



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: August 2, 2002

In reply refer to: P-02-03

Honorable Christie Whitman
Administrator
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

The National Transportation Safety Board is an independent Federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. We are providing the following information to urge your organization to take action on the safety recommendation in this letter. The Safety Board is vitally interested in this recommendation because it is designed to prevent accidents and save lives.

This recommendation addresses the effectiveness of incident command. The recommendation is derived from the Safety Board's investigation of the rupture of the Piney Point Oil Pipeline and release of fuel oil near Chalk Point, Maryland, on April 7, 2000, and is consistent with the evidence we found and the analysis we performed. As a result of this investigation, the Safety Board has issued three safety recommendations, one of which is addressed to the Environmental Protection Agency (EPA). Information supporting this recommendation is discussed below. The Safety Board would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendation.

On the morning of April 7, 2000, the Piney Point Oil Pipeline system, which was owned by the Potomac Electric Power Company (Pepco), experienced a pipe failure at the Chalk Point Generating Station in southeastern Prince George's County, Maryland. The release was not discovered and addressed by the contract operating company, Support Terminal Services, Inc. (ST Services), until the late afternoon. Approximately 140,400 gallons of fuel oil were released into the surrounding wetlands and Swanson Creek and, subsequently, the Patuxent River as a result of the accident. No injuries were caused by the accident, which cost approximately \$71 million for environmental response and clean-up operations.¹

The National Transportation Safety Board determined that the probable cause of the April 7, 2000, Piney Point Oil Pipeline accident at the Pepco Chalk Point, Maryland, generating

¹ For additional information, see forthcoming Pipeline Accident Report—*Rupture of the Piney Point Oil Pipeline and Release of Fuel Oil near Chalk Point, Maryland, April 7, 2000* (NTSB/PAR-02/01).

station was a fracture in a buckle in the pipe that was undiscovered because the data from an in-line inspection tool were interpreted inaccurately as representing a T-piece. Contributing to the magnitude of the fuel oil release were inadequate operating procedures and practices for monitoring the flow of fuel oil through the pipeline to ensure timely leak detection.

Among other issues, the investigation considered the effectiveness of the incident command during the response to the accident. The Safety Board found that the lack of effective incident command had a negative effect on the emergency response to the Chalk Point release. ST Services, Pepco, and the spill recovery contractors on the scene on April 7 and 8, 2000, were initially successful in deploying a boom system that contained the leading edge of the spill. On the night of April 8, however, with the arrival of a severe storm that included heavy rains and 50-mph winds, the boom containment system was overwhelmed. The spill escaped containment and ultimately traveled an estimated 17 miles (linear) downstream and oiled 40 miles of shoreline in Prince George's, Charles, Calvert, and St. Mary's Counties. Responders were unable to effectively mitigate the environmental impact of the oil's entry into the Patuxent River, due in part to incident management and oversight deficiencies.

The EPA Federal On-Scene Coordinator arrived on the scene at 1015 on April 8 and began attempting to coordinate the Unified Command without establishing an Incident Command System. Instead, she relied on a project management structure that gave the responsible party, Pepco, primary responsibility for directing and monitoring the activities of response contractors. Throughout April 8, the Unified Command's efforts were focused on containing the spill within the Swanson Creek wetlands area. Pepco's contractors conducted the booming operation based on the directions they received from Pepco officials, who received their orders from the Unified Command.

Management problems were evident even at this early stage. The Pepco officials working with the contractors were on rotating 8-hour shifts, and those personnel going off-duty sometimes did not fully discuss response developments and necessary tasks with those coming on-duty. This lack of continuity caused problems with task and status communication and coordination. Instances of miscommunication and problems with unclear lines of authority occurred. Important meetings were not attended by all necessary personnel, and Pepco contractors sometimes did not fully understand the tasks they were assigned. The EPA Federal On-Scene Coordinator also did not have extensive Federal response resources to draw upon at this time.

A storm was predicted for that evening, and the Unified Command and the EPA Federal On-Scene Coordinator ordered, and Pepco's contractors took, reasonable precautions to maintain the containment they had achieved in the Swanson Creek wetlands area. However, the storm was more severe than had been anticipated, and the outer booms at the Patuxent River were breached about 2030, releasing a significant amount of oil into the river.

For the next 2 days (April 9 and 10), the Unified Command, under the direction of the EPA Federal On-Scene Coordinator, attempted to mount an effective response to the oil spill's escape into the river. Significant resource and organizational problems arose immediately. Pepco had difficulty obtaining contractor resources that could carry out marine operations, and the EPA Federal On-Scene Coordinator encountered similar problems when she attempted to augment the

response effort with Federal resources. Even more importantly, the contractors hired by Pepco were not completing urgent assigned tasks, and the delays in the response effort were not being promptly and accurately reported to the Unified Command. The EPA Federal On-Scene Coordinator stated that in the 2 days following the escape of the oil into the river, the Unified Command repeatedly directed Pepco to ensure that several environmentally sensitive creeks leading into the river were protectively boomed. According to the EPA Federal On-scene Coordinator, Pepco repeatedly indicated that appropriate action was being taken and that the booms would be placed as soon as possible. As of April 11, no booms had been deployed to protect the creeks, and two creeks showed evidence of oil contamination.

