

*antillean engineers incorporated*

P.O. Box 3023  
No. 1-B Clifton Hill  
St. Croix, VI 00851  
Phone/Fax 340-778-8828

January 8, 2011

Mrs. Marie Miller, Chief  
Security and Industrial Branch  
Division of Nuclear Materials Safety  
U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406-1415  
800-432-1156  
Fax 610-337-5269 or 610-337-5393

55-23507-01

2011 JAN 13 AM 11:22  
RECEIVED  
REGION I

Re: NRC INSPECTION REPORT NO. 03022286/2010001, ANTILLEAN ENGINEERS, INC., ST. CROIX, VIRGIN ISLANDS SITE AND NOTICE OF VIOLATION

Dear Mrs. Miller:

I am in receipt of your NOTICE OF VIOLATION of December 13, 2010.

After several conversations with Mr. Craig Gordon of your office we have undertaken measures to eliminate the violations. Mr. Gordon has been very helpful and directed us to the necessary NRC publications which assisted us in implementing the required measures.

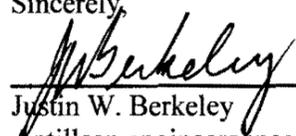
We have implemented the following changes to remove the violations and ensure continued compliance with NRC's Regulations:

- 1) We have prepared a review of the radiation safety program content and implementation and sent it to Mr. Gordon.
- 2) We have obtained a valid NRC license for the possession of two Troxler Model 3400 series gauges (see attached).
- 3) All authorized users have received HAZMAT training from Mr. David Rhoe, Environmental Physicist (787-292-7976 Paseo de la Fuente, Calle D-4 Calle Tivoli, San Juan PR 00926-6459 [crmidmr@aol.com](mailto:crmidmr@aol.com)).
- 4) Utilization logs that include the date of use and names of authorized users who will be responsible for the gauge have been prepared (see attached).
- 5) Leak test have recently been performed by Mr. David Rhoe. Leak tests will be performed on a six month basis by Mr Rhoe.
- 6) Calibration of our Geiger counter will also be performed by Mr. David Rhoe.

NMCC/ONI MATERIALS-034

If you need any further information, please contact me at (340)-778-8828. or  
justinb@islands.vi

Sincerely,

  
Justin W. Berkeley  
Antillean engineers incorporated  
Justin W. Berkeley, P.E...  
President

*antillean engineers incorporated*

P.O. Box 3023  
No. 1-B Clifton Hill  
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November 2, 2010

Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406  
800-432-1156  
Fax 610-337-5269 or 610-337-5393

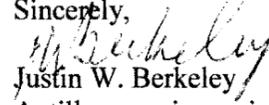
Amendment to NRC license 55-23507-01

Dear Sir or Madam:

1. Please amend our NRC license 55-23507-01 to include two Troxler 3400 series nuclear gauges.
2. Please amend our NRC license 55-23507-01 to remove one CPN Model No. CPN-131 nuclear gauge.
3. Please place a rush on this amendment.
4. Please fax a copy to David Rhoe (787-292-7976) and Antillean Engineers Inc. (340-778-8828) so he may arrange for the proper shipment of these two machines to our facility.

If you need any further information, please contact me at (340)-778-8828.

Sincerely,

  
Justin W. Berkeley  
Antillean engineers incorporated  
Justin W. Berkeley, P.E...  
President

The following is based on Portable Gauge Licenses, NUREG 1556 Vol 1, November 2001, Appendix B

Item 5 and 6: Materials to be Possessed and Proposed Uses

Radioisotope	Manufacturer	Quantity	Use as Listed on SSD Certificate	Other Uses Not Listed on SSD Certificate
Cs-137	Device manufacturer: Troxler Electronic Laboratories, Inc.  Model(s): 3440	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate.  Cs-137 8 mCi/gauge 16 mCi total  Am-241/Be 40 mCi/gauge 80 mCi total	Yes  To measure the densities of materials.	Not Applicable

Appendix F  
Portable Gauge Audit Checklist

APPENDIX F

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: Antillean Engineers Inc.  
License No. 55-23507-01  
Auditor: Justin W. Berkeley  
Date of Audit November 11, 2010  
Telephone No. 340-778-8828

(Signature)

1.

