Superseding October 12, 1983

SUBJECT : State of Minnesota Nuclear Regulatory Commission (NRC)  
License (formerly AEC License)

OBJECT : Standard Operating Procedures Governing the use of Federal Emer-  
gency Management Agency (FEMA) Radioactive Training Source Sets  
CDV-782, CDV-784, and CDV-757 Barrier Shielding Demonstrator Set

FILE : U. S. Nuclear Regulatory Commission (NRC) License (formerly AEC)

DISTRIBUTION : All Minnesota Byproduct Materials User Permit License Holders,  
Division of Emergency Services Regional Coordinators, County  
Civil Defense Directors, and RADEF Shop Supervisor.

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## Section I - General

1. Purpose - To inform all personnel of the procedures to be followed to control and supervise the use of FEMA Radioactive Training Source Sets CDV-782, CDV-784, and/or CDV-757 Barrier Shielding Demonstrator Set on loan to the State Division of Emergency Services by FEMA, for support of the radiological defense training programs conducted within the State of Minnesota.
2. Policy - The Nuclear Regulatory Commission has issued a Byproduct Material License to the Minnesota Division of Emergency Services (DES) of the Minnesota Department of Public Safety. This License authorizes the DES to receive, possess, acquire, use, or transfer byproduct materials within certain limitations. In this connection, DES will issue User Permits to all personnel who are qualified to receive, handle, and use such byproduct materials.
3. Isotopes Committee - This committee will consist of personnel from the Radiological Systems Maintenance Program (RSMP) and DES. It's Chairman will be the State Radiation Protection Officer. This Committee will review qualifications for User Permits on State License and act on any problems pertaining to radiological monitoring in the State.

## Section II - Certification

1. Eligibility - The following criteria will be used as the basis for issuing a User Permit for use of Radioactive Source Sets.
  - a. Each User must be a graduate of the FEMA-sponsored course for Radiological Monitor Instructors or have qualifications approved by the Isotopes Committee.
  - b. Each User must have an understanding of the basic principles of nuclear radiation and radiation safety and shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation" and Title 10, Part 30, Code of Federal Regulations, Chapter 1, Licensing of Byproduct Material.
2. Issue - The State Radiation Protection Officer will issue numbered User Permits to qualified individuals.
  - a. User Permits will be issued to individuals who successfully complete and graduate from the Radiological Monitoring Instructors Course and the Radiological Defense Officer Course, and submit request, or receive approval from the State Isotopes Committee.
  - b. User Permits will remain in effect for three-year periods unless circumstances arise which would require revocation or cancellation, such as infringement of NRC Rules and Regulations, User leaving State, or requesting withdrawal. Renewals must be submitted more than 30 days prior to expiration date. If this is done, Permit will remain in effect past actual expiration date or until new one is received. Renewals submitted less than 30 days prior to expiration date will expire on expiration date and the User will not use or possess a source until new Permit is received from DES.
  - c. It is the responsibility of the User to supply the State Radiation Protection Officer with a current address. Failure will result in cancellation of User Permit.



### Section III - Custody

1. Custodians - Will be persons holding a valid User Permit who are officially designated as custodians by DES.
  - a. Individuals will be assigned as custodians and will be responsible for the source and training instruments. This includes the wipes of the capsules as required.
  - b. Temporary custody of not more than one (1) sealed source set (30 millicuries of Cobalt 60, 120 millicuries of Cesium 137, and/or 1 millicurie Cesium 137) shall be vested in the holder of a User Permit not named a custodian.
  - c. Temporary custody of a source set shall not exceed the length of time needed to complete class.

### Section IV - Location

1. Permanent Storage Locations - Are included in Attachment #1 to this bulletin.
  - a. Permanent storage areas will not be changed without approval of DES.
  - b. When a source set is borrowed from a permanent storage location by a User, it must be returned immediately after the training period has ended. Return date must be stated on the Record of Transfer Form. Any delay beyond Return Date must be approved by Source Custodian.
  - c. Custodians are responsible for making sure each User desiring to borrow a source set has a valid User Permit. Source sets will be on loan only to holders of User Permits.
  - d. The Record of Transfer Form, Attachment #2, must be completed in triplicate before a source set can be on loan and returned. Distribution of the copies is indicated on the form.
  - e. Custodians, having a source set on hand, are obligated to issue on loan the source set, providing the User produces a valid User Permit and the set was not previously scheduled elsewhere.
  - f. No persons, other than the custodians or the State Radiation Protection Officer, may lend the source set.
2. Temporary Storage Areas - Selected by Users, must be selected on the basis of source security and health protection and are subject to inspection by NRC, FEMA-Region Five, and DES.

