

FACILITY ENGINEERING ASSOCIATES, P.C.

11001 LEE HIGHWAY, SUITE D
FAIRFAX, VIRGINIA 22030

703.591.4855
703.591.4857 FAX



January 27, 2005

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

SUBJECT: *Reply to Notice of Violation*
Docket No. 03033152
License No. 45-25247-01

Facility Engineering Associates, P.C. (FEA) is providing the following information in response to the Notice of Violation received from the United States Nuclear Regulatory Commission (NRC), dated December 27, 2004. The Notice related to four violations noted in an NRC inspection of FEA Enforcement Policy conducted on November 29, 2004.

These violations have occurred due to oversights on our part in observing the requirements of our license. We have taken steps to correct these oversights, as outlined below, and will be in full compliance by February 1, 2005.

The following represent our replies to the notice of violation:

A.1. Hazmat training in accordance with 49 CFR 172.702 and 174.704(c)(2) of employees who perform the functions subject to the requirements of 49 CFR Parts 171-177.

- Since the time of the violation, FEA has instituted a program of re-training personnel on hazmat transportation procedures on a three year basis as required. Currently two employees are trained and one is scheduled for re-training with Troxler on February 1, 2005. FEA has instructed all employees that the transportation of equipment shall be performed by those with current hazmat training. Full compliance has been achieved since November 29, 2004.

A.2. Shipping description as identified in Column 4 of the 172.101 Table on shipping paper of licensed material in accordance with 49 CFR 172.02(a) and (b).

- The shipping papers have been revised to state the correct identification number as stated in the Notice of Violation. The number was changed on the shipping papers in Column 4 of the 172.101 Table from UN2974 to UN3332 (see attached copy of revised Bill of Lading). Full compliance was achieved effective January 25, 2005.

B. Radiation protection program development, documentation, and implementation in accordance with 10CFR 20.1101 (a) and (c).

- FEA contacted Ms. Jenny Johansen of the NRC Region 1 office regarding this item. Ms. Johansen returned our call on January 24, 2005. Ms. Johansen referred us to NUREG - 1556, Vol. 1, Rev. 1, Appendix F. FEA has completed the Portable Gauge Audit Checklist from Appendix F (see attached). This Audit will be completed every 6-months in conjunction with leak testing. Full compliance was achieved effective January 25, 2005.

C. Leak testing of sealed sources in accordance with Conditions 13.A. and 13.C. of License No. 45-25247-01.

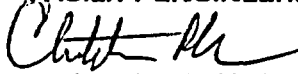
- FEA has a Troxler Model 3216 gauging device, not a Model 3214 as indicated. The Troxler Model 3216 has since been leak tested (see attached leak test results). Christopher Hodges (RSO) and Mike Thompson have noted the date of required leak testing on a 6 month basis or when the gauge is removed from storage for use. Full compliance was achieved effective December 3, 2004.

IED7

In summary, we have established a bi-annual gauge leak testing program that includes review of the above issues that will be enforced from this point forward. Please do not hesitate to contact us if you have any comments or questions with regard to the contents of this letter.

Very truly yours,

FACILITY ENGINEERING ASSOCIATES, P.C.



Christopher P. Hodges, P.E.
Principal

cc:

U.S. Nuclear Regulatory Commission, Region 1
ATTN: Regional Administrator
475 Allendale Road
King of Prussia, PA 19406-1415

TRANSPORTER:



FACILITY ENGINEERING ASSOCIATES, P.C.
11001 LEE HIGHWAY, SUITE D
FAIRFAX, VIRGINIA 22030
703.591.4855
703.591.4857 FAX

BILL OF LADING

**RQ, RADIOACTIVE MATERIAL, SPECIAL FORM, NOS, UN3332,
CLASS 7, TYPE "A" PACKAGE, CONTAINING:**

AM-241:Be, 40mCi

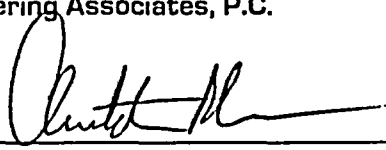
RADIOACTIVE YELLOW II LABEL, TI = 0.5

◆◆◆ **EMERGENCY CONTACT: (703) 591-4855** ◆◆◆

These is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Transporter: Facility Engineering Associates, P.C.

