ROZELL TESTING LABORATORIES, LLC

Engineering • Materials Testing • Weld Inspection • NDT

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January 12, 2005 License No. 24-32438-01

United States Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, Maryland 20852

Re: 30 Day Report Concerning Nuclear Density Gauge Incident

The purpose of this report is to document the incident in which a nuclear density gauge was damaged on a construction site in Springfield, Missouri on December 14, 2004. This report will respond to the items required under U.S. Nuclear Regulatory Commission regulations found in 10 CFR 30.50 Reporting Requirements Part 2.

(I) A description of the event.:

Please refer to the enclosed Interview with Ron Walden of Rozell Testing Laboratories, LLC for a complete description of the events that occurred in the field. In addition to the information contained within the interview, please reference the following for additional information.

When Mr. Walden notified Mr. Eric Hodge, Radiation Safety Officer for Rozell Testing Laboratories, LLC, Mr. Hodge immediately contacted the National Response Center by calling 1(800)424-8802. Mr. Hodge was given a Response Number of 744253 and was informed that the National Response Center would contact the Department of Energy, the Nuclear Regulatory Commission, the Center for Disease Control and the Environmental Protection Agency. Mr. Hodge then called Troxler and spoke with Mr. Steve Browne who instructed Mr. Hodge on the standard protocol for dealing with damaged gauges. Mr. Hodge then called Mr. Steve Horner with the City of Springfield Fire Department to request they send personnel to the site to survey the damaged gauge for possible radiation leaks.

While waiting for the Fire Department to arrive, Mr. Hodge was contacted by Mr. Dan Garvey with the Environmental Protection Agency Haz. Mat. Division, Mr. Mike Ripley with the Nuclear Regulatory Commission 24/7 Emergency Response Center and Mr. Corey Jorgensen with the Missouri Department of Natural Resources Emergency Reponse Team. Mr. Hodge told all three agencies that the Fire Department had been dispatched to the site and he would call them back with their findings.

Between 6:30 pm and 7:00 pm, Mr. Walden called Mr. Hodge to inform him that the Fire Department had surveyed the site and determined that no leaks had occurred as a result of the

NMA
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incident. Mr. Hodge returned calls to the EPA, the NRC and the MDNR individuals listed previously and relayed the Fire Department's findings. Mr. Hodge also requested Mr. Corey Jorgensen with the MDNR to send someone to survey the gauge, which had been transported back to the company laboratory in Branson, Missouri, in order to get a second opinion to verify that no leak had occurred.

Mr. Hodge was contacted at home later that evening by Mr. John Madera with the NRC who instructed Mr. Hodge to comply with the reporting requirements mandated by the NRC. Mr. Madera also gave Mr. Hodge specific phone numbers to call the NRC directly if any emergencies were ever to occur again.

Mr. Kevin Mattson with the Missouri Department of Natural Resources Emergency arrived at the laboratory on the morning of December 15, 2004. The results of Mr. Mattson's survey of the damaged gauge are enclosed with this report. Mr. Mattson reported his findings to Mr. Corey Jorgenson with the MDNR Emergency Reponse Team. In return, Mr. Jorgenson called Mr. Hodge to inform him that they would coordinate with Mr. Keith Henke at the Missouri Department of Health regarding the results of the tests. Mr. Jorgenson called Mr. Hodge back later that day to inform him that it was ok to send the gauge back to Troxler in accordance with Troxler's requirements.

Mr. Geoffrey Warren with the NRC conducted an investigation at the laboratory on December 16, 2004 during which time he examined the gauge and interviewed both Mr. Walden and Mr. Hodge with Rozell Testing Laboratories, LLC. Mr. Warren's conclusions were similar to MDNR's.

Over the next couple of weeks, Rozell Testing Laboratories, LLC coordinated with Troxler in regards to their specific requirements which had to be met before the gauge could be returned. Finally, after the holidays, Troxer informed Rozell Testing Laboratories, LLC that the gauge could be returned. On January 11, 2005 the gauge was shipped back to Troxler. Later that day, as requested, Mr. Hodge informed Mr. Keith Henke with the Missouri Department of Health that the gauge had been returned to Troxler.

Mr. Frank Cameron with Troxler called Mr. Hodge on January 12, 2005 to notify him that the damaged gauge was not able to be repaired. Mr. Hodge asked Mr. Cameron to dispose of the gauge. Mr. Cameron stated that his company would send a letter to Mr. Hodge confirming that the gauge had been properly disposed.

(II) The exact location of the event.

Please refer to the enclosed Interview with Ron Walden of Rozell Testing Laboratories, LLC for a complete description of the location of the event.

