



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION IV
1600 E. LAMAR BLVD
ARLINGTON TX 76011-4511

September 3, 2015

EA-15-187

Mr. Steve Laflin, President
International Isotopes, Inc.
4137 Commerce Circle
Idaho Falls, ID 83401

SUBJECT: CONFIRMATORY ACTION LETTER – INTERNATIONAL ISOTOPES, INC.

Dear Mr. Laflin:

On August 20, 2015, you notified the U.S. Nuclear Regulatory Commission (NRC) of an event that occurred at your facility involving a potential radiation exposure to one of your employees in excess of regulatory limits (Event Notification 51331). Specifically, your report stated that one of your technicians had received a brief exposure while handling a Cobalt-60 source drawer, and that his electronic dosimeter was reading 5.62 rem. This is above the NRC's annual occupational limit for a worker's total effective dose equivalent of 5 rems (0.05 Sv), as described in Title 10 of the *Code of Federal Regulations* (CFR) 20.1201(a)(1). The technician was in the process of preparing the transfer of a source drawer containing 3,664 curies of Cobalt-60 from its shielded cask to a therapy head when the event occurred.

Based on a detailed review of a video recording of the individual's actions at the time of the event, and the reenactment of the event, International Isotopes, Inc., determined that the Cobalt-60 source drawer came completely out of the shielded cask as the technician moved the drawer. The technician reacted to keep the drawer from falling to the floor, grabbed the drawer, and placed it back in the shielded container. International Isotopes, Inc., 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) was exposed to approximately 201 rem, the video recording of the event showed that the individual's 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 dispatched an inspector to the International Isotopes, Inc., 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, International Isotopes, Inc., ceased all cask-to-cask source transfer activities until it could determine the causes of the event and implement corrective actions.

Based on telephonic discussions between you and Mr. Michael Vasquez, Chief, Nuclear Materials Safety Branch A, on September 1, 2015, the NRC understands that you will perform the following actions by September 19, 2015:

1. International Isotopes, Inc., has ceased cask-to-cask source transfers until the following actions have been performed:
 - a. International Isotopes, Inc., will submit to the NRC, in writing, a detailed root cause analysis of this event to include a sequence of events.
 - b. International Isotopes, Inc., will submit to the NRC, in writing, a plan and schedule of its short term and long term corrective actions based on the identified causes of the event, and will identify which corrective actions will be implemented prior to resuming cask-to-cask source transfers.
2. International Isotopes, Inc., will submit to the NRC, in writing, the calculations and evaluations used to determine the radiation dose received by the technician's whole body and extremities.
3. International Isotopes, Inc., will obtain the services of an independent expert in dose reconstruction to verify the dose calculations performed to estimate the technician's dose, and will submit a copy of these calculations to the NRC.
4. The documents that International Isotopes, Inc., will provide to the NRC, as stated above, will be sent to the Director, Division of Nuclear Materials Safety, U.S. Nuclear Regulatory Commission, Region IV, 1600 E. Lamar Blvd., Arlington, TX 76011.

Pursuant to Section 182 of the Atomic Energy Act, 42 U.S.C. 2232, you are required to:

1. Notify me, in writing, immediately if your understanding differs from that set forth above;
2. Notify me, in writing, if for any reason you cannot complete the actions within the specified schedule and advise me, in writing, of your modified schedule in advance of the change;
3. Notify me, in writing, if for any reason you intend to change, deviate from, or not complete any of the documented commitments, set forth above and advise me, in writing, of your changes or deviations; and
4. Notify me, in writing, when you have completed the actions addressed in this Confirmatory Action Letter.

Issuance of this Confirmatory Action Letter does not modify or amend International Isotopes, Inc.'s, license, and does not preclude issuance of an Order making the above commitments legally binding requirements, or requiring other actions on the part of the licensee. In addition, the NRC is not precluded from taking enforcement action for violations of the NRC requirements that may have prompted the issuance of this Confirmatory Action Letter.

In accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice and Procedure," a copy of this letter and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

To the extent possible, your response should not include any personal privacy, proprietary, security-related or safeguards information, so that it can be made available to the Public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

If you have any questions concerning this matter, please contact Mr. Michael Vasquez, Chief, Nuclear Materials Safety, Branch A at 817-200-1130.

Sincerely,

/RA/

Kriss M. Kennedy
Deputy Regional Administrator

Docket No. 030-35486
License No. 11-27680-01MD

cc: Mark Dietrich, Administrator
Technical Services Division
Idaho Department of Environmental Quality
1410 North Hilton
Boise, ID 83706

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Sincerely,

/RA/

Kriss M. Kennedy
Deputy Regional Administrator

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cc: Mark Dietrich, Administrator
Technical Services Division
Idaho Department of Environmental Quality
1410 North Hilton
Boise, ID 83706

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See next page

DOCUMENT NAME: S/DNMS/~Escalated Enforcement/Active Cases/Int Isotopes Overexposure/CAL Stuff/CAL-International Isotopes.

ADAMS ACCESSION NUMBER: ML15246A617

X SUNSI Review By: GMV		ADAMS X Yes <input type="checkbox"/> No		X Publicly Available <input type="checkbox"/> Non-Publicly Available		X Non-Sensitive <input type="checkbox"/> Sensitive	Keyword:
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Letter to Steve Laflin from Kriss M. Kennedy, dated September 3, 2015.

SUBJECT: CONFIRMATORY ACTION LETTER – INTERNATIONAL ISOTOPES, INC.

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