Radiation Safety Officer: _____



Christopher P. Hodges, P.E., R.R.C.

This Audit Form is based on Appendix F of NUREG – 1556, Vol. 1, Rev. 1.

Note: All areas indicated in audit notes may not be applicable to every license and may not need to be addressed during each audit.

Licensee's name: Facility Engineering Associates, P.C. License No. 45-25247-01

Auditor: C.P. Hodges Date of Audit 01/26/05 Telephone No. 703-591-4855


[Signature]

1. AUDIT HISTORY

- a. Last audit of this location conducted on? (date) Reference NRC Notice of Violation 12/27/04
- b. Were previous audits conducted yearly? [10 CFR 20.1101] Y__ N ☒
- c. Were records of previous audits maintained? [CFR 20.2102] Y__ N ☒
- d. Were any deficiencies identified during the last two audits or two years, whichever is longer? Y ☒ N__ Reference NRC Notice of Violation 12/27/04
- e. Were corrective actions taken? Y ☒ N__ (Look for repeated deficiencies)
Reference FEA Reply to Notice of Violation 01/27/05

2. ORGANIZATION AND SCOPE OF PROGRAM

- a. If the mailing address or places of use changed, was the license amended? Y__ N ☒
- b. If ownership changed or bankruptcy was filed, was prior NRC consent obtained or was NRC notified? Y__ N ☒
- c. Did the RSO change? Y__ N ☒ Name of new RSO _____
If the RSO was changed, was the license amended? Y__ N ☒ Does the new RSO meet NRC training requirements? Y__ N__
- d. Did the designated contact person for NRC change? Y__ N ☒ Name of new NRC contact? _____
If the designated contact person for NRC changed, was NRC notified? Y__ N ☒
- e. Does the license authorize all of the NRC-regulated radionuclides contained in the gauges possessed? Y ☒ N__
- f. Are the gauges as they are described in the Sealed Source and Device (SSD) Registration Certificate or Sheet? Y ☒ N__ Are copies of (or access to) SSD

Certificates available? Y ☒ N__ Does the license have the manufacturers' manuals for operation and maintenance? [10CFR 32.210] Y ☒ N__

g. Are the actual uses of gauges consistent with the authorized uses listed on the license? Y ☒ N__

h. Is the RSO fulfilling his/her duties? Y ☒ N__

3. TRAINING AND INSTRUCTIONS TO WORKERS

a. Were all workers who are likely to exceed 100 mrem/yr instructed per 10 CFR 19.12? Y ☒ N__ Was refresher training provided, as needed? Y ☒ N__

b. Did each gauge operator attend an approved course before using the gauges? Y ☒ N__

c. Are training records maintained for each gauge operator? Y ☒ N__

d. Did interviews with operators reveal that they know the emergency procedures? Y ☒ N__

e. Did this audit include observation of operators using the gauge in a field situation? Y ☒ N__ Performing routine cleaning and lubrication? Y ☒ N__ Transporting gauge? Y ☒ N__ Storing gauge? Y ☒ N__

f. Did the operator demonstrate safe handling and security during transportation, use and storage? Y ☒ N__

g. Was HAZMAT training (required at least once every three years) provided as required? [49 CFR 172.700, 49 CFR 172.701, CFR 172.702, 49 CFR 172.703, 49 CFR 172.704] Y__ N ☒ *Reference NRC Notice of Violation, 12/27/04*
Reference FEA Reply to Notice of Violation 01/07/05

