

036-04384

NRC Form 313 (12-81)
10 CFR 30

U.S. NUCLEAR REGULATORY COMMISSION

1. APPLICATION FOR:
(Check and/or complete as appropriate)

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

a. NEW LICENSE

See attached instructions for details.

Completed applications are filed in duplicate with the Division of Fuel Cycle & Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.

X

b. AMENDMENT TO LICENSE NUMBER
13-10455-02

c. RENEWAL OF LICENSE NUMBER

2. APPLICANT'S NAME (Institution, firm, person, etc.)
General Electric Co.

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION
(812) 838-7954

3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION
William J. McNally, Specialist-Proc Dev

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION
(812) 838-7954

4. APPLICANT'S MAILING ADDRESS (Include Zip Code)
(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)
Highway 69 South
Mt. Vernon, Indiana 47620

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED
(Include Zip Code)
Same

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL
(See Items 16 and 17 for required training and experience of each individual named below)

FULL NAME	TITLE
a. William J. McNally	Specialist-Process Development
b.	
c.	
7. RADIATION PROTECTION OFFICER Jerry L. Uhde	Cap

RECEIVED BY LHS
Date 3/21/93
By Mark IV

Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.

LINE NO.	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER <i>(If Sealed Source)</i>	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
(1)	Am-241/Be	Sealed Source	Gammatron AN-HP Series	not to exceed 500mCi
(2)	Applicant's			per source
(3)	Check No. 21327		B410300342 B41009 NMS LIC30 13-10455-03 PDR	
(4)	Amount Fee Category 840-31			
	Type of Fee Amend			
	Date Check Rec'd 3/21/93			

RECEIVED BY LHS
Date 3/21/93
By [Signature]

DESCRIBE USE OF LICENSED MATERIAL
E

- (1) Sealed source will be used in a neutron transmission gauge to measure properties
- (2) of plastics. The unit, built for us by R.M.D., Inc. will have the sealed source
- (3) inside an instrument case further sealed with tamper-proof screws and therefore
- (4) inaccessible to all but the Radiation Safety Officer. Attached is a copy of a

INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

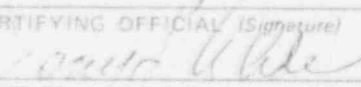
15. RADIATION PROTECTION PROGRAM. Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures (if needed), day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.
16. FORMAL TRAINING IN RADIATION SAFETY. Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.
 - a. Principles and practices of radiation protection.
 - b. Radioactivity measurement standardization and monitoring techniques and instruments.
 - c. Mathematics and calculations basic to the use and measurement of radioactivity.
 - d. Biological effects of radiation.
17. EXPERIENCE. Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

18. CERTIFICATE

(This item must be completed by applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our 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.

a. LICENSE FEE REQUIRED (See Section 170.31, 10 CFR 170) \$40.00	b. CERTIFYING OFFICIAL (Signature)  c. NAME (Type or print) Jerry L. Uhde
(1) LICENSE FEE CATEGORY: 3E	d. TITLE Safety Coordinator
(2) LICENSE FEE ENCLOSED: \$ 40.00	e. DATE March 10, 1983

MAI 1983

General Electric Company
Highway 69 South
Mt. Vernon, Indiana 47620
March 7, 1983

Appendix: Amendment to Byproduct Material License

Item 11

The meter contains a built in calibration source which makes calibration of the instrument very straightforward

Item 13

The instrument containing the source is a desktop unit weighing approximately 100 lbs. and will be located on a laboratory bench inside our quality control laboratory. This room is approximately 40 ft. long and 15 ft wide with doors to the production line area and to other laboratories. The room is occupied almost constantly, three shifts, and is inside our main facility which has an extensive security system.

