

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Tiskilwa Train Derailment - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: POLREP #2
Progress Report
Tiskilwa Train Derailment
Z5L2
Tiskilwa, IL
Latitude: 41.2899170 Longitude: -89.4909970

To:
From: Leonard Zintak, On-Scene Coordinator
Paul Ruesch, On-Scene Coordinator
Date: 10/10/2011
Reporting Period: 10/9/2011 - 10/10/2011

1. Introduction

1.1 Background

Site Number:	Contract Number:
D.O. Number:	Action Memo Date:
Response Authority: CERCLA	Response Type: Emergency
Response Lead: EPA	Incident Category: Removal Action
NPL Status: Non NPL	Operable Unit:
Mobilization Date: 10/7/2011	Start Date: 10/7/2011
Demob Date: 10/10/2011	Completion Date:
CERCLIS ID:	RCRIS ID:
ERNS No.:	State Notification: Illinois EPA
FPN#:	Reimbursable Account #:

1.1.1 Incident Category

Emergency Response

1.1.2 Site Description

The Tiskilwa Train Derailment occurred at 0255 hrs on October 7, 2011 and was reported to the NRC (Report #991849) by the Iowa Interstate Railroad (the PRP) at 0441 hrs. OSC Len Zintak mobilized START contractors to begin emergency response activities on October 7, 2011.

Approximately 27 cars of 126 total on the train were involved in the incident and roughly 500ft of track was impacted. 17 of the cars were 'hopper' cars containing dry corn mash and the 10 were full tanker loads of ethanol. The intensity of the fire prompted a voluntary evacuation of the town of Tiskilwa, Illinois.

1.1.2.1 Location

The Tiskilwa Train Derailment Site is located at Railroad MP 122.4 in Tiskilwa, Bureau County, Illinois.

1.1.2.2 Description of Threat

Approximately 27 cars of 126 total on the train derailed. Nine of the derailed cars were full tanker loads of ethanol, several of which caught fire or exploded, and ethanol was spilled. It is unknown how much ethanol spilled. It is anticipated that the majority of the ethanol product release was burned off in the subsequent fire and explosions.

The chemical involved in this incident involves Denatured Ethanol. The Denatured Ethanol is 95%-98% ethanol and 2-5% gasoline (see MSDS in the Documents Section). The benzene content is estimated less than 0.1%. The chemicals of concerns are benzene, ethanol, particulates and carbon monoxide. Benzene is a known carcinogen. Particulates and carbon monoxide in the air can cause adverse health risks.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Approximately 27 cars of 126 total on the train were involved and approximately 500ft of track was

impacted. 17 of the derailed cars were 'hopper' cars containing dry corn mash and the other 10 were full tanker loads of ethanol. Of the 10 full tanker loads, one remained upright on the tracks and the other 9 derailed. The fire was extinguished, damaged cars and track removed, and underlying soils excavated by October 10, 2011 by Hulcher Services, Inc. and other hazmat contractors to the PRP. Ethanol product that was not spilled or burned off was recovered by SWS Environmental Services, a contractor to the PRP. It is anticipated that a significant part of the released ethanol product was burned off in the subsequent fire and explosions.

START contractors established continuous perimeter air monitoring with AreaRAEs in 3 fixed locations and took MultiRAE readings at various locations around the perimeter of the wreck site (see map in Documents Section). In addition, START contractors collected water samples from various locations in both the Plow Hollow Creek (to the east) and Big Bureau Creek (to the north) for laboratory analysis on October 8-10, 2011. Plow Hollow Creek flows north to Big Bureau Creek which flows east to the Illinois River approximately 8 miles downstream. Surface water sampling was conducted every 4-5 hours with a YSI water quality meter. Sampling was also conducted at the confluence of Big Bureau Creek with the Illinois River. It was expected that dissolved oxygen levels would drop significantly if ethanol product or firefighting run-off containing contaminants entered the waterways.

A draft environmental monitoring plan covering groundwater, residential well, surface water, surface and sub-surface soils, wastes and air monitoring was developed by the Center for Toxicology and Environmental Health (CTEH), a contractor to the PRP, and submitted to U.S. EPA and Illinois EPA for review on October 9, 2011. U.S. EPA, START, NTSB and Illinois EPA reviewed the work plan and comments will be integrated into the draft plan by CTEH on October 10, 2011.

START contractors conducted oversight of excavation and sampling of underlying soils within the incident footprint pursuant to the draft work plan submitted by CTEH on October 9, 2011. Excavated soils were placed in a bermed area lined with polyethylene plastic adjacent to the wreck site where it will be sampled and disposed of by CTEH, as outlined in the draft work plan or as directed by Illinois EPA. The soil is currently being held until further notice from NTSB. It is expected that burnt brush and limbs will be chipped and spread out on site and spilled corn mash and sand will be recovered and removed by contractors to the PRP.

U.S. EPA OSCs and START will demobilize from the site on October 10, 2011. Illinois EPA will assume oversight responsibilities for the incident on October 11, 2011. It is expected that track reconstruction will be completed by late afternoon and train traffic will resume shortly thereafter on October 10, 2011.

