

Overexposure to Radiographer

Posted on: 28 June 2016

Event Date:	11 May 2016	Event Type:	Radiation Source
Event Location:	United States of America, Deer Park Texas/Mistras Group, Inc.	INES Rating:	2 (Final)

During the performance of industrial radiography, the licensee radiographer taped the radiography camera's guide tube to a jig in preparation for an exposure shot. During the exposure shot, the guide tube fell and the radiographer re-taped it to the jig without first retracting the source back inside the camera. A re-enactment of the event demonstrated that the radiographer had placed his left hand on the camera's collimator and inserted his middle finger into its port hole. Based on the re-enactment, the licensee determined that the radiographer received an overexposure of 4.67 Gy (467 rad) to a finger on his left hand. The U.S. statutory limit for extremity doses is 0.5 Sv (50 rem). The finger appeared to have shown some slight redness, however, blood work results were determined to be normal. The dosimetry badge results revealed a whole body exposure of only 9.37 mSv (937 mrem), which is below the statutory limit of 0.05 Sv (5 rem). NRC EN51921

INES Rating: 2 - Incident (Final) as per 10 June 2016

Impact on people and the environment

Release beyond authorized limits?	No
Overexposure of a member of the public?	No
Overexposure of a worker?	Yes

Impact on the radiological barriers and controls at facilities

Contamination spread within the facility?	No
Damage to radiological barriers (incl. fuel damage) within the facility?	No

Degradation of Defence In-Depth

Person injured physically or casualty?	No
Is there a continuing problem?	No

Justification of Rating

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

Contact Person for Further Information

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