General Electric Company
Highway 69 South
Mt. Vernon, Indiana 47620
March 7, 1983

Appendix: Amendment to Byproduct Material License

Item 15

A Radiation Protection Program will be implemented and overseen by the Radiation Protection Officer. His duties and responsibilities will be as follows:

A - Source Control

The RPO will train and authorize each supervisor to use the Neutron Transmission Gauge. No persons will be permitted to use the gauge without trained supervision. Training will include magnitude and meaning of the radiation levels surrounding the instrument, review of the license and application, proper use of the instrument, design and specifications of the equipment (including survey data), instructions on maintenance, and procedures in case of malfunction. Individuals will be retrained on an annual basis.

In addition, the RPO will be responsible for keeping up-to-date with all applicable regulations. He will implement measures to insure the security of the instrument within the facility.

B - Leak Testing

The RPO will establish a leak testing program for the gauge. The nearest accessible surface to the source will be wiped with a paper towel or cotton swab every six months, followed by measurements on the thin-windowed survey meter (calibrated with a check source as mentioned above.) The reading will be kept in a permanent log and if it exceeds the allowable limit of 1000 DPM, assistance from the instrument or source manufacturer will be obtained to remove the source if necessary.

General Electric Company
Highway 69 South
Mt. Vernon, Indiana 47620
March 7, 1983

Appendix: Amendment to Byproduct Material License

Item 16

Mr. McNally received one week of on-site training in the proper use of this nuclear instrument technique, including the details of the nature of neutron and gamma-ray sources, the proper measurement of exposure levels, the handling of sources in this configuration, and the NRC regulations for administration and safety aspects of nuclear sources. This training was given in August 1983 by Dr. Gerald Entine, President and Radiation Protection Officer of Radiation Monitoring Devices, Inc.

Item 17

Mr. McNally is an experienced researcher and project engineer with a background in chemistry and polymers. He has experience with many analytical instruments including x-ray diffraction equipment, which was available both at General Electric and at the previous facilities at which he was employed.

43-4800
817-257-4388

F. X. MASSE ASSOCIATES, INC.

Health Physics Consultants

MAPLE ST., P. O. BOX 95
MIDDLETON, MASS. 01949

24 HOURS
817-257-3300
(RAGING SERVICE)

MEMORANDUM

TO: Tony Ratkowski, Ph.D., RMD, Watertown, MA
FROM: Frank Masse' *FXM*
SUBJECT: SURVEY OF NEUTRON TRANSMISSION GAUGE
DATE: 5/5/82

Following are the results of my 4/27/82 measurement for stray radiation around the prototype neutron transmission gauge at your Watertown facilities.

Neutron Measurement: Measurements were made with an Eberline PNR-4 portable Rem counter which was calibrated against an NBS-traceable PuBe source on the day of measurements. Preliminary scanning of the system failed to detect any area noticeably higher in leakage rates. Measurement results around the device were as follows:

	<u>30 cm</u>	<u>100 cm</u>
Front	< 0.25 mrem/hr	<< 0.1 mrem/hr
Rear	"	"
Right	"	"
Left	"	"
Top	"	"
Bottom	"	"

CONTROL NO. 11121

Gamma measurements were made with a Victoreen Panoramic portable ion chamber calibrated against an NBS-traceable Cs-137 source on the day of measurements. Again, preliminary scanning of the system failed to detect any areas noticeably higher in leakage rates. Following are the gamma results.

Dose rates at 7 mg/cm²

	5 cm	30 cm	100 cm
Front	< 0.1 mr/hr	<< 0.1 mr/hr	<<< 0.1 mr/hr
Rear	"	"	"
Right	"	"	"
Left	"	"	"
Top	"	"	"
Bottom	"	"	"

The above very low readings (minimum detectable for the instrument) also apply to the measurement observed with the 300 mg/cm² absorber in place.



December 20, 1985

To: Don Simpson

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION

An inspector, Mike Kunowski, from the regional office in Glen Ellen, Illinois conducted a "routine" non-announced inspection of the Mt. Vernon Site on December 11 and 13, 1985. These inspections are typically done every 7 years with the last one being done in 1977. There will be a charge of \$500.00 sent to us at a later date to cover the NRCs expenses.