AUDIT HISTORY

a.

Last audit of this location conducted on (date) N/A.

b.

Were previous audits conducted yearly? No.

c.

Were records of previous audits maintained? No.

d.

Were any deficiencies identified during the last two audits or two years, whichever is longer? N/A

e.

Were corrective actions taken? (Look for repeated deficiencies). N/A

2.

ORGANIZATION AND SCOPE OF PROGRAM

a.

If the mailing address or places of use changed, was the license amended? N/A

b.

If ownership changed or bankruptcy was filed, was prior NRC consent obtained or was NRC notified? N/A

c.

If the RSO was changed, was the license amended? Does the new RSO meet NRC training requirements? N/A

d.

If the designated contact person for NRC changed, was NRC notified? N/A

e.

Does the license authorize all of the NRC-regulated radionuclides contained in the gauges possessed? Yes

f.

Are the gauges as they are described in the Sealed Source and Device (SSD) Registration Certificate or Sheet? Yes

Are copies of (or access to) SSD Certificates available? Yes

Does the licensee have the manufacturers' manuals for operation and maintenance? Yes

g.

Are the actual uses of gauges consistent with the authorized uses listed on the license?

Yes

h.

Is the RSO fulfilling his/her duties? Yes

3.

#### TRAINING AND INSTRUCTIONS TO WORKERS

a.

Were all workers who are likely to exceed 100 mrem/yr instructed. Yes

Was refresher training provided, as needed? Yes

b.

Did each gauge operator attend an approved course before using the gauges? Yes

c.

Are training records maintained for each gauge operator? Yes

d.

Did interviews with operators reveal that they know the emergency procedures? Yes

e.

Did this audit include observation of operators using the gauge in a field situation? Yes

Operating gauge? Yes

Performing routine cleaning and lubrication? Transporting gauge? Yes

Storing gauge? Yes

f.

Did the operator demonstrate safe handling and security during transportation, use, and storage? Yes

g.

Was HAZMAT training (required at least once every three years) provided as required?

Yes

4.

#### RADIATION SURVEY INSTRUMENTS

a.

If the licensee possesses its own survey meter, does the survey meter meet NRC's criteria? Yes

b.

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

c.

Is the survey meter needed for non-routine maintenance calibrated as required? *To be calibrated. (Ship to David Rhoe)*

d.

Are calibration records maintained? *No. Will maintain calibration records in future*

5.

GAUGE INVENTORY

a.

Is a record kept showing the receipt of each gauge? Yes

b.

Are all gauges received physically inventoried every 6 months? Yes

c.

Are records of inventory results with appropriate information maintained? Yes

6.

PERSONNEL RADIATION PROTECTION

a.

Are ALARA considerations incorporated into the radiation protection program? Yes

b.

Is documentation kept showing that unmonitored users receive less than 10 percent of limit? *No. To be implemented*

c.

Did unmonitored users' activities change during the year which could put them over 10 percent of limit? No

d.

If yes to c. above, was a new evaluation performed?

e.

Is external dosimetry required (user receiving greater than 10 percent of limit)? Yes

Is dosimetry provided to users? Yes

i.

Is the dosimetry supplier NVLAP-approved? Yes

ii.

Are the dosimeters exchanged monthly for film badges and at the industry-recommended frequency for TLDs? Quarterly

iii.

Are dosimetry reports reviewed by the RSO when they are received? Yes

iv.

Are the records NRC forms or equivalent? Yes

NRC-4 "Cumulative Occupational Exposure History" completed? Yes

NRC-5 "Occupational Exposure Record for a Monitoring Period" completed? Yes

v.

If a worker declared her pregnancy, did licensee comply with 10 CFR 20.1208?

Were records kept of embryo/fetus dose per 10 CFR 20.2106(e)? N/A

f.

