August 26, 2015

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE-- PNO-IV-15-02-A

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region IV, Arlington, Texas, staff on this date.

Facility
International Isotopes, Incorporated
Idaho Falls, Idaho

Docket: 30-35486
License No.: 11-27680-01

Licensee Emergency Classification
___ Notification of Unusual Event
___ Alert
___ Site Area Emergency
___ General Emergency
_x_ Not Applicable

SUBJECT: UPDATE - PERSONNEL RADIATION EXPOSURE IN EXCESS OF REGULATORY LIMITS

DESCRIPTION:

This Preliminary Notification updates information contained in PNO-IV-15-02 which discussed the events related to an exposure of an individual in excess of regulatory limits at International Isotopes, Inc. (licensee). This licensee is authorized to conduct manufacturing and distribution activities for various radioactive isotopes, including cobalt-60. The licensee is also authorized to load sources into transport containers and transfer these sources into certain devices used for various purposes.

At about 0900 MDT on Thursday, August 20, 2015, senior management at International Isotopes Inc. was informed by their area manager that one of the licensee's technicians had been exposed to a 'flash' of radiation while handling a cobalt-60 source drawer. This occurred at the licensee's facility in Idaho Falls, Idaho, during a routine source transfer procedure. The technician reported that his electronic dosimeter was reading 5.62 rem. The NRC's annual dose limit for occupational workers is 5.0 rem to the whole body.

The licensee began extensive investigations to determine the causes for the exposure and the dose assessment for the technician. Based on a detailed review of recorded video of the individual's activities at the time of the event, and the reenactment of the event, the licensee calculated that the individual received a dose to the whole body of 7.2 rem, and a dose to his left hand of 49.1 rem. Analysis of blood samples provided by the individual were normal with no indication of excessive radiation exposure. Monitoring of the individual's hands revealed no signs of radiation damage to tissues. Although the individual's thermoluminescent dosimeter (TLD) reading was determined to be approximately 201 rem, based on review of the recorded video of the event the licensee determined that as the individual reacted to prevent the drawer containing the cobalt-60 source from dropping to the floor, his TLD, which was attached to the end of a lanyard, swung away from his body and passed very near to the source. As a result, the TLD recorded a much higher dose than the individual actually received.

On August 21, 2015, the NRC Region IV dispatched an inspector to the licensee's facility in Idaho Falls to review the sequence of events associated with the radiation exposure and the

licensee's immediate response and follow-up actions. In response to the event, the licensee ceased all similar source transfer activities until it can determine the causes of the event and implement corrective actions.

On August 24, the licensee informed the NRC that they have contracted with an expert in dose reconstruction to independently verify the licensee's models for exposure calculations.

The information herein has been discussed with the licensee and is current as of 2:15 p.m. CDT on August 26, 2015.

The State of Idaho has been notified.

ADAMS ACCESSION NUMBER: ML15238B874

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