The primary focus of the inspection was recordkeeping, source test and qualifications of the program administrators. The license violations noted during the inspection of our records and by actual inspection of the radioactive sources was discussed during a closing conference. The following is a list of the items discussed and the actions that will be instituted to satisfy these deficiencies.

1. Inventories of all radioactive sources need to be conducted on a 6 month frequency.

Corrective action: An inventory form will be developed which will be used by designated people on the units which will be sent to Safety for computer input.

Responsibility: T. L. Drake

Date: February 14, 1986

2. Ultem - The leak test required for the Gas Chromatographs have not been done.

Corrective action: Conduct leak test.

Responsibility: M. Burzminski

Date: February 14, 1986

3. Valox Resin II - Gauge leak tests are one year late.

Corrective action: Conduct leak test.

Responsibility: C. Kriston

Date: February 14, 1986

4. There needs to be a record kept of who administers the program in each area.

Corrective action: This will be added to the recordkeeping computer program.

Responsibility: T. L. Drake

Date: February 14, 1986

DEC 30 1985

al
C/93

5. There needs to be radioactive hazard signs on the sources at Valox Resin III and the portable thickness gauge at Brine Recovery.

Corrective action: Signs will be placed on the required sources. The federal standard gives specifications for the sources that require signs based on the amount and type of radioactive material used. Even though we have some sources that emit smaller amounts of radiation than those that require signs we will put signs on all sources. This provides greater protection and simplifies the identification and inventory process.

Responsibility: J. L. Uhde
Date: February 14, 1986

6. There needs to be federal NRC notices posted in areas where sources are used or stored.

Corrective action: Notices will be posted.

Responsibility: J. L. Uhde
Date: February 14, 1986

7. The Berthold instruments located in Valox Resin III have not been included on the existing license.

Corrective action: Make amendment to license to include these instruments.

Responsibility: J. L. Uhde
Date: February 14, 1986

In addition to the items identified during the inspection, I would like to accomplish the following:

1. The radiation officer shown on the license at the present time is J. Uhde. This designation needs to change due to the recent restructuring within Safety. I plan to have Dave Clendenen assume this responsibility and receive the training needed.

Responsibility: T. L. Drake
Date: May 30, 1986

2. The wipe test will be coordinated and conducted by Dave Clendenen as part of the routine exposure sampling program. This will ensure that all samples are taken as required and that the data is stored in a readily retrievable manner.

Responsibility: T. L. Drake
Date: May 30, 1986

This program will ensure the continued safe use of nuclear sources within the Mt. Vernon facility.

Tom Drake
Tom Drake

TLD/bc

cc: G. Ragsdale
M. Burzminski
C. Kriston
J. Uhde
SCSC
M. Kunowski

License File
(95)

DEC 27 1985

General Electric Company
ATTN: Mr. Donald Simpson
Site Manager
Lexan Lane
Mt. Vernon, IN 47620

License No. 13-10455-01
License No. 13-10455-03

Gentlemen:

This refers to the routine safety inspection conducted by Mr. M. A. Kunowski of this office on December 11 and 13, 1985, of activities authorized by NRC Byproduct Material Licenses No. 13-10455-01 and No. 13-10455-03 and to the discussion of our findings with Messrs. David Perkins, Jerry Udhe, Thomas Drake, and Gary Motz at the conclusion of the inspection.

The inspection was an examination of activities conducted under your license as they relate to radiation safety and to compliance with the Commission's rules and regulations and with the conditions of your license. The inspection consisted of a selective examination of procedures and representative records, observations, independent measurements, and interviews with personnel.

During this inspection, certain of your activities appeared to be in violation of NRC requirements, as specified in the enclosed Notice. A written response is required.

