

INES Event Rating Form (ERF)

Version 1

Sender's Name:	Patricia Milligan
Sender's Organization:	Nuclear Regulatory Commission (NRC) (United States of America)
Event Title:	Worker Overexposure
Event Date:	2015-05-06
Location / Facility:	Overland Park, Kansas / DBI, INC.
Event Country:	United States of America
Event Type:	Radiation Source
INES Rating:	2 - Incident (Final)
Rating Date:	2018-07-25

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? No

Other information

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

Event Description

On 5/6/2015, a worker received an extremity overexposure while conducting radiographic operations at an industrial facility. A radio communication that occurred while the radiographer was relocating the collimator was misunderstood by the radiographer assistant as direction to crank out the 2.59 TBq (70 Ci) Ir-192 source. When the radiographer felt the vibration of the source being cranked out, he dropped the collimator, exited the area, and retracted the source into the exposure device. Upon badge processing results and worst case scenario calculations, it was determined that the radiographer received an extremity exposure of between 500 and 1,000 mSv (50 and 100 rem). The licensee monitored the radiographer's hands until 6/20/2015. No signs of radiation exposure were observed. The radiographer's year-to-date annual dose was 2.62 mSv (262 mrem). The root cause was determined to be communication weakness. Employees were informed of the incident and reminded of the importance of a visual confirmation prior to exposing the source, which has been implemented into the licensee's protocol. The dose received is or exceeds the U.S. statutory limit for extremity dose of 500 mSv (50 rem). NRC EN53510

Rating Justification

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

Press Release Attached: No

Technical Document Attached: No

Further Information on Web:

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