4. RADIATION SURVEY INSTRUMENTS

a. If the licensee possesses its own survey meter, does the survey meter meet NRC's criteria? Y__ N__ *N/A*

b. If the licensee does not possess a survey meter, are specific plans made to have one available? Y__ N__ *N/A*

c. Is the survey meter needed for non-routine maintenance calibrated as required? [10 CFR 20.1501] Y__ N__ *N/A*

d. Are calibration records maintained? [10 CFR 20.2103 (a)] Y__ N__ *N/A*

5. GAUGE INVENTORY

- a. Is a record kept showing the receipt of each gauge? [10 CFR 30.51(a)(1)] Y ☒ N ☐
- b. Are all gauges received physically inventoried every 6 months? Y ☒ N ☐
- c. Are records of inventory results with appropriate information maintained? Y ☒ N ☐

6. PERSONNEL RADIATION PROTECTION

- a. Are ALARA considerations incorporated into the radiation protection program? [10 CFR 20.1101(b)] Y ☒ N ☐
- b. Is documentation kept showing that unmonitored users receive less than 10 percent of limit? Y ☒ N ☐
- c. Did unmonitored users' activities change during the year which could put them over 10 percent of limit? Y ☐ N ☒
- d. If yes to c. above, was a new evaluation performed? Y ☐ N ☒ N/A
- e. Is external dosimetry required (user receiving greater than 10 percent of limit)? Y ☐ N ☒ Is dosimetry provided to users? Y ☐ N ☒
- i. Is the dosimeter supplier NVLAP – approved? [10 CFR 20.1501(c)] Y ☐ N ☒ N/A
- ii. Are the dosimeters exchanged monthly for film badges and at the industry-recommended frequency for TLDs? Y ☐ N ☒ N/A
- iii. Are dosimetry reports reviewed by the RSO when they are received? Y ☐ N ☒ N/A
- iv. Are the records NRC forms or equivalent? [10 CFR 20.2104(d), 10 CFR 20.2106(c)] Y ☐ N ☒ N/A
- NRC-4 "Cumulative Occupational Exposure History" completed? Y ☐ N ☒ N/A
 - NRC-5 "Occupational Exposure Record for a Monitoring Period" completed? Y ☐ N ☒ N/A
- v. If a worker declared her pregnancy, did licensee comply with 10 CFR 20.1208? Y ☐ N ☐ Were records kept of embryo/fetus dose per 10 CFR 20.2106(e)? Y ☐ N ☒ N/A

- f. Are records of exposures, surveys, monitoring, and evaluations maintained? [10 CFR 20.2103, 10 CFR 20.2106] Y__ N__ *N/A*

7. PUBLIC DOSE

- a. Are gauges stored in a manner to keep doses below 100 mrem in a year? [10 CFR 1301 (a)(1)] Y ☒ N__
- b. Has a survey or evaluation been performed per 10 CFR 20.1501(a)? Y ☒ N__
Have there been any additions or changes to the storage, security, or use of surrounding areas that would necessitate a new survey or evaluation? Y__ N ☒
- c. Do unrestricted area radiation levels exceed 2 mrem in any one hour? [10 CFR 20.1301(a)(2)] Y__ N ☒
- d. Are gauges being stored in a manner that would prevent unauthorized use or removal? [10 CFR 20.1801] Y ☒ N__
- e. Are records maintained? [10 CFR 20.2103, 10 CFR 20.2107] Y ☒ N__

8. OPERATING AND EMERGENCY PROCEDURES

- a. Have operating and emergency procedures been developed? Y ☒ N__
- b. Do they contain the required elements? Y ☒ N__
- c. Does each operator have a current copy of the operating and emergency procedures, including current telephone numbers? Y ☒ N__