The responses directed by this letter and the accompanying Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

D. G. Wiedeman
D. G. Wiedeman, Chief
Nuclear Materials Safety
Section 1

Enclosure: Notice of Violation

cc w/enclosure:
DCS/RSB (RIDS)

RIII
[Signature]
Kunowski/lid

YHS
RIII
[Signature]
Wiedeman
12/27/85

~~8601670157~~ X4

92
1/94

NOTICE OF VIOLATION

General Electric Company

License No. 13-10455-01
License No. 13-10455-03

As a result of the inspection conducted on December 11 and 13, 1985, and in accordance with the "General Policy and Procedures for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1985), the following violations were identified:

License No. 13-10455-01

1. License Condition 12, in part, requires that the licensee shall maintain records of the individuals who have been designated as authorized users by the licensee's Radiation Protection Officer.

Contrary to the above, records of designated individuals have not been maintained.

This is a Severity Level V violation (Supplement VI).

2. License Condition 13.A.(1), requires that sealed sources containing byproduct material be tested for leakage at intervals not to exceed three years.

Contrary to the above, the sealed sources in one Texas Nuclear gauge Model 5196 and four Texas Nuclear gauges Model 5178 in Ultem Building No. 47 were leak tested on June 10, 1981 and then on August 13, 1985 an interval exceeding three years.

This is a Severity Level IV violation (Supplement VI).

3. License Condition 18 requires that the licensee shall conduct a physical inventory every six months to account for all sealed sources received and possessed under the license.

Contrary to the above, a physical inventory has not been conducted every six months.

This is a Severity Level IV violation (Supplement VI).

License No. 13-10455-03

4. License Condition 17.A.(1) requires that sealed sources containing byproduct material be tested for leakage at intervals not to exceed six months.

Contrary to the above, the sealed sources in the two Hewlett Packard Model No. 5800 series gas chromatographs located in the Ultem Process Control Lab have not been tested for leakage.

This is a Severity Level IV violation (Supplement VI).

~~8/10/85~~ :A

5. License Condition 16 requires that the licensee conduct a physical inventory every six months to account for all gas chromatographs received and possessed under the license.

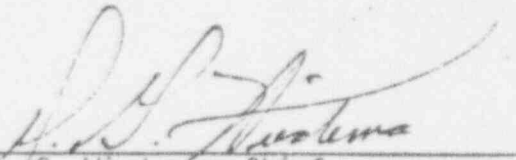
Contrary to the above, a physical inventory has not been conducted every six months.

This is a Severity Level IV violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each violation: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further violations; and (3) the date when full compliance will be achieved. Consideration may be given to extending your response time for good cause shown.

DEC 27 1985

Dated _____



D. G. Wiedeman, Chief
Nuclear Materials Safety
Section 1

REGION III
NUCLEAR MATERIALS SAFETY SECTION
INDUSTRIAL - ACADEMIC INSPECTION REPORT

Inspection Report No. 85-001

Licensee (Name and Address)

GENERAL ELECTRIC COMPANY
LEXAN LANE
MT. VERNON, IN 47620

Licensee Contact: TOM DRAKE
JERRY WADHE
License No. 13-10455-03
Last Amendment No. -
Category: K
Program Code: 312A

Telephone No. (812) 838-7285
Docket No. 30-18531
Date of Amendment: -
Priority: 7

Date of Inspection: DECEMBER 11 and 13, 1985

Type of Inspection: Announced Initial
 Unannounced Special
 Reinspection

Next Inspection ~~***~~ Normal Reduced Extended

Summary of Findings and Action:

No Noncompliance, Clear 591 issued Action on Previous N/C
 Noncompliance, 591 issued Regional Action
 Noncompliance, Appendix A HQ Action

Inspector: Michael Kunowski
(Signature)

December 19, 1985
(Date Signed)

Approved: [Signature]
(Signature)

12/20/85
(Date Signed)

4. INTERNAL AUDITS OR INSPECTIONS

a. Required by L/C or application: Yes No If "Yes":

V10
1

- 1) By whom _____
- 2) Frequency ~6 months Announced: _____ Unannounced: _____
- 3) Scope INVENTORY - license condition 16 requires a physical inventory every 6 months. Terry Wilke stated that one has never been performed?
- 4) Records maintained: Yes _____ No
- 5) Records reviewed: Yes _____ No
- 6) Period Reviewed: _____

b. Comments (responsibility of auditor or committee, management control):

Gas chromatographs are in at least two buildings - part number of G.C.s (with N-17 sources) is unknown. Several persons listed on license are no longer responsible for the G.C.s.

