



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: July 16, 1999

In reply refer to: R-99-7 through -10

Ms. Beth Richmond, Chairperson
Cabell/Wayne Local Emergency Planning Committee
750 5th Avenue, Suite 300
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Huntington, West Virginia 25701

About 12:37 p.m. eastern daylight time on Saturday, June 20, 1998, 30 of the 148 cars making up eastbound CSX train Q316 derailed at Cox Landing, West Virginia. Of the derailed cars, three were loaded with hazardous material, and eight others contained hazardous material residue. Two of the loaded cars were damaged in the pileup and leaked a combined volume of about 21,500 gallons of formaldehyde solution. No one was injured during the derailment of the train; however, 15 persons reported minor injuries as a result of the release of formaldehyde. Total damages in the accident exceeded \$2.6 million.¹

The local emergency responders were effective in identifying the immediate hazards and initiating an immediate evacuation of nearby residents. Also, after some delay, responders called in chemical specialists to assess each tank car for leakage and potential risk. The Safety Board investigation did, however, identify a need for additional planning, training, and communication among the agencies responding to the accident.

Cabell County was equipped with Operation Respond Emergency Information System (OREIS) software capable of printing out emergency response information, including the specific contents of affected cars and detailed information about the handling of any hazardous materials involved. Because the OREIS software was not used after the Cox Landing derailment (the train conductor was available to provide the information), the Safety Board could not evaluate its effectiveness in the response to this accident. In the view of the Safety Board, the software does appear to be a tool with potential for providing information that could be useful in the aftermath of a hazardous materials accident. In this case, however, because the C/WLEPC had not included use of the OREIS software in its disaster drills and had not updated its emergency response plan to include information about the system, responders on the scene were unaware of the existence or the capabilities of the OREIS system, and they had not been trained in its use. The Safety Board therefore concluded that the full potential of the Cabell County OREIS software could not be realized, or even evaluated by emergency responders, because of a lack of information about

¹ For more information, read Railroad Accident Report—*Derailed of a CSX Freight Train and Subsequent Hazardous Material Release at Cox Landing, West Virginia, June 20, 1998* (NTSB/RAR-99/01).

the system in Cabell and Wayne Counties' emergency response plan and because exercises involving the system were not included in periodic disaster drills.

The incident commander(s) in this accident were from the Ohio River Volunteer Fire Department (ORVFD), which had not participated in Cabell and Wayne Counties' periodic disaster drills. Even though the ORVFD maintained copies of the C/WLEPC emergency response plan, the incident commanders did not initiate the call for outside assistance that was directed in the plan. The Cabell County EMS director, who was familiar with the plan, did initiate a call, but because of the delay, individuals with special chemical expertise (the Dupont Chlorine Emergency Response Team) did not arrive on scene until about 3 hours after the derailment. Had the leaking chemicals been more hazardous than formaldehyde, this delay could have had serious consequences.

The Safety Board concluded that because the ORVFD had not participated in Cabell and Wayne Counties' disaster drills and because its officers were unfamiliar with the counties' emergency response plan, the incident commanders did not use all available resources to assist in the emergency.

In the accident, a derailed car struck the vertical riser on a residential gas meter located within 40 feet of the centerline of the tracks. Damage to the riser resulted in a gas leak that lasted for several hours. Gas service personnel were called, but they were not allowed to approach the damaged riser because of concern that the chlorine tank cars might also be leaking. However, because of concern about the gas leak itself, the incident commander directed gas company employees to shut off gas service in the immediate area at the site.

Without access to shut-off valves at the site, gas company employees were unable to repair the damaged riser or isolate the 2-inch line. As an alternative, pipeline personnel considered isolating the 6-inch gas main by closing shutoff valves, but they were concerned about the large number of residential and industrial customers that would be affected. In any event, because of the location of the valves and the pressure and volume of gas in the line, blocking the 6-inch line would not have immediately stopped the leak.

The incident commander eventually allowed the gas service crew to access the damaged riser and determine if the 2-inch service line could be shut down. Following their inspection, the service crew capped the 2-inch service line, but the line remained charged with pressurized gas, since the line had not been isolated from the 6-inch main supply line.

Because railroad and gas company personnel did not coordinate their activities before railroad contractors began working in the area of the gas line, railroad contractors did not know that the gas line was still charged. They stated that, had they known, they would not have carried out the wreckage-clearing operations the next day that severed the gas line and created a second gas leak in the area. This released gas, if ignited, could have injured nearby recovery workers and destroyed or damaged property. Although the gas did not ignite, its release posed a safety hazard to those in the area. The Safety Board concluded that railroad wreckage-clearing operations and pipeline

operations were not effectively coordinated and unified under an effective command structure,² which placed excavation personnel at risk while they worked in the vicinity of a natural gas line. A unified incident command structure would have ensured better commitment from and participation by railroad, pipeline, and public safety officials in decision-making throughout the emergency response, wreckage-clearing, and environmental remediation activities.

Based on its investigation of this accident, the National Transportation Safety Board makes the following safety recommendations to Cable and Wayne Counties' Local Emergency Planning Committee:

Revise your emergency response plan to incorporate information about the capabilities and use of Operation Respond Emergency Information System software. (R-99-7)

Include, in your periodic disaster drills, exercises designed to familiarize emergency responders with the capabilities and use of Operation Respond Emergency Information System software. (R-99-8)

Include in your periodic disaster drills all emergency response agencies within your jurisdiction, including the Ohio River Road Volunteer Fire Department, and ensure that those agencies are aware of Cabell and Wayne Counties' emergency response plan and its implementation. (R-99-9)

In cooperation with CSX Transportation, Inc., develop and implement incident coordination procedures that will ensure that safety-critical operations during wreckage-clearing activities are coordinated with all parties involved in those activities. (R-99-10)

Also, the Safety Board issued Safety Recommendations R-99-3 to the Federal Railroad Administration; R-99-4 through -6 to CSX Transportation, Inc.; and R-99-11 to Mountaineer Gas Company.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any action taken as a result of its safety recommendations. Therefore, it would appreciate a response from you within 90 days regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations R-99-7 through -10 in your reply. If you need additional information, you may call 202-314-6435.

² See National Response Team Incident Command Technical Assistance Document: *Managing Response to Oil Discharge and Hazardous Substances Under the National Contingency Plan*, published by the National Response Team, May 1996. (Available at <http://www.nrt.org>)

Chairman HALL, Vice Chairman FRANCIS, and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in these recommendations.

By: Jim Hall
Chairman