

INES Event Rating Form

Event Title:	Overexposure to Radiographer
Date of Event:	2015-03-17
Event Location / Facility Name:	Alabaster, Alabama/Vital Inspection Professionals
Event Country:	United States of America
Type of Event:	Radiation Source

INES Rating:	2
Status of Rating:	Final
Date of Rating:	2015-09-23

Impact on People and Environment		
<i>Release beyond authorized limits?</i>	<input type="checkbox"/>	
<i>Overexposure of a member of the public?</i>	<input type="checkbox"/>	
<i>Overexposure of a worker?</i>	X	
Impact on the Radiological Barriers and Controls at Facilities		
<i>Contamination spread within the facility?</i>	<input type="checkbox"/>	
<i>Damage to radiological barriers (incl. fuel damage) within the facility?</i>	<input type="checkbox"/>	
Degradation of Defence In-Depth?	<input type="checkbox"/>	
Person injured physically or casualty?	<input type="checkbox"/>	
Is there a continuing problem?	<input type="checkbox"/>	

Event Description:

Note: When the ERF is published on IAEA NEWS, the first 300 characters of the event description will appear on the NEWS home page.

The Lead Radiographer and three assistant radiographers were completing two exposures lasting 35 seconds each. The set-up time for the exposures was approximately 15 to 18 minutes. After completing two exposures, one individual noticed that his pocket dosimeter read off scale, a second individual read their dosimetry at 0.5 mSv (50 mrem), the third individual read their pocket dosimeter as off scale, and the fourth individual was not wearing a dosimeter. Two individuals were wearing functioning rate meters and two were not. Additionally, the radiography crew was using a survey meter that was determined after the event to have had an electrical short and therefore was not functioning properly. Dosimetry for the three individuals that were wearing dosimetry was sent for emergency processing. The dosimetry readings were determined to be: 1) 112 mSv (11.2 rem), 2) 50 mSv (5.0 rem), and 3) minimal. The minimal reading was determined to be invalid since it was discovered that this individual left their dosimetry in their hard hat which they did not have with them at the time of the two exposures. For the fourth individual, who was not wearing any dosimetry, the licensee has estimated a preliminary dose of up to 450 mSv (45 rem). The licensee is in the process of confirming the dose to the third individual and the estimated dose to the fourth individual. UPDATE: The State of Alabama interviewed the RSO and all involved personnel. A re-creation of the event revealed that the source had been outside the camera, but not in the guide tube. The four radiography personnel involved have been seen by an occupational physician and have submitted blood samples that were sent to REAC/TS for cytogenic biodosimetry. REAC/TS determined that all four individuals received exposures of less than the 200 mSv (20 rem). The licensee assigned the following doses to the four individuals: 1) 112mSv (11.232 rem); 2) 200 mSv (20 rem); 3) 50 mSv (5 rem); and 4) 50 mSv (5 rem). The primary causes of the incident appear to be the failure to use an operable survey meter and the failure to follow procedures. Training was provided to appropriate staff although some staff were terminated as a result of this event. NRC EN50904

Justification of INES Rating:

Note: When the ERF is published on IAEA NEWS, the justification of the INES rating will only appear to privileged users.

A Level 2 is warranted for exposure of a worker in excess of statutory annual dose limits. See Section 2.3.1 INES User's Manual 2008 Edition (IAEA-INES-2009) http://www-pub.iaea.org/MTCD/publications/PDF/INES-2009_web.pdf

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Annexes:

Annex Title	Category	Description (optional)
Click here to enter text.	Choose an item.	Click here to enter text.
Click here to enter text.	Choose an item.	Click here to enter text.