5. TRAINING, RETRAINING, AND INSTRUCTIONS TO WORKERS

a. Training program specified in L/C or application: Yes No

b. If training program is required, describe scope of program: _____

APPLICATION
3-7-83

LICENSEE COMMITTED THEMSELVES TO YEARLY TRAINING COURSE IN THE NEUTRON TRANSMISSION GAUGE. ~~THIS IS NOT BEING DONE.~~ HOWEVER, THIS DEVICE IS LICENSABLE AS A GENERAL LICENSED GAUGE.

c. Retraining required: Yes _____ No _____
If "Yes" is retraining: Complete _____ Incomplete _____

- 1) Are tests and/or examinations required: Yes _____ No _____
- 2) If "Yes" are records available: Yes _____ No _____
- 3) Reviewed test results: Yes _____ No _____
- 4) Period reviewed: _____
- 5) Comments (per cent completed, test results, etc.): _____

d. Training provided, but not covered above: _____

e. Instructions to workers in accord with 10 CFR 19.12: Yes No

6. RADIOLOGICAL PROTECTION PROCEDURES

a. Operating and Emergency Procedures

- 1) Required by L/C or application: Yes _____ No _____
- 2) Provided, but not required by L/C or application: Yes _____ No _____
- 3) Procedures reviewed: Yes _____ No _____
- 4) Appeared adequate: Yes _____ No _____
- 5) Comments (personnel's understanding of procedures): _____

✓ WILLIAM McNally - had been trained by the distributor of the neutron transmission gauge. DON VIVIANO is back at Tech for McNally and performs the leak tests on the gauge. Used of GSA and neutron gauge which aware that the manufacturer was to do repair and maintenance.

b. Changes in procedures since last inspection: Yes _____ No _____

- 1) Were changes authorized: Yes _____ No _____
- 2) Comments: _____

7. INSTRUMENTATION N/A

a. Type(s) of radiation survey instruments on hand as per L/C, application or equivalent: Yes _____ No _____

- 1) If "No" list changes: _____

b. Capability of radiation survey instruments adequate for program: Yes _____ No _____

c. Calibration of instruments required: Yes _____ No _____

d. If "Yes", instruments calibrated in accord with requirements:

Yes _____ No _____

- e. Comments: _____

8. MATERIALS

a. Radioactive material secured to prevent unauthorized removal from:

- 1) Restricted area: Yes _____ No _____
- 2) Unrestricted area (20.207): Yes No _____

b. Method of control appear adequate: Yes No _____

c. Comments: Security of facility - especially access - is strictly controlled. GC&P and the neutron gauge are in Red and QA labels with much other equipment.

9. FACILITIES

a. Facilities described in letter or application: Yes No _____

b. Facilities inspected: Yes No _____

c. Comments: _____

10. POSTING AND LABELING

a. Posting and labeling in accord with 10 CFR 20.203: Yes No _____

b. Comments: _____

11. RECEIPT AND TRANSFER OF MATERIAL *n/A*

a. Procedures for picking up and receiving packages (10 CFR 20.205[b][c]):
Yes _____ No _____