Are records of exposures, surveys, monitoring, and evaluations maintained? Yes

7. PUBLIC DOSE

a.

Are gauges stored in a manner to keep doses below 100 mrem in a year? Yes

b.

Has a survey or evaluation been performed per 10 CFR 20.1501(a)? Yes  
Have there been any additions or changes to the storage, security, or use of surrounding areas that would necessitate a new survey or evaluation? No.

c.

Do unrestricted area radiation levels exceed 2 mrem in any one hour? No.

d.

Are gauges being stored in a manner that would prevent unauthorized use or removal?

Yes

e.

Are records maintained? Yes

8.

#### OPERATING AND EMERGENCY PROCEDURES

a.

Have operating and emergency procedures been developed? Yes

b.

Do they contain the required elements? Yes

c.

Does each operator have a current copy of the operating and emergency procedures, including current telephone numbers? Yes

9.

#### LEAK TESTS

a.

Was each sealed source leak tested every 6 months or at other prescribed intervals?

Annually

b.

Was the leak test performed as described in correspondence with NRC and according to the license? Annually by CPN. Future tests to be performed by Environmental Physicist David Rhoe

c.

Are records of results retained with the appropriate information included? Yes

d.

Were any sources found leaking and if yes, was NRC notified? No leaks found

#### 10. MAINTENANCE OF GAUGES

a.

Are manufacturer's procedures followed for routine cleaning and lubrication of the gauge? Yes

b.

Does the source or source rod remain attached to the gauge during cleaning? Yes

c.

Is non-routine maintenance performed where the source or source rod is detached from the gauge? No. 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)? N/A

11. TRANSPORTATION

- a. Were DOT-7A or other authorized packages used? Yes
- b. Are package performance test records on file? No.
- c. Are special form sources documented? No
- d. Did the package have 2 labels (ex. Yellow-II) with TI, Nuclide, Activity, and Hazard Class? Yes
- e. Was the package properly marked? Yes
- f. Was the package closed and sealed during transport? Yes
- g. Were shipping papers prepared and used? Yes
- 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])? Yes
- i. Were the shipping papers within the driver's reach and readily accessible during transport? Yes
- j. Was the package secured against movement? Yes
- k. Was the vehicle placarded, if needed? Yes
- l. Were overpacks, if needed, used properly? No
- m. Were any incidents reported to DOT? N/A

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

- a. Describe the type, location, and results of measurements. Do any radiation levels exceed regulatory limits? No

13. NOTIFICATION AND REPORTS

- a. Was any radioactive material lost or stolen? No. Were reports made? N/A
- b. Did any reportable incidents occur? No. Were reports made? N/A
- c.

Did any overexposures and high radiation levels occur? No. Were they reported? N/A

d.

If any events (as described in items a through c above) did occur, what was the root cause? None

Were the corrective actions appropriate? N/A

e.

Is the licensee aware of the telephone number for the NRC Emergency Operations Center? Yes

[(301) 816-5100]

#### 14. POSTING AND LABELING

a.

Is NRC-3 "Notice to Workers" posted? Yes

b.

Are NRC regulations and license documents posted or is a notice posted stating where these documents are located? Yes

c.

Is there any other posting and labeling? No.

#### 15. RECORDKEEPING FOR DECOMMISSIONING

a.

Are records kept of information important to decommissioning? Yes

b.

Do records include all information outlined? Yes

#### 16. BULLETINS AND INFORMATION NOTICES

a.

Are NRC bulletins, NRC Information Notices, and NMSS Newsletters, received? Yes

b.

Is appropriate training and action taken in response? Yes

#### 17. SPECIAL LICENSE CONDITIONS OR ISSUES

a.

Did the auditor review special license conditions or other issues (e.g., non-routine maintenance)? Yes

#### 18. DEFICIENCIES IDENTIFIED IN AUDIT; CORRECTIVE ACTIONS

a.

Summarize problems and/or deficiencies identified during the audit. *Lack of Nuclear Gauge IN/OUT Utilization Log. Utilization Logs have now been put into effect.*

b.

