

June 7, 2012

Attn: Mr. Randy Ragland
NRC Region 1
Division of Nuclear Material Safety
2100 Renaissance Blvd.
King of Prussia, PA 19046

RECEIVED
REGION 1
2012 JUN 12 AM 7:42

Subject: INCIDENT REPORT

Dear Mr. Ragland:

The following is the sequence of events which occurred on June 4, 2012.

- A bulldozer operated by Green River Group damaged a TRIAD Engineering, Inc. (TRIAD) portable nuclear gauge at 2:41pm.
- Mr. William ("Buzz") Rausch, Engineering Technician with TRIAD, stated that he had just completed a compaction test and had moved the gauge approximately ten feet to start to a new test. As he was placing the gauge in the new location, a bulldozer began to move towards him until it ran the blade of the bulldozer into the portable nuclear gauge that was located on the ground in the locked position. The bulldozer dragged the gauge a couple of feet. The bulldozer had also come within a couple of feet from hitting him.
- After the bulldozer operator had notice that he lost visual contact with Mr. Rausch, he stopped the bulldozer. Mr. Rausch informed the bulldozer operator what had occurred and asked him to stop operations. However, construction activities did not cease and Mr. Rausch was forced to move the gauge from the exact incident location.
- Mr. Rausch called Mrs. Lydia Work, TRIAD's Northwest Regional Manager, at approximately 3:00pm to inform her of the incident and that he could not get the bulldozer to stop work activities.
- Mrs. Work informed Ms. Julie Szymanek, TRIAD's Northwest Regional Radiation Safety Officer (RSO), and Mr. Roger Simar, supervisor for Mr. Rausch, that a portable nuclear gauge had been hit by a bulldozer on a construction site in Fairmont, West Virginia near the ISR Building.
- Ms. Jane Hicks, TRIAD's Project Manager, telephoned Mr. Don Casteel, Green River Group Site Superintendant, and informed him of the incident and requested job activities to stop immediately and then Ms. Hicks called Mr. Carson, General Dynamics Site Supervisor, and informed him of the incident.
- Ms. Szymanek and Mr. Simar obtained a 55-gallon steel drum, camera, caution tape, measuring tape, Radiation Alert® Monitor 4 (Serial number 44865), and personal protective equipment and

NMSS/RGNI MATERIALS-004

drove to the construction site. The Radiation Alert had been calibrated per NRC Regulation 10-CFR-34 & 10 CFR 35 on January 30, 2012.

The following sequence of event occurred at the scene of the incident:

- *3:30pm:* Mr. Johnny Carson and Mr. Rausch met Ms. Szymanek and Mr. Simar at the construction site. Mr. Rausch informed Ms. Szymanek and Mr. Simar of the events that had led up to the portable nuclear gauge incident.
- *3:40pm:* Ms. Szymanek took the monitor and surveyed the following areas:
 - the bulldozer (specifically, where the gauge was hit and part that hit the gauge);
 - the area the bulldozer was working after it hit the gauge;
 - the gauge;
 - the perimeter surrounding the gauge (zero to ten feet);
 - the area the gauge was placed on the ground after it was hit.

No readings were detected four feet or greater from the portable nuclear gauge. Therefore, caution tape was placed approximately ten feet around the perimeter of the gauge. Readings on the surface of the gauge where the damage had occurred were 10 mR/hr, readings were 0.3 mR/hr at approximately one (1) foot away from the gauge, and readings were 0.1 mR/hr at approximate three (3) feet away from the gauge. Visual observations were made of the damaged portable nuclear gauge. The gauge was in the locked position and the source appeared to be in good condition with no signs of damage. The only damage appeared to be on the exterior housing of the gauge. The shield was still intact. The portable nuclear gauge is Model 3430, Gauge Serial Number 32412 with a Transport Index of 0.3 mR/hr. Refer to attached photographs.

- *3:50pm:* Ms. Szymanek contacted Mr. John ("Jobe") Hope, TRIAD's Corporate RSO. Mr. Hope stated he would contact Troxler to determine the next appropriate actions based on the monitor readings.
- *4:20pm:* Ms. Szymanek contacted the NRC Region II (1-800-577-8510). Ms. Szymanek was forward to Hector with the Medical Division and was told to contact Troxler.
- *4:30pm:* Ms. Szymanek contacted Troxler (1-919-549-9539). Ms. Robin Myers stated that 10 mR/hr near the back of the gauge was normal readings and not evident of leaking based on the operator's manual. Ms. Myers also stated that since the readings were below the Transport Index of 0.3 at 1 meter (~3.2 feet) that is was safe to transport back to the TRIAD's Morgantown office. Ms. Myers also stated that a leak test would need to be performed and pictures taken of the gauge before it is sent for repair. Mr. Simar and Mr. Rausch had placed the gauge back in the shipping case and into a 55-gallon drum. No readings were detected outside of the drum or on the ground where the gauge was staged after the incident. (Please note: According to the Operator's Manual for gauge, normal readings at the surface of the gauge on the back is 26 mR/hr.)