- 1) Incoming shipments monitored: Yes _____ No _____
- 2) Records of monitoring maintained (10 CFR 20.401[b]): Yes _____ No _____
- 3) Records reviewed by NRC inspector: Yes _____ No _____
- 4) Period reviewed: _____

b. Procedures for opening packages (10 CFR 20.205[d]): Yes _____ No _____

c. Comments: _____

- d. Records of receipt and transfer of material available (30.51[a]; 40.61[a]; 70.51[b][1]): Yes No
 - 1) If "Yes", review of records was made by inspector: Yes No
 - 2) Period reviewed: _____
 - 3) Comm: selective review of records for receipt and transfer for disposal or repair of GSA and the neutron gauge
- e. Packages on hand meet labeling requirements (49 CFR 173.399): N/A
 Yes No
 Comments: _____
- f. Reports to commission required by L/C or regulation submitted: N/A
 Yes No
 Comments: _____

12. PERSONNEL RADIATION PROTECTION - EXTERNAL N/A

- a. Film or TLD badge supplier _____
- b. Badge exchange frequency _____
- c. Reports reviewed by _____
- d. Records reviewed for period _____ to _____ by NRC inspector _____
- e. NRC forms or equivalent
 - 1) NRC-4 (20.102[b]): Yes No Complete: Yes No
 - 2) NRC-5 (20.401[a]): Yes No Complete: Yes No
 - Maximum whole body quarterly exposure: _____
 - Maximum extremity quarterly exposure: _____
 - 3) Comments: _____
- f. Pocket dosimeters used: Yes No
 - 1) Type used: _____
 - 2) Frequency of recharging: _____
 - 3) Frequency of reading: _____
 - 4) Comments: _____
- g. Direct radiation surveys of restricted and/or unrestricted areas being made: Yes No
 - 1) Records of surveys being maintained: Yes No
 - 2) Records of surveys reviewed: Yes No
 - 3) Period reviewed: _____
 - 4) Comments: _____

13. PERSONNEL RADIATION PROTECTION - INTERNAL *N/A*

- a. Potential for exposure of individuals to airborne radioactive material exists: Yes _____ No _____
 - 1) If "Yes" does program for monitoring and control exist: Yes _____ No _____
 - 2) Program for monitoring and control appears adequate: Yes _____ No _____

b. Comments: _____

- c. Respiratory protection program required by L/C or application: Yes _____ No _____
 - 1) If "Yes" were respiratory protection procedures reviewed: Yes _____ No _____
 - 2) Respiratory protection procedures appear adequate: Yes _____ No _____
 - 3) Comments: _____

- d. Bioassay program required: Yes _____ No _____
 - 1) If "Yes" was bioassay program reviewed: Yes _____ No _____
 - 2) Bioassay program appears adequate: Yes _____ No _____
 - 3) Comments: _____

- e. Smears and air samples:
 - 1) Monitoring for airborne radioactivity is conducted (20.103): Yes _____ No _____
 - a. Records of monitoring reviewed: Yes _____ No _____
 - b. Period reviewed: _____
 - c. Records of monitoring appears adequate: Yes _____ No _____
 - 2) Smear surveys being conducted (20.201.b): Yes _____ No _____
 - a. Records of smear surveys reviewed: Yes _____ No _____
 - b. Period reviewed: _____
 - c. Records appeared adequate: Yes _____ No _____
 - 3) Comments: _____

14. LEAK TESTS

- a. Leak tests required: Yes No _____ *every 6 months except if stored*
- b. If "Yes" leak tests conducted: Yes _____ No _____
- c. Records of leak tests maintained: Yes No
- d. Leak tests records reviewed: Yes No

- e. Period reviewed: _____
- f. Records of leak tests appear adequate: Yes _____ No _____
- g. Comments: _____

V10.

