



Construction Materials Testing & Special Inspection
Geotechnical Engineering
Environmental Consulting
Non-Destructive Testing
Welder Certification

November 8, 2017

Nuclear Regulatory Commission, Region IV
1600 East Lamar Blvd
Arlington, Texas 76011-4511

RE: Notification of Damaged Nuclear Densometer
Troxler Model 3440 Serial Number 19404
ALLWEST Testing & Engineering
Materials License 11-27637-01

This letter summarizes the incident from October 16, 2017 in which a portable density gauge was damaged beyond repair. At approximately 1:35 pm Mountain Daylight Time, ALLWEST's Troxler model 3440, serial number 19404 with 8 mCi of Cs-137 and 40 mCi of Am-241:Be was crushed by a Caterpillar CB634D steel, double-drum roller. The incident occurred approximately 6.5 miles west of Mountain Home, Idaho on the northern eastbound lane of I-84 at milepost 83.5, during asphalt placement activities.

ALLWEST employee Mr. Chris Edwards had signaled the roller operator to stop so he could discuss the compaction results of the roller pattern efforts. Mr. Edwards placed the gauge on the asphalt mat at his side and adjacent to the roller. The gauge was in the sage position at the time. After completing their conversation, Mr. Edwards took one or two steps away from the roller and the roller operator engaged the roller and drove up on top of the gauge. Mr. Edwards hollered at the operator and she stopped and backed off the gauge. Mr. Edwards asked the roller to drive away from the damaged gauge but stay in the area. The roller operator did not comply with the request and instead drove back to the active compaction area and continued rolling. Mr. Edwards identified there were no personnel within 30 feet of the gauge and visually secured the area. Mr. Edwards called the assistant radiation safety officer for the ALLWEST Meridian, Idaho office, Mr. Chance Wolford and ALLWEST testing manager, Mr. Greg Mugavero to inform them of the incident. Mr. Edwards also took photos of the damaged gauge and sent them to Mr. Wolford and Mr. Mugavero. Mr. Mugavero called radiation safety office, Mr. Chris Beck to inform him of the incident and forwarded him the photos of the damaged gauge.

Approximately 30 minutes after the incident, Mr. Steve Bullock, an employee of the Idaho Transportation Department (ITD), approached Mr. Edwards and informed Mr. Edwards that he had been directed by his supervisor to move the damaged gauge to the north side of the roadway. Mr. Edwards informed Mr. Bullock that he should stay away from the damaged gauge and that he should not move the gauge. Mr. Edwards repeated his warning several times but Mr. Bullock insisted that he was directed to move the damaged gauge. Mr. Bullock then used a shovel to push the damaged gauge

approximately 19 feet to the northern edge of the roadway. Mr. Edwards used his phone to record video of Mr. Bullock moving the gauge.

Mr. Chance Wolford arrived on-site at approximately 3:00 pm. Mr. Wolford visually assessed the damaged gauge. Mr. Wolford confirmed that he could see both sources and that the sources did not appear to be damaged. Mr. Wolford used a TroxAlert, Serial No. 801245 to measure the radiation levels around the damaged gauge. At 15 feet from the gauge the maximum reading was 0.1 mR. Mr. Wolford concluded that the sources had not been damaged and that radiation levels were consistent with the shielded sources.

Mr. Beck discussed the incident with Mr. Henry Barnes of Troxler Laboratories and forwarded photos of the damaged gauge. Mr. Barnes replied by email with instructions on securing the damaged gauge for transport back to the ALLWEST office.

Mr. Wolford secured the gauge as directed by Mr. Barnes, placed it in the transport box, secured it in his pickup and transported the gauge back to the ALLWEST office. At the office, Mr. Wolford completed a leak test on each of the sources. The leak tests were shipped overnight delivery to Troxler Laboratories on October 17, 2017. The results of the leak tests indicated less than 185 Bq (0.005 uCi).