### Section V - Records

1. User Permit - Will be issued by DES. The State Radiation Protection Officer shall maintain a list of the names and addresses of all qualified Users.

2. Record of Transfer Form - This form must be completed in triplicate when the source set is transferred from the custodian to a User and after the User returns the source set. Distribution is stated on the form. Sample copy Attachment #2. The forms are available from DES or custodians.
3. Leak Test Form - This form must be completed in duplicate - original to DES and copy to custodian. Sample copy Attachment #4.
4. Permanent Storage Area Survey Record - Custodians shall make a sketch of the storage area indicating location of source set(s). Thereupon, a survey of the area using a CDV-700 should be made in duplicate and the radiation levels recorded on the sketch, the sketch then dated and a copy to be sent to the Radiation Protection Officer, and the custodian is to keep one copy at the storage site. Readings 36 inches from the CDV-792 shall not read in excess of 5 mr/hr and readings outside of the access doors or any wall exterior should not exceed 2 mr/hr. Any reading above those indicated must be reported at once to the State Radiation Protection Officer. New Surveys will be made if the storage area is altered.
5. Radiation Exposure Record - Forms will be available upon request from either DES or any custodian and will be maintained by each authorized User. No individual may receive more than 100 mr during any seven (7) consecutive days nor more than 5 r in any one-year period. Any exposure record exceeding any of these limitations will be reported to the State Radiation Protection Officer. Sample Exposure Record Attachment #3. Record will be maintained for five years.

## Section VI - Handling and Use of Sources

### 1. Procedures

- a. Remote handling tongs, 18 inches long, will be used whenever the sealed capsules are handled. Sources will not, under any circumstances, be removed from sealed capsules.
- b. Source sets transferred will be handled and transported by either an authorized User or an authorized common carrier. When not in use or during transport, sources will be enclosed in padlocked, standard lead containers, CDV-791 and CDV-792. Private vehicle must be locked when not attended. During transportation, radiation in the driver position must be less than 2 mr/hr. Areas in which source sets are in use or in temporary storage will be restricted and will be posted with standard "Radiation Area" markers. Each training source set is equipped with markers which may be used to post a temporary storage area or training area.
- c. Whenever radioactive capsules are removed from the standard containers, surveys will be made, using low-range rate meters (CDV-700) and recorded. Outer edge of restricted area is where level of radiation is 2 mr/hr. After use, the capsules will be returned promptly to the containers and survey made to establish that no pellet from the set remains exposed in the area. Capsules will be counted when returned to the container and will be secured in the containers before classes are dismissed. If the final survey indicates that radioactive pellets remain outside of the container or if any capsule is unaccounted for, immediate notice will be given to the State Division of Emergency Services Duty Officer, Phone (612) 778-0800, who will place into effect the State Plan for a Radiological emergency.

- d. Dosimeters (CDV-138) or film badges will be worn by instructors and students using the sources, and the total accumulated dosage will be recorded. Exposure to radiation will be kept to a minimum at all times.
- e. The source set will be leak tested according to the following procedures: Every six months, in March and September, unless other arrangements are made with the Radiation Protection Officer. Note: The Radiation Protection Officer will leak test the CDV-757.

The CDV-782 and CDV-784 Leak Test Procedure is as follows:

Using the instruments supplied with the Source Set, zero the two (2) CDV-138 dosimeters and place on person. The shirt pocket is recommended. Install batteries in CDV-700 and do operational check. Set range switch to X100 and place away from source, but within your reach.