(III) The isotopes, quantities, and chemical and physical form of the licensed material involved.

The Troxler nuclear density gauge model number 3440 contains the following substances:

Cesium-137, 0.30 GBq (8.0 mCi),
Americium-241:Beryllium, 1.48 GBq (40 mCi),
Both sources are compressed and welded inside stainless steel capsules contained within the nuclear density gauge.

(IV) Date and time of event.

December 14, 2004 at approximately 3:30 pm - 3:45 pm

(V) Corrective actions taken or planned and the results of any evaluations or assessments.

In order to help minimize the risk of this type of incident from occurring again, corrective actions which Rozell Testing Laboratories, LLC will take include instituting periodic refresher courses for all individuals who operate the nuclear density gauge and monthly audits by supervisory personnel of individuals operating the gauge.

(VI) The extent of exposure of individuals to radiation or to radioactive materials without identification of individuals by name.

The City of Springfield Fire Department used two meters to record the radiation levels around the damaged gauge. The Fire Department personnel determined that no leak had occurred as a result of the incident. Please refer to the enclosed City of Springfield Fire Department Report for the incident.

If you have any questions or need additional information, please do not hesitate to contact us at (417) 334-4401.

Sincerely,

Rozell Testing Laboratories, LLC

Eric Hodge, P.E.

1/12/05
Date

Interview with Ron Walden of Rozell Testing Laboratories, LLC

Time of accident: 12/14/04 at approximately 3:30pm-3:45pm.

Project: Site work for new Walgreen's Drug Store

Location: Intersection of Fremont Ave. and Republic Road in Springfield, Missouri

Type of Accident: Troxler nuclear density gauge Model 3440 damaged by dozer

Mr. Ron Walden of Rozell Testing Laboratories, LLC had stopped construction equipment traffic in the area of test pit No. 6 in order to perform nuclear density tests. Mr. Walden informed the contractors that construction traffic could not come within fifteen feet of the equipment because the tests would be disturbed in addition to the risk of damaging the nuclear density gauge. The dozer was parked approxmately forty to fifty feet northeast of test pit No. 6 facing south towards the pit. Test pit No. 6 is approximately four feet wide by eight feet long and three feet deep. After completing density tests in the pit, Mr. Walden placed the probe in the safe position, removed the gauge from the pit, and set the gauge adjacent to the southeast corner of the pit.

Mr. Walden called the general contractor and excavating contractor's personnel over to discuss the type of material encountered and results from the density tests. Mr. Walden recommended the removal of approximately fourteen to eighteen inches of material and recommended that the removed material could be used in excavated foundation pit directly east of test pit No. 6.

The dozer operator left the meeting while Mr. Walden and the contractor continued to discuss the types of material being transported to the site. Mr. Walden and the contractor walked around to the north side of test pit No. 6 to a position approximately twelve to fourteen feet north of the pit. The contractor asked Mr. Walden a question about the transported borrow pit which is located northwest of test pit No. 6. Mr. Walden turned to look at the tranported borrow pit which placed him in a position where he was facing away from the gauge. Mr. Walden then heard a loud cracking sound and turned to see the dozer running over the gauge.

The dozer operator had tried to drive between test pit No. 6 and the foundation spoil stockpile located to the southeast. The front of the dozer actually made it past the gauge; however, when the dozer turned to the left away from the test pit and gauge, the rear of dozer swung around causing the right rear end of the tracks to run over the gauge.

Mr. Walden proceeded to flag down the dozer operator and follow emergency shut down protocol as outlined in the company Quality Manual.

Mr. Walden asked the dozer operator why he drove through the area that he had just moments before been warned to stay away from. The dozer operator said he thought he could get past the equipment, but later recanted this admission and said he did not see the equipment sitting there.

Mr. Walden cleared everyone away to a position approximately 100 feet from the damaged gauge. Mr. Walden then called Mr. Eric Hodge- the Radiation Safety Officer for Rozell Testing Laboratories, LLC to notify him of the accident. Mr. Walden then moved his truck to a position northwest of test pit No. 6 to block area from construction traffic. The contractor also moved his truck to block construction traffic.

While construction activity continued in other areas of the site, Mr. Walden maintained a minimum 50 foot radius around gauge until the City of Springfield Fire Department arrived. The contractors including Charles McMillin, Jeff Stehle and dozer operator were still on-site with Mr. Walden at this time. The Fire Department tested the gauge and determined there were no leaks. The Fire Department then placed the remains of the gauge in the gauge storage case. Mr. Walden closed the case, locked it and transported it to the company laboratory in Branson where he stored it in the lead lined storage cabinet.