Mr. Beck arranged to fly to Boise on October 16, 2017 to review the incident and damaged gauge. He visually observed the damaged gauge and confirmed the sources were intact. On October 17, 2017, Mr. Beck and the ALLWEST area manager, Mr. Marvin Kerbs travelled to the project site and interviewed Mr. Edwards. Mr. Edwards described the events that had transpired that led to the gauge being damaged. They also reviewed the location of the accident and confirmed the site descriptions.

The damaged gauge was stored in the secure storage location at the ALLWEST Meridian office until October 31, 2017. On October 31, 2017, the damaged gauge was packaged in a secure container provided by Instrotek. The damaged gauge was shipped by R&L Shipping to Instrotek in Concord, California and arrived at their facility on November 7, 2017. The gauge will be disposed of by Instrotek.

If you require any additional information I can be reached on my cell phone at 208-661-9008 or by email at cbeck@allwesttesting.com.

Respectfully,



Chris C. Beck, P.E., RSO
ALLWEST Testing & Engineering, Inc.



Construction Materials Testing & Special Inspection
Geotechnical Engineering
Environmental Consulting
Non-Destructive Testing
Welder Certification

Dykert, Jason

From: Dykert, Jason
Sent: Wednesday, November 22, 2017 11:00 AM
To: 'Chris Beck'
Subject: RE: RE: Portable gauge reporting requirements

Chris,

Thanks for the follow-up email.

Because access to the area immediately surrounding the damaged gauge was limited and controlled by Edwards, it could be considered a restricted area. A written report might not be required by 10 CFR 20.2203(a)(3)(ii) because the dose rates did not exceed 10 times the limit of 2 mrem in any 1 hour in the unrestricted area. However, I think it was appropriate to be cautious and send the report even if not required.

As you noted below, the protective housing and shielding was not damaged in a way where the sources were not fully shielded, therefore it appears that a report would not be required by 30.50(b)(2). Additionally, I assume your dosimetry records will indicate that no doses were in excess of the limits due to the incident.

I will place this email and the report you sent to us in the NRC's publicly available docket file for ALLWEST Testing and Engineering. Based on the information available to me I do not currently consider it a required report. Thank you for notifying the NRC of this incident, it will be reviewed during your next routine onsite inspection.

If you or Edwards have more questions about the incident, please call.

Jason C Dykert
Health Physicist, Inspection Branch
US NRC, Region IV
(817) 200 - 1427



From: Chris Beck [mailto:cbeck@allwesttesting.com]
Sent: Tuesday, November 21, 2017 4:47 PM
To: Dykert, Jason <Jason.Dykert@nrc.gov>
Subject: [External_Sender] RE: Portable gauge reporting requirements

Good afternoon Jason – I have reviewed the incident with our Meridian office personnel. Here's what I can ascertain from their observations as well as my on-site review:

1. The shielding for the Am-241/Be source and the Cs-137 source was not compromised by the accident.
2. No individuals were allowed within fifteen feet of the gauge after the accident other than Bullock in moving the damaged gauge and Wolford when taking measurements with the radiation monitor.
3. Bullock used a long-handled shovel to move the gauge – we estimated the length of the handle was three feet and the shovel blade was one foot with a total length of approximately four feet.

4. Based on the measurements from the radiation meter and the shielded dose rate from the Troxler 3440, no personnel exceeded the dose rate of 0.65 mrem/hour at one meter from the gauge.

After reviewing 10 CFR 30.50 it does not appear that the incident would require 24 hour notification.

Thank you for your help with this situation. It has been stressful to say the least. If there is anything else I can do for documentation please let me know.

Chris

Chris C. Beck, P.E./RSO
President



690 W. Capstone Ct.
Hayden, Idaho 83835
O-208.762.4721 | F-208.762.0942 | M-208.661.9008
cbeck@allwesttesting.com • www.allwesttesting.com

GEOTECHNICAL | TESTING AND INSPECTION | ENVIRONMENTAL
Hayden, ID • Lewiston, ID • Meridian, ID • Spokane Valley, WA

Confidentiality Notice: This electronic transmission may contain confidential information belonging to the sender and is intended only for the addressed. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distributing, or the taking of any action in reliance on the contents of this information is strictly prohibited. If you have received this transmission in error, please notify our office immediately to arrange for the return of the documents.