2.1.2 Response Actions to Date

U.S. EPA OSC Len Zintak and START contractors mobilized to begin emergency response activities on October 7, 2011. OSCs Zintak and Ruesch continued oversight activities on October 8, 2011. OSCs Ruesch and Atkociunas conducted oversight of response activities on October 9 - 10, 2011.

U.S. EPA's operational objectives for the incident included:

- 1) Participate in the Unified Command,
- 2) Conduct air monitoring in the surrounding community,
- 3) Conduct surface water monitoring in the vicinity of the wreck,
- 4) Assist in the development of a draft continuing sampling work plan for residential wells, surface water, groundwater, surface/sub-surface soils, and contaminated wastes, and
- 5) Transition oversight responsibilities for the draft environmental sampling work plan to Illinois EPA and the Bureau County Health Department.

START contractors conducted 24 hour continuous air monitoring with AreaRAEs, MultiRAEs and personal particulate meters until the fire was extinguished, ethanol product was removed from tanker cars, and the wreckage was cleared from the tracks on October 10, 2011. VOC readings ranged from 0 parts per million (ppm) to 1 ppm and particulate readings ranged from 0.001 to 1.89 milligrams per cubic meter during the incident. ATSDR has recommended an ambient air residential evacuation action level specific for ethanol at 500 ppm, which is the DOE Temporary Emergency Exposure Limit (TEEL).

Surface water monitoring was conducted in Plow Hollow Creek and Big Bureau Creek (see map in Documents Section). START utilized an YSI water quality meter, which monitors for pH, conductivity, dissolved oxygen, temperature and oxidation-reduction potential. All readings were within acceptable limits and no significant changes were noted during the response activities. On October 8-10, 2011 START collected physical water samples for parameters including VOCs and pH. Laboratory results are expected on October 11, 2011 and will be provided to Illinois EPA.

Local fire departments and hazmat contractors conducted fire fighting and wreckage cooling operations, which included the application of over 1 million gallons of fire suppression foam and water. Hulcher Services, Inc., a contractor to the railroad, constructed containment berms to contain any run-off. The run-off did not sheet flow off the wreck site, and appeared to absorb directly down into the soil in the immediate vicinity of the derailment. The potential migration of firefighting runoff into groundwater will be monitored pursuant to the work plan submitted on October 9, 2011, unless otherwise directed by Illinois EPA. START contractors conducted oversight of excavation and sampling of underlying soils within the incident footprint pursuant to the draft work plan submitted by CTEH on October 9, 2011. Air monitoring conducted during the excavation with both MultiRAE and UltraRAE field instruments ranged from 0 - 21 ppm total VOCs, with ambient levels during excavation averaging 1-2 ppm. Total benzene was measured three times during excavation activities, with the highest UltraRAE for benzene at 0.2 ppm.

OSC Ruesch will demobilize from the site on October 10, 2011 as air and surface water monitoring has been transitioned to CTEH with oversight by Illinois EPA. Ongoing surface water monitoring in Big Bureau Creek and Plow Hollow Creek, as well as subsequent remediation activities which may be necessary, will

be conducted pursuant to a work plan eventually approved and overseen by Illinois EPA. Residential well sampling will be conducted pursuant to the draft work plan submitted by CTEH in coordination with the Bureau County Health Department unless otherwise directed.

U.S. EPA OSCs Zintak, Ruesch and Atkociunas will continue to provide data, information and technical support regarding the incident to Illinois EPA and local agencies as needed.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The Iowa Interstate Railroad, Ltd. (IAIS) is the PRP and assumed responsibility for the mitigation of the incident.

2.2 Planning Section

2.2.1 Anticipated Activities

1) U.S. EPA will transition oversight responsibilities for environmental monitoring pursuant to the submitted draft work plan and subsequent remediation activities which may be necessary to Illinois EPA and the Bureau County Health Department.

2) U.S. EPA will provide data, information and technical support regarding the incident to Illinois EPA and local agencies as requested.

2.2.1.1 Planned Response Activities

See Section 2.2.1

2.2.1.2 Next Steps

See Section 2.2.1

2.2.2 Issues

None

2.3 Logistics Section

U.S. EPA and START contractors will demobilize all sampling equipment and personnel on October 10, 2011.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

All work was conducted under an emergency response Health and Safety Plan (see Documents Section).

2.6 Public Information Officer

The National Transportation Safety Board (NTSB) assumed control of the incident in order to conduct a full investigation. NTSB continues to have a PIO (Tim DePaepe 312-343-7795) on scene to addressing all media inquiries.

3. Participating Entities

3.1 Unified Command

A Unified Command was established for the incident consisting of the following local, state and federal agencies:

Local

Fire Departments
Police Departments
Bureau County Health Department
County EMAs

State

Illinois EPA
Illinois EMA
Illinois DOT
Illinois DNR
Illinois Commerce Commission
Illinois State Police

Federal

U.S. DOT
U.S. EPA
OSHA
NTSB
FRA
TSA

PHMSA
FBI

3.2 Cooperating Agencies

See Section 3.1

4. Personnel On Site

U.S EPA OSC - 2
START - 2

5. Definition of Terms

N/A

6. Additional sources of information

N/A

7. Situational Reference Materials

N/A