To address the coordination and communication problems and the contractors' inability to complete assigned tasks, the EPA Federal On-Scene Coordinator decided that an Incident Command System structure had to be implemented. Such a system is designed to provide more direct Federal control over response activities, a quicker response to spill developments, greater access to a wider range of resources, and better responder coordination. Consequently, she requested at 1430 on April 10 that U.S. Coast Guard officials assisting on scene develop such a structure. She also urged Pepco to hire a spill management contractor to improve the logistics of its contractors' efforts.

On the morning of April 11, the Coast Guard Captain of the Port of Baltimore arrived with additional personnel to staff the Incident Command System structure that had been developed. The new personnel were deployed to monitor the field operations being conducted by Pepco's contractors to ensure that work was completed as directed. Almost immediately, with the marshalling of the additional personnel and equipment, the effectiveness of the recovery operations improved. Protective booms were provided for the threatened creeks on April 12 and 13. Within days, marine-specialist responders finished collecting the free oil in the main body of the Patuxent River, and they were able to concentrate their efforts on oil collection from the affected creeks and other environmental mediation projects.

In their postaccident assessments of the Chalk Point accident, both the Coast Guard and the Regional Response Team review committee concluded that the response would have benefited from earlier use of an Incident Command System as the incident's coordination and management structure. In fact, the Regional Response Team review committee recommended that the EPA develop a manual on how to use Incident Command System/Unified Command structures and train all Federal On-Scene Coordinators in Incident Command System/Unified Command principles. In her own assessment of the response, the EPA Federal On-Scene Coordinator acknowledged that the decision not to implement an Incident Command System structure immediately upon her arrival at the accident scene ultimately had a detrimental effect on the response effort.

Once the oil escaped from containment in the wetlands and the situation became more complex and difficult to resolve, the short-term project management approach could not achieve results with the speed and efficiency needed to avoid a serious environmental impact. The Incident Command System has proven its effectiveness in incidents covering a wide range of transportation modes, and it has usually improved the management of a complex incident response effort, such as the one that evolved from the Chalk Point oil leak. Once the structure was applied at Chalk Point, response efforts soon became more efficient and successful. The

Safety Board concluded that, because it did not initially put a fully implemented Incident Command System in place, the Unified Command was for several days unable to mobilize and control an effective response to the loss of oil containment that took place on the evening of April 8, 2000.

The Safety Board has previously recognized the benefits an Incident Command System structure may provide during a pipeline spill response effort. As a result of its investigation of the October 1994 pipeline failures on the San Jacinto River near Houston, Texas,² the Safety Board determined that implementing the Unified/Incident Command structure and operational principles in the National Response Team's technical assistance document addressing Incident Command System/Unified Command enhances the overall preparedness for responding to oil spills. Consequently, the Safety Board recommended that the National Response Team:

I-96-2

Motivate National Response Team agencies to integrate into their area contingency plans the command and control principles contained in Technical Assistance Document *Incident Command System/Unified Command* and encourage them to train all personnel assigned management responsibilities in those principles.

In a January 17, 2001, response to Safety Recommendation I-96-2, the National Response Team stated that it was working on methods to ensure that all member agencies have integrated into their area contingency plans the principles contained in the Technical Assistance Document *Incident Command System/Unified Command—Managing Responses to Oil Discharges and Hazardous Substance Releases under the National Contingency Plan*, as requested. The Safety Board classified Safety Recommendation I-96-2 “Open–Acceptable Response,” pending notification that the action is complete.

The National Response Team is made up of 16 Federal departments and agencies. The EPA is the permanent Chair of the National Response Team. Since the San Jacinto accident, the EPA has distributed the Technical Assistance Document *Incident Command System/Unified Command—Managing Responses to Oil Discharges and Hazardous Substance Releases under the National Contingency Plan* to all EPA on-scene coordinators, and EPA headquarters has encouraged its regional coordinators to incorporate the guidance from the document in their area contingency plans. Nevertheless, an EPA official stated in an April 24, 2001, postaccident letter to the Safety Board that “EPA currently has no formal policy on the use of Incident Command System/Unified Command.” The EPA has not mandated that all its regions use the Incident Command System. Although the EPA's Office of Emergency and Remedial Response is developing an EPA policy position on the Incident Command System, the Safety Board is concerned that no final EPA Incident Command System policy, the development of which began in 1996 in response to lessons learned during the 1994 San Jacinto pipeline accident, has been completed.

² National Transportation Safety Board, *Evaluation of Pipeline Failures During Flooding and of Spill Response Actions, San Jacinto River Near Houston, Texas, October 1994*, Pipeline Special Investigation Report NTSB/SIR-96/04 (Washington, DC: NTSB, 1996).

The lack of incident command during the Chalk Point emergency response indicates that the EPA needs to make a greater commitment to incorporating Incident Command System principles in its response procedures and to training its people more effectively about the benefits provided by the use of the system.

Therefore, the National Transportation Safety Board makes the following safety recommendation to the Environmental Protection Agency:

Require all your regions to integrate the principles contained in the National Response Team's Technical Assistance Document *Incident Command System/Unified Command—Managing Responses to Oil Discharges and Hazardous Substance Releases under the National Contingency Plan* in their area contingency plans and require the regions to train all personnel who are assigned responsibility to implement the plans according to those principles. (P-02-03)

The Safety Board also issued safety recommendations to the Research and Special Programs Administration. In your response to the recommendation in this letter, please refer to Safety Recommendation P-02-03. If you need additional information, you may call (202) 314-6177.

Chairman BLAKEY, Vice Chairman CARMODY, and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in this recommendation.

Original Signed

By: Marion C. Blakey
Chairman