9. LEAK TESTS

- a. Was each sealed source leak tested every 6 months or at other prescribed intervals? Y__ N ☒ *Reference NRC Notice of Violation 12/27/04*
Reference EPA Reply to Notice of Violation 01/27/05
- b. Was the leak test performed as described in correspondence with NRC and according to the license? Y ☒ N__
- c. Are records of results retained with the appropriate information included? Y ☒ N__
- d. Were any sources found leaking Y__ N ☒ and if yes, was NRC notified? Y__ N__ *N/A*

10. MAINTENANCE OF GAUGES

- a. Are manufacturer's procedures followed for routine cleaning and lubrication of the gauges? Y ☒ N__

- b. Does the source or source rod remain attached to the gauge during cleaning? Y ☒ N ☐
- c. Is non-routine maintenance performed where the source or source rod is detached from the gauge? Y ☐ N ☒ If yes, was it performed according to license requirements (e.g., extent of work, individuals performing the work, procedures, dosimetry, survey instrument, compliance with 10 CFR 20.1301 limits)? Y ☐ N ☒ N/A

11. TRANSPORTATION

- a. Were DOT-7A or other authorized packages used? [49 CFR 173.415, 49 CFR 173.416(b)] Y ☒ N ☐
- b. Are package performance test records on file? Y ☒ N ☐
- c. Are special form sources documented? [49 CFR 173.476(a)] Y ☒ N ☐
- d. Did the package have 2 labels (ex. Yellow-II) with TI, Nuclide, Activity, and Hazard Class? [49 CFR 172.403, 49 CFR 173.441] Y ☒ N ☐
- e. Was the package properly marked? [49 CFR 172.301, 49 CFR 172.304, 49 CFR 172.310, 49 CFR 172.324] Y ☒ N ☐
- f. Was the package closed and sealed during transport? [49 CFR 173.475(f)] Y ☒ N ☐
- g. Were shipping papers prepared and used? [49 CFR 172.200(a)] Y ☒ N ☐
- h. Did the shipping papers contain proper entries (Shipping Name, Hazard Class, Identification Number [UN Number], Total Quantity, Package Type, Nuclide, RQ, Radioactive Material, Physical and Chemical Form, Activity, Category of Label, TI, Shipper's Name, Certification and Signature, Emergency Response Phone Number, Cargo Aircraft Only [if applicable])? [49 CFR 172.200, 49 CFR 172.201, 49 CFR 172.202, 49 CFR 172.203, 49 CFR 172.204, 49 CFR 172.604] Y ☐ N ☒ List any exceptions UN Number incorrect, has been revised
- i. Were the shipping papers within the driver's reach and readily accessible during transport? [49 CFR 177.834] Y ☒ N ☐
- j. Was the package secured against movement? [49 CFR 177.834] Y ☒ N ☐
- k. Was the vehicle placarded, if needed? [49 CFR 172.504] Y ☐ N ☒
- l. Were overpacks, in needed, used properly? [49 CFR 173.25] Y ☐ N ☒
- m. Were any incidents reported to DOT? [49 CFR 171.15, 16] Y ☐ N ☒

12. AUDITOR'S INDEPENDENT SURVEY MEASUREMENTS (IF MADE)

- a. Describe the type, location, and results of measurements. Do any radiation levels exceed regulatory limits? Y__ N✓ Description: _____

13. NOTIFICATION AND REPORTS

- a. Was any radioactive material lost or stolen? Y__ N✓ Were reports made? [10 CFR 19.11] Y__ N__
- b. Did any reportable incidents occur? Y__ N✓ Were reports made? [10 CFR 20.2202, 10 CFR 30.50] Y__ N✓
- c. Did any overexposure and high radiation levels occur? Y__ N✓ Were they reported? [10 CFR 20.2203, 10 CFR 30.50] Y__ N✓
- d. If any events (as described in items a through c above) did occur, what was the root cause? _____
Were the corrective actions appropriate? Y__ N__
- e. Is the licensee aware of the telephone number for the NRC Emergency Operations Center? [(301) 816-5100] Y✓ N__

