

United States Environmental Protection Agency
Region I
POLLUTION REPORT

Date: Wednesday, June 11, 2008

From: Dan Wainberg

Subject: Lawrence Train Derailment
Pan Am Rail Yard, Lawrence, MA
Latitude: 42.6917000
Longitude: -71.1578000

POLREP No.:	1	Site #:	
Reporting Period:		D.O. #:	
Start Date:	5/8/2008	Response Authority:	CERCLA
Mob Date:	5/8/2008	Response Type:	Emergency
Demob Date:	5/9/2008	NPL Status:	Non NPL
Completion Date:		Incident Category:	
CERCLIS ID #:		Contract #	
RCRIS ID #:			

Site Description

At approximately 1730 on 8 May 2008, the Emergency Planning and Response Branch Phone Duty Officer received a National Response Center (NRC) report indicating a release of sodium chlorate (UN 1495) from a derailed train car at the PanAm rail yard in Lawrence, MA.

The Phone Duty Officer spoke with Massachusetts Department of Environmental Protection (MassDEP) emergency responder. According to MassDEP an approximately 2000ft by up to ten foot wide line of the sodium chlorate powder had been released from the damaged railcar as it travelled along the track inside the rail yard and stopped just after crossing Andover Street. MassDEP further reported that PanAm had hired Enpro Services to perform an assessment and cleanup. At the time of the call, there were no evacuations or injuries; however, the responder reported that some nearby residences may be evacuated shortly as a precaution.

After telephone coordination with MassDEP, the Phone Duty Officer dispatched OSC Wainberg to the incident at approximately 1850.

**Sodium chlorate is a white, crystalline solid. It is often utilized to manufacture dyes and explosives, in paper pulp processing, leather processing, and as a herbicide. Sodium chlorate can cause eye and skin irritation or burns. Breathing sodium chlorate can irritate the nose and throat. High levels can interfere with the blood's ability to carry oxygen. Sodium chlorate is a strong oxidizer and may ignite combustibles (e.g. wood, paper, oil).*

Current Activities

At 2000 on 8 May, the OSC arrived at the scene and was briefed by the MassDEP emergency responder, Hazmat team personnel, and PanAm personnel. They relayed the following information:

- The release occurred around 1615 in the PanAm rail yard and terminated just north of the Andover Street crossing.
- The release occurred when the loading arm of a railcar on an adjacent track caught the ladder on the sodium chlorate car and ripped a 10ft by 15ft opening in the car releasing a trail of sodium chlorate for approximately 2000 feet before the engineer realized there had been a collision. The collision caused the sodium chlorate car to derail, but it was unclear exactly where along the 2000ft stretch that occurred.
- Eight homes on State street adjacent to the railyard had been evacuated as precaution and up to 12 additional homes had self evacuated.
- Lawrence Fire Department, the District Six Hazmat Team, and law enforcement personnel were on-scene providing fire and public safety and site control.
- The PanAm Environmental Manager and Safety Officer were on-scene overseeing Enpro's activities. Additionally, PanAm retained a Licensed Site Professional (LSP) to ensure compliance with federal and state environmental regulations.
- Enpro and PanAm were in process of developing a stabilization plan and mobilizing the necessary

equipment and personnel.

From 2100 on 8 May to 1430 on 9 May, the following activities occurred:

- Enpro initiated clean-up of released sodium chlorate along the tracks by a combination of shoveling and HEPA vaccuming material into containers.
- Enpro stabilized the remaining sodium chlorate load in the damaged railcar by placing plexiglass across the inside of the opening and then poly-sheeting the entire circumference of the rail car in the damaged area. Once wrapped, compression straps were secured around the poly-sheeting.
- After the damaged railcar had been temporarily secured, PanAm personnel used a crane and other heavy equipment to re-rail the car and moved it into a more isolated location in the rail yard.
- At 0245, PanAm and Enpro briefed the OSC on what activities would occur between 0300 and mid-morning. They indicated that the sodium chlorate remaining in the rail car would be transferred by hand crews into lined, 10 yard roll-off containers and crews would continue to shovel, vacuum, and package sodium chlorate along the tracks.
- At 0300 the OSC demobilized from the site.
- At 1015 the OSC arrived on-site and observed following site conditions and activities: The track crews were completing removal and packaging of sodium chlorate (residual amounts of sodium chlorate in certain spots along the tracks were observed); and the railcar crew had filled two roll-off containers with sodium chlorate from the damaged railcar and were continuing to load roll-offs with the material.
- At 1345 the OSC observed the spill area again. Additional material had been removed, but residual amounts of material were observed. A total of 29 one yard cubic containers were utilized to package material along the tracks. Additionally, two one cubic yard containers of PPE were staged for shipment.
- At 1430 the OSC demobilized from the site.

On 10 May, the Phone Duty Officer received a call from MassDEP indicating there had been a fire at the incident scene that consumed all the cubic yard containers. The exact cause of the fire is unknown, but it is likely that the sodium chlorate material in the cubic yard containers with either waste or PPE ignited incompatible materials also packaged in the container. The fire consumed all the materials within minutes and the fire was out before fire and hazmat crews arrived on-scene. MassDEP indicated that no assistance was necessary at that time.

From 10 May through 10 June, MassDEP continued to monitor clean-up activities. MassDEP and the Lawrence Fire Department reported the following information during this time:

- In addition to the fire involving the cubic yard containers, there were flare-ups along the tracks where the sodium chlorate had released onto the railroad ties. It is likely that this delayed reaction occurred because it had been cold and with periods of rain until 10 May when it became sunny with higher ambient temperatures.
- As a result of the flare-ups and fire, Lawrence Fire Department agreed to maintain a fire detail at the site until all bulk product was off-site and the Railroad Police will provide 24 hour security.
- Enpro completed removing, into the roll-off containers, all sodium chlorate from the compromised portion of the rail car and pressure washed the inside of the compartment.
- PanAm shipped for disposal at Stablex in Quebec, Canada: 4 roll-offs of sodium chlorate waste from the rail car, 2 roll-offs of sodium chlorate waste including PPE and material along the tracks, and 1 roll-off with fire debris.
- PanAm's LSP submitted draft components of an Immediate Response Action (IRA) Plan for MassDEP approval. This plan primarily addressed soil/debris stabilization to eliminate continuing fire/reactivity concerns, but will document all clean-up activities once its finalized.
- The Lawrence Fire Department periodically wet the areas where flare-ups were occurring.
- Because of the continuing flare-ups along the tracks, MassDEP required a remediation plan (part of the IRAP) for this issue. PanAm/Enpro proposed applying sodium thiosulfate to areas with residual sodium chlorate. The EPA OSC and EPA's Emergency Response Team out of Edison, NJ provided MassDEP with technical feedback on the draft remediation plan submitted by PanAm/Enpro.

Planned Removal Actions

None

Next Steps

EPA will continue to receive status updates from MassDEP and provide assistance as requested. It is anticipated at this time, that no additional field assistance will be required.

Key Issues

- Out of the seven roll-offs shipped to Stablex, PanAm initially shipped four of the roll-offs as virgin

sodium chlorate product to a paper mill in Maine. When this material was received by the paper mill they rejected it due to the fact it had been wetted. At this point MEDEP and MassDEP considered this material Hazardous Waste and PanAm redirected the four roll-offs to Stablex. Additionally, PanAm shipped this material to the paper mill without properly coordinating with MEDEP and MassDEP.

- MassDEP has required PanAm to increase the frequency of wetting along the tracks to mitigate flare-ups until a final remediation plan is approved by MassDEP and implemented by PanAm/Enpro.

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