Prepare eight (8) wipes of high-strength filter paper or paper towel. Fold wipes in half so they may be picked up quickly. Dampen wipes with alcohol, separate, and place in line. Remove CDV-792 lead container cover and place on edge next to CDV-792 container to be used as shielding to reduce exposure. Remove CDV-791 and place behind CDV-792 cover. Using one of the prepared papers, wipe the inside of CDV-792. Remove the cover of CDV-791. With CDV-788 tongs (18" long), pick up each capsule, examine condition of tag, then place near CDV-700 probe to check for activity and drop in CDV-792 container. Count to make sure there are six (6) capsules and all are active. Now wipe the inside of CDV-791 container. Using the tongs, pick up a capsule and rest it on the edge of CDV-792. With the other hand using a pliers (6" long nose) pick up another prepared wipe and wipe the surfaces of the capsule while holding it with the CDV-788 tongs. Sufficient pressure should be used to transfer any contamination to the paper wipes. Complete the rest of the capsules in the same way.

If you do not have enough wipes, or too many, then a mistake has been made and must be checked. The wipes of the capsules should be done at arm's length and completed as soon as possible.

After the wipes have been completed and the source locked, using the CDV-700, move to an area of normal background reading. Open the probe window and set range switch to XI. Check background reading. Now check the wipes just taken. Any constant reading above background should be considered leakage. Should the activity check indicate no reading on the CDV-700, or if a constant reading above background be detected from the wipes, the Radiation Protection Officer must be notified. Now read the CDV-138 dosimeters and record the dose on the Leak Test Inspection Report.

Mark the date of Leak Test on the tag attached to the CDV-792 container.

Send wipes and Leak Test Inspection Report to Radiation Protection Officer.

- f. Replacement of Tags and Rings will be replaced by Instrument Repair and Calibration personnel. Notify the State Radiation Protection Officer if tags or rings are needed.
- g. Sealed sources will be attended by an authorized User when they are not in the standard containers and secured under lock and key.
- h. Sealed sources will not be used unless they are properly tagged.
- i. When source sets are stored, they shall be secured against unauthorized removal (under lock). The entrance of the storage room must be posted with appropriate caution signs and the custodian's name, address, and telephone number.

- j. In the event that an empty capsule is discovered, the remaining capsules should be secured in the lead container and removed from the general area. The general area should then be surveyed very carefully with a CDV-700 until the radioactive pellet is located. The area should also be secured from personnel entry except for personnel surveying area to locate the radioactive pellet.
- k. If the radioactive pellet is visible to the naked eye on a hard, smooth surface, the pellet should be picked up using a broom and a long-handled dust pan; the source handling tongs enable the individual to keep the pellet away from his person. The empty capsule and the other capsules should be secured in the lead containers and marked as unusable.
- l. If the general area has an earth, sand, or gravel surface, the monitoring must be very carefully done as the pellet may be beneath the surface. If the pellet can be located within a small area (less than one square foot), a spade or shovel should be used to remove the surface layer of this small area. Each shovelful of earth, etc., removed should be monitored until it is determined the pellet is in a particular shovelful. When this is determined this shovelful of earth, etc., should be placed in the large CDV-792 container after removing the small CDV-791. After the earth, etc., is inside the CDV-792 lead container, it should be monitored to insure that the Cobalt-60 or Cesium 137 is still mixed in with the material. Then both lead containers should be secured and marked as unusable. The dose rates and date shall be marked on the outside surface. No attempt should be made to separate the pellet from the earth, sand, or gravel in which it is located.
- m. Wipe test the outside of the CDV-792 in which the unsealed Cobalt or Cesium and dirt have been placed, and thoroughly monitor all personnel and equipment that have been involved. Carefully monitor the area to insure that radiation levels do not exceed normal background. If no contamination is indicated, the area may be returned to an unrestricted status.
- n. If the missing Cobalt or Cesium cannot be located, or the presence of contamination is indicated, immediately restrict all access to the area by means available, such as locked and posted doors, roping-off, or barricading, with prominently displayed signs and markers plainly indicating the nature of the hazard. The User must notify the State Duty Officer immediately who shall place into operation the State Plan for a Radiation emergency.
- o. IMMEDIATELY UPON THE DISCOVERY OF ANY EMPTY CAPSULE, and before recovery actions are commenced, the User shall contact the State Radiation Protection Officer for advice and guidance; and the User shall keep the Radiation Protection Officer informed of progress through the procedures detailed above.
- p. Instructions for disposal and/or replacement of source sets must be obtained from FEMA Region Five through the State Division of Emergency Services Office.