Tests by Kevin Mattson w/ MDNR
e RTL testing lab

NOTES

12/15/04

5.25 MR/HR AROUND BOX

6-13 MR/HR AT END OF SHAFT

27.5 MR/HR @ AMERICIUM LABEL

15-17 MR/HR @ UPPER HOUSING

42.7-43 MR/HR @ LOWER HALF OF HOUSING AT SHAFT SEPERATION

Source secured by type and placed in box.

witnessed by Ron W. of RTL

A

FDID *	State *	Incident Date * (MM DD YYYY)	Station	Incident Number *	Exposure *	Delete / Change / No Activity	NFIRS - Basic
03907	MO	12 14 2004	11	04-0013469	000		

B Location*

Check this box to indicate that the address for this incident is provided on the Wildland Fire Module in Section B "Alternative Location Specification". Use only for Wildland fires.

Census Tract: ____ - ____

- [ ] Street address
- [X] Intersection
- [ ] In front of
- [ ] Rear of
- [ ] Adjacent to
- [ ] Directions

Number/Milepost	Prefix	Street or Highway	Street Type	Suffix
	S	FREMONT	AVE	

Apt./Suite/Room	City	State	Zip Code
	SPRINGFIELD	MO	65810 -

Cross street or directions, as applicable: E REPUBLIC ST

C Incident Type *

430 | Radioactive condition, Other

Incident Type

D Aid Given or Received*

1 [ ] Mutual aid received
2 [ ] Automatic aid recv.
3 [ ] Mutual aid given
4 [ ] Automatic aid given
5 [ ] Other aid given
N [X] None

Their FDID | Their State

Their Incident Number

E1 Date & Times

Midnight is 0000

Check boxes if dates are the same as Alarm Date.

	Month	Day	Year	Hr Min Sec
Alarm * (ALARM always required)	12	14	2004	17:10:45
[X] Arrival * (ARRIVAL required, unless canceled or did not arrive)	12	14	2004	17:15:31
[ ] Controlled (CONTROLLED Optional, Except for wildland fires)				
[X] Last Unit Cleared (LAST UNIT CLEARED, required except for wildland fires)	12	14	2004	18:52:42

E2 Shift & Alarm

Local Option

Shift or Platoon	Alarms	District
A		11

E3 Special Studies

Local Option

Special Study ID# | Special Study Value

F Actions Taken *

42 | HazMat detection,

Primary Action Taken (1)

Additional Action Taken (2)

Additional Action Taken (3)

G1 Resources *

[X] Check this box and skip this section if an Apparatus or Personnel form is used.

	Apparatus	Personnel
Suppression		
EMS		
Other	0007	0012

[ ] Check box if resource counts include aid received resources.

G2 Estimated Dollar Losses & Values

LOSSES: Required for all fires if known. Optional for non fires. None

Property $	, 000	, 000	[ ]
Contents $	, 000	, 000	[ ]

PRE-INCIDENT VALUE: Optional

Property $	, 000	, 000	[ ]
Contents $	, 000	, 000	[ ]

Completed Modules

- [ ] Fire-2
- [ ] Structure-3
- [ ] Civil Fire Cas.-4
- [ ] Fire Serv. Cas.-5
- [ ] EMS-6
- [ ] HazMat-7
- [ ] Wildland Fire-8
- [X] Apparatus-9
- [X] Personnel-10
- [ ] Arson-11

H1 * Casualties

[ ] None

	Deaths	Injuries
Fire Service		
Civilian		

H2 Detector

Required for Confined Fires.

1 [ ] Detector alerted occupants
2 [ ] Detector did not alert them
U [ ] Unknown

H3 Hazardous Materials Release

N [ ] None
1 [ ] Natural Gas: slow leak, no evacuation or HazMat actions
2 [ ] Propane gas: <21 lb. tank (as in home BBQ grill)
3 [ ] Gasoline: vehicle fuel tank or portable container
4 [ ] Kerosene: fuel burning equipment or portable storage
5 [ ] Diesel fuel/fuel oil: vehicle fuel tank or portable
6 [ ] Household solvents: home/office spill, cleanup only
7 [ ] Motor oil: from engine or portable container
8 [ ] Paint: from paint cans totaling < 55 gallons
0 [ ] Other: Special HazMat actions required or spill > 55gal., Please complete the HazMat form

I Mixed Use Property

NN	[ ] Not Mixed
10	[ ] Assembly use
20	[ ] Education use
33	[ ] Medical use
40	[ ] Residential use
51	[ ] Row of stores
53	[ ] Enclosed mall
58	[ ] Bus. & Residential
59	[ ] Office use
60	[ ] Industrial use
63	[ ] Military use
65	[ ] Farm use
00	[ ] Other mixed use

