

Full Report

04/19/2010

Item Number: TX060032

Last Updated: 12/21/2007

Event Type: RLM - RADIOACTIVE MATERIAL REL.

Event Cause: BREACH OF SEALED SOURCE

Event Date: 06/29/2006

Report Date: 07/25/2006

Licensee/Reporting Party Information:

Name: LETOURNEAU INC

License Number: NON-LICENSE

City: LONGVIEW

State: TX

Zip Code: 75606

Other Information:

Reportable Event:	Y	Reciprocity:	NONE
Atomic Energy Act Material:	Y	Abnormal Occurrence:	N
Investigation:	Y	Send this Report to NRC:	Y
Consultant Hired:	N	Event Closed by State:	Y

Narrative:

LeTourneau, Incorporated, reported detecting radioactive material in their arc furnace ash (by-product of steel production referred to as K061). A radiation gate monitor alarmed at the Horsehead Resource Development Company in Rockwood, Tennessee, indicating the possible presence of radioactive material in the truck. The truck was returned to the LeTourneau facility, where it was isolated. On 7/24/2006, LeTourneau obtained the services of a consultant to identify the material in the truck. Surveys indicated the presence of Cs-137. After determining that the K061 in the truck was contaminated with Cs-137, a full survey of the furnace facility was performed and samples collected to quantify the activity. Exposure levels in the facility ranged from 50 to 3000 uR/hour. The highest radiation readings were in the ash hopper and silo. LeTourneau is collecting additional samples and the State of Texas Department of Health Services is investigating the incident. The time frame for the material in the truck was from 6/29/2006 (when the last shipment was made to Horsehead) to 7/10/2006 (when the truck alarmed the radiation monitors at Horsehead). The K061 could have contained material from a dozen or more of Letourneau's customers. At this time, Letourneau does not know where the Cs-137 activity came from. Letourneau plans to continue operations for a week and up to two additional truckloads of contaminated K061 waste may be generated. They plan to contract with Earth Tech (Texas licensee) to allow continued operation of the facility under their license. The delay is to allow time to stage all of the necessary equipment and personnel needed to perform the decontamination of the facility. Decontamination is scheduled to be complete in less than 90 days. Update 8/22/06 The furnace was shutdown on 8/6/06. Decontamination work began on August 7, 2006. Clean up and release of the furnace and fly ash system from the furnace head up to and including the bag house and replacement of all bag house filters was completed 8/13/06. The furnace returned to operation on 8/14/06. Fly ash is being collected and analyzed for Cs 137. The fly ash silo is currently bypassed and is being decontaminated, and surveyed for release. Latest fly ash sample indicated 40pCi/gm. This value is higher than expected due to reduced plant operation time creating limited fly ash production.

On 4/5/07 the State of Texas performed samples of roll off bins at Letourneau to confirm Cs 137 activities below 2 pCi/gm. Sample results were all <2 pCi/gm.

On 5/2/07 the damper on F furnace was removed from the fly ash handling system. The damper and housing was surveyed. Two small areas were found to be contaminated and the areas were removed. These were the last items in the fly ash system that needed to be released.

12/21/07 Final surveys and reports are completed. Final dose assessment :

There was no dose to members of the general public. The facility is located inside of a security fence with guards who verify that each one entering the facility is either an employee of LeTourneau or has an approved pass. The area identified with the highest dose rates was located near the bag house and is in a rather remote area of the facility. It is not frequented by anyone due to the location and noise associated with the bag house.

The flue dust is effectively managed by the dust handling system. The system was designed to meet EPA requirements for release of KO61. There is very little leakage and the filters used in the bag house are reported by the manufacture to be about 99.97 percent efficient. Contamination surveys done outside the flu dust handling system throughout the cleanup indicated that there was little to no loose surface contamination. Air samples taken in the area indicated levels far below any regulatory limits.

Assuming less than 1 mrem per person CEDE for the 120 monitored personnel, less than 1 mrem DDE for 119 monitored personnel, and 2 mrem for one person, the collective TEDE estimate for the project is less than about 0.25 person-rem for the 120 monitored personnel.

We were not able to determine what the origin of the source was. During our first visit to Letourneau to investigate the event, we were told that on July 3, 2006, they saw a small spike in lead concentration of the waste stream. This implied that a shielded source may have been introduced into the process. Further investigation determined that the spike in lead was from waste generated in the other furnace. We have no way at this point to determine what the origin of the Cesium source was.

All material that exceeded the release criteria has either been decontaminated to below the established limits or removed and disposed of.

Corrective Actions:

Action Number:	Corrective Action:
1	NEW EQUIPMENT OBTAINED

Release of Material or Contamination Information:

Type or Release or Contamination:	Activity:		Radionuclide:	Effect of Release or Contamination:
	Ci	GBq		
SURFACE	UNKNOWN		CS-137	TEMPORARY RAD CONTROLS

Source of Radiation:

Source Number:	1			
Form of Radioactive Material:	UINKNOWN		Radionuclide or Voltage (kVp/MeV):	CS-137
Source Use:	UNKNOWN		Activity:	UNKNOW Ci GBq N
Manufacturer:	UNKNOWN			
Model Number:	UNKNOWN			
Serial Number:	UNKNOWN			

Reporting Requirements:

Reporting Requirement: 20.2203(a) - radiation exposures , releases or concentrations of radioactive material that exceed limits
 Mode Reported: Telephone

References:

Reference Number:	Entry Date:	Coder Initials:	Type of Report:
I-83534	08/22/2006	AT	AGREEMENT STATE EVENT REPORT