2 Hewlett Packard GCs model 5880 have not been leak tested according to Paul Hinderliter - 1 at local in Ulster Building (No. 47). One of these units has been in-use for four years. Dennis Carr - Lab lead in Lab Analytical R&D

15. RADIOACTIVE EFFLUENT CONTROL AND WASTE DISPOSAL N/A

- a. Byproduct material released to atmosphere and/or sewer (20.106 and 20.303):
Yes _____ No _____
- b. Records of releases or radioactive effluents maintained (20.401):
Yes _____ No _____
1) Period reviewed: _____
2) Records appear adequate: Yes _____ No _____
- c. Solid waste disposal method:
1) Records of disposal maintained (30.51): Yes _____ No _____
2) Surveys of waste prior to disposal made (20.201): Yes _____ No _____
3) Period reviewed: _____
4) Records of surveys appear adequate (20.401): Yes _____ No _____
- d. Comments: _____

✓ had leak test records for 2 Perkin Elmers and 1 Hewlett-Packard under his control. Records for leak test were maintained and indicated the proper frequency. Records dated from 6-79 to 11-85. A source from one of the Elmer-Perkin GCs had recently been transferred to Nuclear Sources and Services in Texas for disposal. Don Viviano, lab tech in Volox Analytical performs leak tests on the Neutron Transmission Gauge. He had records for leak tests and transfer for repairs.

INDUSTRIAL/ACADEMIC

16. TRANSPORTATION (10 CFR 71.5a and 49 CFR 171-178) Yes N/A Vio

- a. Licensee makes shipments of RAM? () () ()
 Such shipments are: *handled by manufacturers of equipment or*
 delivered to common carriers?
 transported in licensee's own vehicle as private *specifically licensed*
 carrier? *consultants*
 both?

If above is yes, complete items below:

- b. Are authorized packages used? [173.415-416] () () ()
 Package types used:
 DOT-7A, Type A [173.415(a)] () () ()
 performance test records on file?
 DOT-55 [173.416(a)] () () ()
 licensee aware of 6/30/85 cutoff on use?
 Excepted, Instruments/articles [173.421-424]
 LSA-strong tight [173.425(b)(1)]
 NRC-Certified [173.416(b)]
 NRC COC's on file? [71.12(c)(1)] () () ()
 Registered with NRC as user? [71.12(c)(3)] () () ()
 Documented NRC-Approved Q/A Program? [71.17(b)] () () ()
 NRC Q/A Approval No.: _____
 Other: _____
- c. Special Form Material performance test records available () () ()
 for each source design? [173.476(a)]
- d. Packages Labeled as required? [172.403(a)] () () ()
 Excepted WI VII VIII
 Surveys performed to select correct label () () ()
 category and compliance with Rad. Limits? [173.475(i)]
- e. Packages Marked as required, i.e., proper shipping () () ()
 name, ID No., Spec. No., COC No., etc. [172.300]
- f. Shipping papers prepared for each shipment? (172.200) () () ()
 Such papers contain required information? [172.203(d)] () () ()
- g. For Licensee private carrier shipments:
 Vehicles placarded as required? [172.500, 172.504 Table 1] () () ()
 Cargo blocked, braced, tied down in vehicle? [177.842(d)] () () ()
 Any incidents reported to DOT? [171.15-16] () () ()
- h. Does Licensee ship any radwaste? () () ()
 If yes, are shipments:
 tendered to common carriers by licensee? () () ()
 tendered through a Radwaste Broker? () () ()
 If yes, name of Broker _____
 Is licensee aware of 10 CFR 61 waste generator () () ()
 requirements? [10 CFR 61]
 Has licensee classified and characterized waste? () () ()
 [20.311(d)]

17. NOTIFICATIONS AND REPORTS

a. Licensee in compliance with 10 CFR 19.13 (reports to individuals):
Yes _____ No _____ *N/A*

b. Licensee in compliance with 10 CFR 20.405 (over exposure):
Yes _____ No _____ *N/A*

c. Licensee in compliance with 10 CFR 20.403 (incidents):
Yes No _____

d. Licensee in compliance with 10 CFR 20.402 (theft or loss):
Yes _____ No _____ *no inventory*

e. Comments _____

18. POSTING OF NOTICES

a. Licensee in compliance with 10 CFR 19.11(a) or (b): Yes _____ No

b. Licensee in compliance with 10 CFR 19.11(c): Yes _____ No

c. Comments: *one Form 1 in safety office. Several were given to BSO to distribute. Licensee also agreed to comply with 19.11(a) or (b)*