J Property Use* Structures

131 [ ] Church, place of worship	341 [ ] Clinic, clinic type infirmary	539 [ ] Household goods, sales, repairs
161 [ ] Restaurant or cafeteria	342 [ ] Doctor/dentist office	579 [ ] Motor vehicle/boat sales/repair
162 [ ] Bar/Tavern or nightclub	361 [ ] Prison or jail, not juvenile	571 [ ] Gas or service station
213 [ ] Elementary school or kindergarten	419 [ ] 1-or 2-family dwelling	599 [ ] Business office
215 [ ] High school or junior high	429 [ ] Multi-family dwelling	615 [ ] Electric generating plant
241 [ ] College, adult education	439 [ ] Rooming/boarding house	629 [ ] Laboratory/science lab
311 [ ] Care facility for the aged	449 [ ] Commercial hotel or motel	700 [ ] Manufacturing plant
331 [ ] Hospital	459 [ ] Residential, board and care	819 [ ] Livestock/poultry storage (barn)
	464 [ ] Dormitory/barracks	882 [ ] Non-residential parking garage
	519 [ ] Food and beverage sales	891 [ ] Warehouse

Outside

124 [ ] Playground or park	936 [ ] Vacant lot	981 [X] Construction site
655 [ ] Crops or orchard	938 [ ] Graded/care for plot of land	984 [ ] Industrial plant yard
669 [ ] Forest (timberland)	946 [ ] Lake, river, stream	
807 [ ] Outdoor storage area	951 [ ] Railroad right of way	
919 [ ] Dump or sanitary landfill	960 [ ] Other street	
931 [ ] Open land or field	961 [ ] Highway/divided highway	
	962 [ ] Residential street/driveway	

Lookup and enter a Property Use code only if you have NOT checked a Property Use box:

Property Use | 981

Construction site

NFIRS-1 Revision 03/11/99

Narrative:

CAD NARRATIVE (FSF041214000036):
Incident Type- HAZARDOUS MATERIALS
Alarm Level- 03
Report No.-FSF041214013469

Engine 11 arrived first on scene. Upon interviewing on site personnel they reported via radio that the unit involved was a soil test unit and the primary source was cesium 137. They reported that the test unit had been run over by a track loader and they were wanting the unit checked with test equipment prior to transporting the unit off site. Once all assigned units arrived on scene, B2 assumed command of the scene and also acted as safety officer. FF Bjorge was assigned operations. Chief 2 observed the operation and Chief 5 worked as liaison/research officer. A hot zone was established 15 ft away from the source all the way around the source and the cold zone was established 30 ft away from the source. It was decided by resource from 3 sources that two entry teams would be used and that Turnout gear and SCBA would be adequate protection for this operation. Initial entry team was to be Dean Curtis and Jeff Prior and their backup would be Bruce Bjorge and Jon Vangorkom. The entry team was equipped with a CDV-715 and a Ludlum radiation detector and both were equipped with personal dosimeters. Prior to entry background radiation readings were taken. Initial entry into the hot zone was made at 1804 and measurements were taken and then they evacuated the hot zone at 1808. They briefed command on initial readings on the instruments. It was determined that initial settings on the instruments were too low and adjustments made. A second entry into the hot zone was made by the initial entry team at 1815 and readings taken. The team evacuated the hot zone at 1819 and the readings were relayed to command/research. The readings were found to be within limits published for the testing unit provided by the operating manual. The readings found were:
CDV715: 5 mili R per hour at the surface of the unit
Ludlum: 10 mili R per hour at the surface of the unit.

According to the information provided, readings should be less than 19 mili R per hour at the case.

The unit was deemed safe to transport by command staff on scene. The backup crew consisting of Bjorge/VanGorkom made entry into the scene at 1828 and moved the device from the ground to the transportation box located in the back of a pickup truck. Once the unit was in the closed transport box, reading were taken of the box and readings were .4-.5 mili R per hour on all sides. The site where the unit was damaged was also checked and readings were at background.

Dosimeter readings were taken from 3 dosimeter used on scene
Prior Dosimeter: Total dose 17.4 mili R per hour
Curtis Dosimeter: Total dose 20.3 mili R per hour
Bjorge/Vangorkom: Shared dosimeter Total dose 24.7 mili R per hour

Calibration Date for the Ludlum: 5-18-92

The owner was briefed on the findings and the IC terminated command and the incident.

03907	MO	12	14	2004	11	04-0013469	000	Complete Narrative
*	*	*				Incident Number *	Exposure *	

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