



August 22, 2017

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Yellowcake drum Incident July 14, 2017

Dear Mr. Kellar:

Enclosed with this letter is a summary of the recent drum incident that occurred July 14, 2017 during a routine uranium concentrate shipment to Honeywell's Metropolis facility. The summary includes a description of the event that occurred, Cameco's investigation, and the corrective actions that were implemented.

If you have any questions or need additional information regarding this incident, please contact me at 307-358-6541, ext. 438 or by email at: Lawrence_Reimann@Cameco.com.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Larry Reimann', written over a light blue horizontal line.

Larry Reimann
Manager, Compliance and Licensing

LR/lr

Enclosure: Drum incident summary involving yellowcake shipment from Cameco Resources, Smith Ranch-Highland Mine to Honeywell Conversion Facility.

cc: File SR 4.6.4.1
Doug Mandeville, NRC Project Manager, via email

ec: Cameco Distribution

Drum incident summary involving yellowcake shipment from Cameco Resources, Smith Ranch-Highland Mine to Honeywell Conversion Facility.

August 22, 2017

Description of the event

On July 12, 2017, Cameco Resources shipped a load of yellow cake uranium (SR-Lot# 818) from the Smith Ranch-Highland Mine in Douglas WY, to Honeywell's Conversion facility in Metropolis IL. The operator responsible for loading the truck at SRH did not notice anything unusual with the shipment before or during loading.

When the trailer was being unloaded at Honeywell's Conversion Facility, workers noticed that drum #35 had a small pinhole leak under the middle drum chime and that a small quantity of material (< 25 grams) had accumulated on the trailer floor.

Immediate actions that were taken

The following actions were taken after the discovery of the pinhole leak in the drum:

- At Metropolis, photographs were taken of the small quantity (< 25 grams) of yellowcake on the trailer floor and the pinhole in drum # 35.
- Drum #35 from lot #818 was temporarily patched.
- The uranium ore concentrate was recovered from the RSB trailer and both the drum and shipping trailer were decontaminated.
- Drum #35 was temporarily patched placed in short term storage at Metropolis.
- Drum # 35 will be emptied of product as soon as possible.
- Honeywell reported the incident to Cameco Corporate, Director, and Transportation on July 14, 2017 at 10:46 a.m. via email and notified them that a report to the USDOT would be made.
- Cameco Corporate, Director, Transportation notified SRH personnel of the incident on July 14, 2017, at 10:47 a.m. via email.
- Honeywell reported the incident to DOT per 49 CFR 171.15(b)(2) and to NRC Region II.
- Cameco Resources communicated with NRC Region IV on July 17, 2017, and informed NRC that the following immediate actions had been taken until an internal investigation could be completed:
 - Removed the drum grab used at the time of the incident from service.
 - Suspended yellowcake shipments until the internal investigation could be completed and any findings addressed.
 - Started a preliminary investigation on the incident.
- Honeywell issued a written report to the USDOT on July 24, 2017.
- Smith Ranch-Highland started a formal Apparent Cause Analysis investigation on July 24, 2017.
- The apparent cause investigation was completed on Aug. 8, 2017, and the results were shared with Honeywell to close out their investigation.

Summary of the Investigation Findings

The following were findings from the Cameco internal investigation:

- The condition of the drum grab had degraded due to use.
- Inspection of the drum grab before each use was not documented.
- Dimly lit area made area made inspection of the drums more difficult.
- Need to make sure the drum grab is properly engaged with the drums during lifting operations.

Corrective Actions from the Incident

Cameco Resources identified the following corrective actions based on the investigation findings:

- Drum handling equipment:
 - Removed the drum grab from service.
 - Consulted Cameco's international operations to assess the type of drum handling equipment being used at other locations.
 - Concluded that the existing style of drum handler, when in good condition, is the best choice for the uneven terrain at SRH.
 - Ordered a new drum handler to replace existing equipment.
 - Initiated a pre-inspection program for the drum handler to supplement the current forklift pre-inspection.
 - Added the drum grab to the site preventative maintenance program.
- Area lighting:
 - Inspected and replaced lightbulbs in the drum storage area.
 - Initiated evaluation of adding additional LED lighting to the area..
 - Until recommended lighting improvements have been completed the loading of trailers will take place during daylight hours.
- Procedures and training:
 - Revised SOPs to add that transportation trailers should be loaded during good lighting conditions (*e.g.*, daylight hours until any recommended lighting improvements are complete).
 - Subject Matter Expert (SME) who regularly loads the transportation trailers trained the other Central Plant employees who will be loading the trailers in the proper inspection, handling, and loading of yellowcake drums.

The corrective actions outlined in this memo will be completed before resuming yellowcake shipments.