#### Section VII - Radiation Protection Officer

- 1. The Radiation Protection Officer for the State will have the following responsibilities:
  - a. Shall have the overall responsibility for administering the program.
  - b. Shall be responsible for calling meeting of Isotopes Committee.



- c. Shall maintain a file of names of personnel who have been issued a User Certificate.
- d. Shall maintain a file of Leak Test Records and of Record of Transfer forms.
- e. Shall maintain liaison with FEMA Region Five.
- f. Shall make on-site inspections of source set storage areas.
- g. Shall be responsible for reporting any condition that may jeopardize the health of any individual, due to radiation, to proper authorities.
- h. Shall be responsible for redesignating a permanent storage position under the following conditions:
  - (1) Infringement of Minnesota Bulletin #11 or NRC Rules and Regulations.
  - (2) Geographical locations providing limited access to Users.
  - (3) Building renovated.
  - (4) Pre-empted space.
- i. Shall be responsible for putting source sets that fall into a category in paragraph h. above into temporary storage at the State shop. If a custodian moves and another cannot be assigned, the source set will go into storage until the condition is remedied.
- j. Shall be responsible for the Civil Defense Radiological Defense Program coordination and the Radiological Systems Maintenance Program, to assure accomplishment of Civil Defense operational objectives.
- k. Shall be responsible that training source sets are returned to FEMA for disposal.

#### Section VIII - References

1. Code of Federal Regulations 10 CFR, 20, and 30.
2. Procedures and Regulations for Care and Use of the FEMA CDV-782, CDV-784 "Radiation Training Source Set."

#### Section IX - Mailing Address and Telephone Numbers

Minnesota Duty Officer (612) 778-0800

Radiation Protection Officer  
 Radiological Systems Maintenance Program  
 MN - ANG  
 Building #644 - Area "D"  
 Mpls./St. Paul International Airport  
 St. Paul, Minnesota 55111

(612) 725-5585



MINNESOTA DEPARTMENT OF PUBLIC SAFETY  
DIVISION OF EMERGENCY SERVICES  
85 - State Capitol  
St. Paul, Minnesota 55155

RECORD OF TRANSFER OF FEMA RADIOACTIVE SOURCE SET CDV-782, CDV-784, OR CDV-757

BARRIER SHIELDING DEMONSTRATOR SET

1. Complete this form in triplicate each time a Source Set is transferred. One copy is kept by the User as authorization to possess the Source Set and for proof of return. After return of the Source Set, and when the Returned Receipt Section is completed, the original copy will be sent to the Minnesota Radiation Protection Officer, and one copy will be retained by the Custodian.
2. If the Source Set is not returned within ten days of date stated, the Custodian will notify the State Radiation Protection Officer:  
Radiological Systems Maintenance Program  
MN - ANG - Building #644 - Area "D"  
Mpls./St. Paul International Airport  
St. Paul, Minnesota 55111

In compliance with 10CFR 30.41 (c) and 30.41 (d) (2), NRC Rules and Regulations:

This is to certify that the receiver is authorized by User Permit No. \_\_\_\_\_ issued by the State of Minnesota, expiration date of \_\_\_\_\_, to receive and possess thirty (30) mCi of Cobalt 60 as CDV-784, or one hundred-twenty (120) mCi Cesium 137 as CDV-782 sealed sources, or one (1) mCi of Cesium 137 Barrier Demonstrator Set and will use them only in accordance with existing rules and regulations.