14. POSTING AND LABELING

- a. Is NRC-3 "Notice to Workers" posted? [10 CFR 19.11] Y✓ N__
- b. Are NRC regulations and license documents posted or is a notice posted stating where these documents are located? [10 CFR 19.11, 10 CFR 21.6] Y✓ N__
- c. Is there any other posting and labeling? [10 CFR 20.1902, 10 CFR 20.1904] Y__ N✓

15. RECORDKEEPING FOR DECOMMISSIONING

- a. Are records kept of information important to decommissioning? [10 CFR 30.35(g)] Y__ N✓
- b. Do records include all information outlined? [10 CFR 30.35(g)] Y__ N✓

16. BULLETINS AND INFORMATION NOTICES

- a. Are NRC bulletins, NRC Information Notices, and NMSS Newsletters, received?
Y ☒ N ☐
- b. Is appropriate training and action taken in response? Y ☒ N ☐

17. SPECIAL LICENSE CONDITION OR ISSUES

- a. Did the auditor review special license conditions or other issues (e.g., non-routine maintenance)? Y ☒ N ☐

18. DEFICIENCIES IDENTIFIED IN AUDIT; CORRECTIVE ACTIONS

- a. Summarize problems and/or deficiencies identified during the audit.

Reference NRC Notice of Violation Dated 12/27/04

Refer

- b. If problems and/or deficiencies were identified in this audit, describe the corrective actions planned or taken. Are corrective actions planned or taken at ALL licensed locations (not just location audited)? Y ☒ N ☐

Reference FEA Reply to Notice of Violation Dated 01/27/05

- c. Provide any other recommendations for improvement.

19. EVALUATION OF OTHER FACTORS

- a. Is senior licensee management appropriately involved with the radiation protection program and/or RSO oversight? Y ☒ N ☐
- b. Does RSO have sufficient time to perform his/her radiation safety duties? Y ☒ N ☐
- c. Does licensee have sufficient staff to support the radiation protection program?
Y ☒ N ☐



3008 Cornwallis Rd. P. Box 12057 Research Triangle Park,
No. Carolina 27709, U.S.A.

Device - Model # 3216, Serial # 205
Source(s) - Serial # 46-1497, Radionuclide Am 241 Be
Serial # _____, Radionuclide _____
Date of Test: 12-1-2004

Please print legibly and firmly. This is your return address label.

- Facility Engineering Associates
- 11001 LEE Highway, Suite D
- FAIRFAX, VA 22030

Your Name: Michael P. Thompson
Telephone: (703) 591-4855

CUSTOMER RECEIPT

LEAK TEST ANALYSIS

This certifies that the sample accompanying this form has been analyzed using an approved monitoring method that measures both beta/gamma & alpha contamination; and, that the results of this analysis shows the removable activity to be less than 0.005 microcuries.

**Troxler Electronic Laboratories, Inc.**

3008 Cornwallis Rd., P.O. Box 12057
Research Triangle Park, NC 27709
Tel: (877) 876-9537 Fax: (919) 485-2250

License: NC 032-0182-1

LEAK TEST CERTIFICATE**DEVICE:**

Model: 3216

Serial No: 205

SEALED SOURCES:

SERIAL NO.	MEASURE DATE	NUCLIDE	ACTIVITY	
			(GBq)	(mCi)
46-1497	7/11/1983	AM-241:BE	1.48	40

LEAK TEST ANALYSIS:

Sample collected on: 12/01/2004

Sample analyzed on: 12/03/2004 at 10:21:00 AM

Analyzed by: J.OLSEN

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.30E+01	2.09E+01
Background measurement (cpm)	0	24
Sample measurement (cpm)	0	20
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	.44E-01	1.2E+00

This certifies that the above leak test results are:

☒ Less than 185 Bq (0.005 uCi)

☐ Greater than 185 Bq (0.005 uCi)

If greater than 185 Bq (0.005 uCi):

Person Notified _____ Date _____

Phone _____ and/or Fax _____