19. ENVIRONMENTAL MONITORING PROGRAM *N/A*

a. Environmental Monitoring Program required: Yes _____ No _____

b. If "Yes" records reviewed: Yes _____ No _____

c. Period reviewed: _____

d. Records appeared adequate: Yes _____ No _____

e. If Environmental Program is not required, briefly describe any existing program: _____

20. CONFIRMATORY MEASUREMENTS

a. Independent measurements made by inspector: Yes No

b. Comments (describe type, results, comparison with licensee results):

XETEX NAC 008370 S/N 8175 last calibrated 11-22-85
V exposure at 1 foot from GCs and Neutron Transmission Gauge is to 2 mR/hr

21. INDEPENDENT INSPECTION EFFORT

a. Comment on type of independent inspection effort conducted: _____

22. CONTINUATION FROM PREVIOUS PARAGRAPHS - USE BACK OF PAGE IF NECESSARY

NOTE:

✓ DON WYAND - lab tech in Valox Analytical Lab
(CPO Lab - Composite Polymer Operations) - CompuLab
Neutron Transmission Gauge

Dennis Cass - lab lead in Logan Analytical R & D
1 Hewlett Packard 5880 GC and 1 Perkin-Elmer
3920 GC

Paul Hindenlites - lab lead in Ultem Process Control Lab
(Building 47) - 2 Hewlett-Packard 5880

Hay Ragsdale - Manager of QA for Ultem - listed
on license as user but not involved currently



reuter-stokes instruments, inc.

File
(96)

Edison Park, 8499 Darrow Rd., Twinsburg Ohio 44087 • Telephone (216) 425-3755

INFORMATION NOTICE NUMBER 86-01 POTENTIAL LOSS OF SOURCE FROM SOURCE HOLDER

Addresses: All facilities having purchased an RSS-811 Safety-Ray and/or Safety-Ray Source holder prior to June, 1984.

Purpose: This information notice is provided to inform Safety-Ray owners that a potential problem could exist if proper maintenance procedures are not implemented to insure that the 1 curie Americium-241 source is secure in the source holder.

Description of Circumstances:

In July, 1986, we were informed that an Americium-241 gamma source of 1 curie activity became separated from the source holder, dropped into a scale tray, and was subsequently lost when the scale tray was cleaned out. It was later determined that the scale was ground up, and the source with it, and used as one of the ingredients to make cement clinker and, ultimately, Portland cement.

A review of the incident determined that the bolts securing the source had loosened due to roller vibration and had fallen out, thus releasing the cover and the source capsule. There was no evidence of the safety wire that had been fastened to the two bolts. It is presumed that the wire had either deteriorated over a period of time or was damaged by steel scrap or scale.

The incident occurred in an Australian mill that has been using four Safety-Ray units since 1979. Inspection of the other units showed one had very loose bolts and another had missing safety wire.

Suggested Corrective Action:

To safeguard against the potential loss of a Safety-Ray source it is recommended that they be inspected on a regular basis, no less often than once a month in an active mill, for loose bolts and broken or missing safety wire. During these inspections the source holder should be examined for other signs of mechanical or corrosive damage. Loose bolts should be tightened and missing or broken safety wire replaced. Inspection and maintenance on the source holder should be performed only by personnel trained in the safe handling of radioactive sources or as stipulated in the applicable Nuclear Regulatory Commission or Agreement State license.

An improved design source holder is available. For information call:

Mr. R. B. Speed
Reuter-Stokes Instruments, Inc.
Edison Park
8499 Darrow Road
Twinsburg, Ohio 44087
216/425-3755 or Tlx. 985253

23
a
CPS