This is to record the / / Permanent / / Temporary transfer of radioactive Source Set

From: Name \_\_\_\_\_ User Permit No. \_\_\_\_\_

Address \_\_\_\_\_

Street \_\_\_\_\_ City \_\_\_\_\_ Zip \_\_\_\_\_

Telephone: Home \_\_\_\_\_ Business \_\_\_\_\_

TO: Name \_\_\_\_\_ Signature \_\_\_\_\_

Address \_\_\_\_\_

Street \_\_\_\_\_ City \_\_\_\_\_ Zip \_\_\_\_\_

Telephone: Home \_\_\_\_\_ Business \_\_\_\_\_

Cobalt-60 CDV-784 Ser. # \_\_\_\_\_ Key # \_\_\_\_\_ Last Leak Test \_\_\_\_\_

Cesium 137 CDV-782 Ser. # \_\_\_\_\_ Key # \_\_\_\_\_ Last Leak Test \_\_\_\_\_

Bar. Demo. CDV-757 Ser. # \_\_\_\_\_ Key # \_\_\_\_\_ Last Leak Test \_\_\_\_\_

Date Picked Up \_\_\_\_\_ Date to be Returned \_\_\_\_\_

\_\_\_\_\_ Tongs, \_\_\_\_\_ (CDV-700) Instrument, \_\_\_\_\_ 2 CDV-138 DOSIMETERS,

\_\_\_\_\_ CDV-750 Charger, \_\_\_\_\_ RADIATION AREA Signs, \_\_\_\_\_ RADIOACTIVE MATERIAL Sign

=====

Date Equipment was returned \_\_\_\_\_

Comments: \_\_\_\_\_ By \_\_\_\_\_ Signature \_\_\_\_\_

CS137 and C060 RADIATION EXPOSURE RECORD  
(Print all information)

Location of Class \_\_\_\_\_ Date \_\_\_\_\_

The original copy of Exposure Record will be sent to the Minnesota Radiation Protection Officer. This will be on file at the Radiological Systems Maintenance Office.

NAME and SOCIAL SECURITY NUMBER	DOSIMETER SERIAL NO.	DOSIMETER READINGS		ESTIMATE DOSE
		FINAL	START DOSE	
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
19. _____	_____	_____	_____	_____
20. _____	_____	_____	_____	_____

This is to certify that when the above radioactive material was unshielded, a survey was made with CDV-700 Serial No. \_\_\_\_\_. The area in excess of 2 mr/hr was restricted. Only persons with dosimeters entered the restricted area and the dose is recorded above. On dosimeter readings obviously in error, the Instructor will estimate student dose.

\_\_\_\_\_  
Signature of Instructor

\_\_\_\_\_  
User Permit

\_\_\_\_\_  
Dose

\_\_\_\_\_  
Determined By

RADIOLOGICAL SYSTEMS MAINTENANCE PROGRAM  
LEAK TEST AND INSPECTION REPORT FOR

MARCH SEPTEMBER 19\_\_

CDV \_\_\_\_\_ Model \_\_\_\_\_ Ser. # \_\_\_\_\_ Date of Encapsulation \_\_\_\_\_

Storage Location \_\_\_\_\_

City \_\_\_\_\_ County \_\_\_\_\_ Zip \_\_\_\_\_

CUSTODIAN  
Name \_\_\_\_\_ Permit # \_\_\_\_\_ Expiration \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ Zip \_\_\_\_\_

STORAGE AREA  
Yes No Posted RADIOACTIVE MATERIAL FOR SHOP USE ONLY

Yes No Locked \_\_\_\_\_ Background

SOURCE  
Yes No Locked \_\_\_\_\_ Wipes

\_\_\_\_\_ Key Number

G F P Condition of Containers

G F P Condition of Tags

Yes No Wipes Read Less Than .05 mr/hr

EQUIPMENT  
Yes No Tongs

Yes No Signs RADIATION AREA Number of Signs \_\_\_\_\_

Yes No CDV-138 Ser. # \_\_\_\_\_ Ser. # \_\_\_\_\_

Yes No CDV-750 Ser. # \_\_\_\_\_

Yes No CDV-700 Ser. # \_\_\_\_\_

Remarks \_\_\_\_\_

Report by \_\_\_\_\_ Permit # \_\_\_\_\_

Title \_\_\_\_\_ Exposure during this leak test \_\_\_\_\_

MR determined by \_\_\_\_\_  
(CDV-138 Ser. #, Film Badge, etc.)