- 4:48pm: Mr. Randy Ragland (610-337-5083) with the NRC called Ms. Szymanek to get a summary of the actions that were performed to ensure proper procedures were completed in removing the gauge from the site. Mr. Ragland informed Ms. Szymanek that if any safety devices were observed to be damaged that TRIAD would have to report the incident to the main headquarters within 24 hours with a written statement within 30 days. Ms. Szymanek stated that no safety devices appeared to be damaged and based on conversations with Ms. Myers the gauge was safe to transport off-site.
- 5:25pm: Ms. Szymanek called Mr. Hope and informed him of the actions taken. He agreed based on a conversation he had with Troxler that the proper steps were performed.
- 5:30pm: Ms. Szymanek and Mr. Rausch met with Mr. Carson in the job site trailer to complete an incident report.
- 6:00pm: Ms. Szymanek and Mr. Simar left the construction site and returned the gauge to the appropriate storage room.
- June 5, 2012 at 9:30am, the portable gauge was re-inspected. Safety devices including the shielding were intact and a leak test was performed.
- June 7, 2012, the leak test was returned from Troxler and the leak test confirmed the gauge is not leaking. Refer to attached leak test.

Sincerely,

TRIAD ENGINEERING, INC.



Julie Szymanek
Northwest Regional RSO
Health and Safety Coordinator
Project Scientist



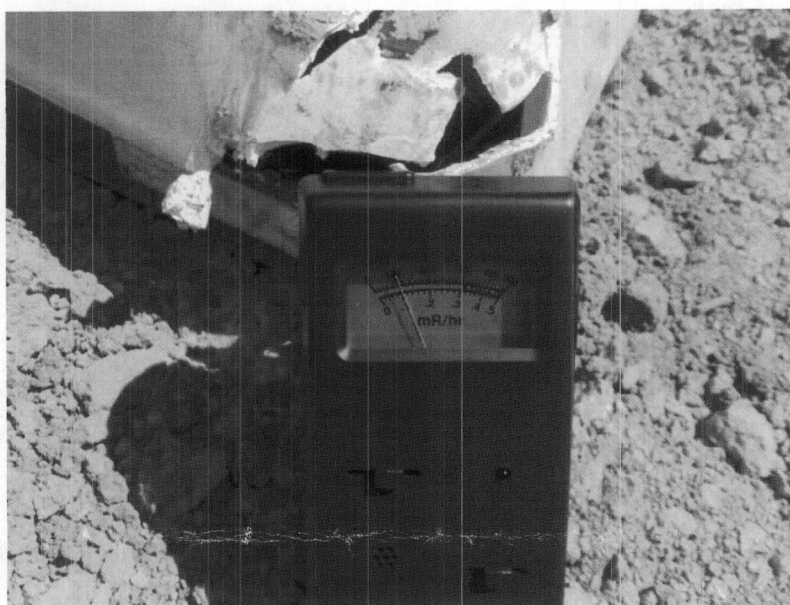
View of gauge and perimeter.



View of damaged portable nuclear gauge.



View of bulldozer and monitored area.



View of Radiation Alert Monitor Reading at the surface of the damaged gauge.

**Troxler Electronic Laboratories, Inc.**

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JULIE SZYMANEK
TRIAD ENGINEERING, INC.
219 HARTMAN RUN ROAD
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Cust ID: 1797

LEAK TEST CERTIFICATE

DEVICE:**Model:** 3430**Serial No:** 32412**SEALED SOURCES:**

Serial No.	Measure Date	Nuclide	GBq	mCi
47-28622	02/24/1999	Am-241:Be	1.48	40
750-7718	11/15/2000	Cs-137	0.296	8

LEAK TEST ANALYSIS:**Sample collected on:** 06/05/2012**Sample analyzed on:** 06/07/2012 10:15:09 A **Position:** 1**Analyzed by:** D. Rose

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.25E+01	1.97E+01
Background measurement (cpm)	2	27
Sample measurement (cpm)	0	32
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	6.7E-01	1.4E+00

This certifies that the leak test results are:**Less than 185 Bq (0.005 uCi)****Greater than 185 Bq (0.005 uCi)**