

United States Environmental Protection Agency
Region IV
POLLUTION REPORT

Date: Thursday, October 15, 2009

From: Matthew Huyser, OSC

To: Matt Taylor, USEPA R4 ERRB

Shane Hitchcock, USEPA R4 ERRB

Subject: Conveyor Clearance Procedures Established
FedEx Mercury Spill
2903 Sprankle St, Memphis, TN
Latitude: 35.0645607
Longitude: -89.9661307

POLREP No.:	4	Site #:	
Reporting Period:	10/12/2009 0745 to 10/12/2009 2130	D.O. #:	
Start Date:	10/8/2009	Response Authority:	CERCLA
Mob Date:	10/8/2009	Response Type:	Emergency
Demob Date:		NPL Status:	Non NPL
Completion Date:		Incident Category:	Removal Action
CERCLIS ID #:		Contract #	
RCRIS ID #:			

Site Description

See site description from POLREP #2 dated 10/9/2009.

Current Activities

USES continued decon through the night from 10/11/2009 to 10/12/2009. A 100'-long section of slats from conveyor R2-10 was being removed and decontaminated per the procedure discussed on the evening of 10/11/2009 (see POLREP #3); after decon, slats were screened by CTEH. Two torpedo heaters were used to heat the scale and floor near the original source package location (referred to as "chute 12"; adjacent chutes are 11 and 13). While the scale was cooling, breathing zone mercury vapor levels above the scale read between 3000ng/m3 and 5000ng/m3. EPA recommended prescreening and post-screening a sample of slats in bags to help evaluate decon effectiveness.

At 1050, START collected three wipe samples from the surface of conveyor R2-10 by swiping dry gauze across a slat, placing the gauze in a bag, and screening the air within the bag. Mercury vapor readings from the wipe samples read 25,580ng/m3 on a slat ahead of decon activities, 20,050ng/m3 within the 30' affected area, and 684ng/m3 on a slat 15' outside of the 30' affected area. The wipe samples provided a rough estimate of which slats needed to be addressed before decon could be completed.

When decon activities and the conveyor was reassembled, the conveyor was allowed to run at full speed for a period of 60 minutes then a clearance test of the R2-10 conveyor was attempted at 1330hrs. The procedure was similar to the one conducted on 10/11/2009, with minor changes that would more adequately simulate the path of a package. As before, the test consisted of 10 prescreened boxes placed on the conveyor at the beginning at intervals representing 10% of the conveyor rotation period. The boxes traveled with a contact time of 45 seconds to the end of the conveyor, where they were removed. After removal, the boxes were stacked on a sheet of plastic and allowed to set for 15 minutes before being bagged as a group. Once bagged, they were allowed to set for another 10 minutes, and were then screened with a Lumex. The two additions of 1) a 15 minute aeration period, and 2) bagging as a group, were added at the request of CTEH to simulate the time packages would sit in the chute prior to being loaded into a transport container and the close proximity of the transport container itself. Prior to the test, EPA consulted with ATSDR and determined that since these additions were an adequate representation of the sorting process, there was no reason to reject them. A third change suggested by CTEH was the rebagging of packages if they exceeded the mercury vapor goal of 10,000ng/m3. EPA and ATSDR concluded that this third addition would be unlikely to reduce mercury vapor levels from the objects, but could be allowed if it was proven that the change simulates actual transfers of packages prior to leaving the building. The test was conducted with the first two changes; visual observations of box positions indicated

that at least two of the boxes were placed directly on the area which had been decontaminated. Mercury vapor levels from the 10 test packages read below 400ng/m3 and conveyor section R2-10 was considered clear for use in the modified form outlined by FedEx. The test as described was used throughout the remainder of the response and referred to as the “box test”.

At 1700hrs, CTEH and START conducted screening of the AMJ and AKE containers in chutes 11 and 13, that had sat adjacent to the AMJ which contained the source package in chute 12. Mercury vapor levels in the containers was below 1000ng/m3 at the exterior base and below 200ng/m3 inside.

Concerning employee proximity to chute 12 during the approaching night sort operation, CTEH determined on behalf of FedEx that chutes 11, 12, and 13 should be quarantined by hanging curtain of plastic sheeting around the chutes. CTEH continued monitoring inside and outside the quarantined area to make sure breathing zone mercury vapor levels did not exceed 3000ng/m3, and established sampling stations around chute perimeter. EPA additionally advised that since the concrete floor in front of the chute stations had not been cleared or addressed, it should be restricted from access or covered. By 1900hrs, the concrete floor in front of the chute stations was covered with old rubber conveyor belting and sealed together with tape; the material was durable enough for vehicle traffic as well as expendable.

Planned Removal Actions

- Assess extent of migration of mercury; (ONGOING)
- Ensure safety of response and facility personnel; (ONGOING)
- Conduct oversight of removal activities; and, (ONGOING)
- Support removal activities with air monitoring and technical assistance where needed. (ONGOING)

Next Steps

- Continue decon process for the rubber belts upstream on R2 (sections R2-9, R2-8, R2-7... etc.) that will likely include replacement of the belts.
- Decon the floor and scale where the source package was discovered.

Key Issues

OSC Byrd arrived on site at 1700hrs and later expressed concern that the box test which was used to clear conveyor section R2-10 had not been repeated to verify the results. EPA, FedEx, and CTEH discussed the matter of test duplication and verification regarding conveyor section R2-10 at 1800hrs which was approximately one hour before the conveyor would be programmed for modified operation during the night sort. By 2000hrs, FedEx communicated that they were confident in CTEH’s conclusion that decontamination of R2-10 had been successful and that the box test procedure – as conducted – was sufficient to support the decision to reopen that section of conveyor. As a result, FedEx declined to conduct further screening tests on conveyor R2-10 until a cumulative test of all conveyor sections could be conducted when remediation efforts were complete.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
TAT/START	\$10,000.00	\$0.00	\$10,000.00	100.00%
Intramural Costs				
Total Site Costs	\$10,000.00	\$0.00	\$10,000.00	100.00%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

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