



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: November 4, 2004

In reply refer to: P-04-12

Mr. Michael G. Morris
President
American Electric Power
Corporate Headquarters
1 Riverside Plaza
Columbus, Ohio 43215-2372

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.

The recommendation is derived from the Safety Board's investigation of the April 7, 2003, storage tank explosion and fire in Glenpool, Oklahoma, and is consistent with the evidence we found and the analysis we performed.¹ As a result of this investigation, the Safety Board has issued eight safety recommendations, one of which is addressed to American Electric Power (AEP). 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 April 7, 2003, about 8:55 p.m., central daylight time, an 80,000-barrel storage tank at ConocoPhillips Company's (ConocoPhillips) Glenpool South tank farm in Glenpool, Oklahoma, exploded and burned as it was being filled with diesel. The tank had previously contained gasoline, which had been removed from the tank earlier in the day. The tank contained between 7,397 and 7,600 barrels of diesel at the time of the explosion. The resulting fire burned for about 21 hours and damaged two other storage tanks in the area. The cost of the accident, including emergency response, environmental remediation, evacuation, lost product, property damage, and claims, was \$2,357,483. There were no injuries or fatalities. Nearby residents were evacuated, and schools were closed for 2 days.

¹ For additional information, see National Transportation Safety Board, *Storage Tank Explosion and Fire in Glenpool, Oklahoma, April 7, 2003*, Pipeline Accident Report NTSB/PAR-04/02 (Washington, D.C.: NTSB, 2004).

The Safety Board determined that the probable cause of the storage tank explosion and fire was ignition of a flammable fuel-air mixture within the tank by a static electricity discharge due to the improper manner in which ConocoPhillips conducted tank operations. Contributing to the extent of the property damage and the magnitude of the impact on the local community was the failure of AEP employees to recognize the risk the tank fire posed to the nearby power lines and take effective emergency action.

An essential part of emergency response is the ability of the incident commander and the command staff to be able to continually evaluate response options and determine the most appropriate actions. In an emergency at a tank farm, such as occurred in this accident, the incident command staff must have access to the most current information about not only the tank farm facilities and the products in the tank, but also of nearby facilities. By having and acting on such knowledge, responders can not only minimize damage to these facilities, but can also possibly prevent their becoming involved in the emergency. Even though AEP knew almost immediately of the fire and the proximity of its power lines to it, the company responded only when asked. The fact that the on-scene AEP representative did not make contact with the incident commander limited the incident command's ability to keep AEP informed as the fire situation changed and limited AEP's knowledge of the situation. As a result, AEP's second response to the accident site was too late, and its overall response was ineffective. The Safety Board concluded that the AEP responder did not coordinate his actions with the incident command staff, and AEP did not take effective emergency action.

Because of the proximity of the AEP power lines to the Glenpool South tank farm, it is obvious that damage, a failure, or an emergency at one facility had the potential to jeopardize the safety of the other. However, neither AEP personnel nor ConocoPhillips personnel had contacted one another to familiarize themselves with the affected facilities at the Glenpool South tank farm or to plan for a coordinated response to pipeline and electrical emergencies there.

Had ConocoPhillips and AEP, as part of emergency planning, previously met to discuss and plan emergency response activities for an electric line, tank, or pipeline emergency at the Glenpool South tank farm, it is likely that AEP's emergency response would have been more effective and that, considering the potential hazard to life and property, actions would have been taken to more thoroughly assess the threat to the electric lines and the consequences of their failure. The Safety Board concluded that because ConocoPhillips and AEP did not preplan their response to emergencies near the Glenpool South tank farm, the emergency response was unsuccessful in managing the electrical hazard caused by the tank explosion and fire.

Therefore, the National Transportation Safety Board makes the following safety recommendation to American Electric Power:

Revise your emergency response plan to include areas, such as the ConocoPhillips Glenpool South tank farm, where pipeline transportation facilities are near American Electric Power facilities, and include a requirement that the American Electric Power emergency responders communicate and coordinate with the on-scene agency in charge. (P-04-12)

The Safety Board also issued safety recommendations to the Research and Special Programs Administration in the Department of Transportation, ConocoPhillips Company, the Institute of Electrical and Electronics Engineers, and the American Society of Mechanical Engineers. In your response to the recommendation in this letter, please refer to Safety Recommendation P-04-12. If you need additional information, you may call (202) 314-6177.

Chairman ENGLEMAN CONNERS, Vice Chairman ROSENKER, and Members CARMODY, HEALING, and HERSMAN concurred in this recommendation.

By: Ellen Engleman Connors
Chairman