If problems and/or deficiencies were identified in this audit, describe the corrective actions planned or taken. *Nuclear Gauge IN/OUT Utilization Log has now been put into effect.*

Are corrective actions planned or taken at ALL licensed locations (not just

location audited)? Yes

c.

Provide any other recommendations for improvement. *Perform more frequent reviews of dosimeter data and increase frequency of leak tests to semi-annual. Perform regular radiation measurements using in-house radiation survey meter. Increase frequency of staff meetings concerning use of gauges and radiation safety.*

#### 19. EVALUATION OF OTHER FACTORS

a.

Is senior licensee management appropriately involved with the radiation protection program and/or RSO oversight? Yes

b.

Does RSO have sufficient time to perform his/her radiation safety duties? Yes

c.

Does licensee have sufficient staff to support the radiation protection program? Yes

## Standard Operating Procedures for Portable Gauge Users

Purpose: To ensure the safe use and handling of the portable gauge.

Effective Date: July 1, 1999

Revision Date: July 1, 2009

Due date: July 1, 2010

Responsibility:

- 1. While transporting a Nuclear Gauge, you can not stop at any other location except the job site, gasoline, and having lunch. While have lunch, you must have your vehicle is visual site at all times.**
- 2. Inform the Radiation Safety Officer if you are unable to fulfil your responsibilities or have concerns before handling a portable gauge.**
3. Employee must wear their film badge to work before handling a portable gauge. The film badge must be store in a safe place. Do not leave it in your vehicle or send it through the wash. Do not let it near the portable gauge.
4. Sign the daily logbook (see attached form) for the portable gauge that will be removed from storage. Do not sign a gauge out that you do not know how to use.
5. Inspect the case for cracks and illegible, worn or missing labels.  
If the case is cracked or the labels are illegible, worn or missing, notify the Radiation Safety Officer.
6. Verify that the SOP's are with the unit.
- 7. Verify that the calibration sheets and leak test results are inside the case.**
- 8. Verify that the shipping papers are filled out correctly and the emergency procedures are attached (three pages). Two copies must be present. One copy must be in the reach of the driver at all times. And that copy must be return to storage at the end of the day.**
9. Load and secure the gauge in the vehicle.

- The gauge must be locked
- The case must be locked
- The case locked to the vehicle. The case lock and the lock to the vehicle **must be two different locks**.
- After each measurement, return the source to the shielded position.

**10. Brace the case inside the vehicle so it cannot move in transit.**

11. The vehicle must meet DOT regulations. Brakes, tires, emergency parking, etc.

#### At the job site:

**12. Do not leave the unit out of visual site.**

13. When the gauge is not in use, keep it secured in the vehicle.

14. Maintain ALARA by using time, distance, and shielding.

**15. Avoid unnecessary exposure.**

**16. Keep the curious away from the gauge.**

17. Do the maintenance in an open area. Do not expose yourself or other people when cleaning the unit.

#### At the end of the day:

18. Secure the unit in the storage room.

19. Sign the daily logbook for the portable gauge that was returned to storage.

20. Notify the Radiation Safety Officer of any problems with the unit.

#### Additional responsibilities:

21. Maintain a copy of your training records at home.

22. Attend all training sessions i.e. Radiation Safety, HAZMAT, etc.

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No. 1-B Clifton Hill  
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Phone/Fax 340-778-8828

January 8, 2011

Mr. David Rhoe  
Environmental Physicist  
Paseo de la Fuente  
Calle D-4  
Calle Tivoli  
San Juan PR 00926-6459

Re: Calibration of MC1K Geiger counter

Dear Mr. Rhoe

Attached please find our MC1K Geiger Counter for calibration as previously discussed. I have advised the NRC that you will be conducting calibrations for Antillean on a regular basis.

If you need any further information, please contact me at (340)-778-8828. or [justinb@islands.vi](mailto:justinb@islands.vi)

Sincerely,

  
Justin W. Berkeley  
Antillean Engineers Incorporated  
Justin W. Berkeley, P.E...  
President

