

P-173

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: February 26, 1981

Forwarded to:

Honorable Carlos Romero Barcelo
Governor
Commonwealth of Puerto Rico
Box 82, La Fortaleza
San Juan, Puerto Rico 00902

SAFETY RECOMMENDATION(S)

P-80-86 and -87

At 9:50 a.m., on January 30, 1980, an 8-inch-diameter, refined petroleum products pipeline owned by The Pipelines of Puerto Rico, Inc., and operated by the Shell Oil Company (Puerto Rico) Ltd. was struck and ruptured by a bulldozer during maintenance work on a nearby waterline in the Sector Cana of Bayamon, Puerto Rico, about 10 miles southwest of San Juan. Gasoline from the rupture sprayed downhill and ran off into a small creek. About 1 1/2 hours later, the gasoline vapors were ignited by an undetermined source and exploded; the subsequent fire killed one person and extensively damaged 25 houses and other property. 1/

Earlier that morning, an employee of the Aqueduct and Sewer Authority of Puerto Rico had been using a pavement breaker 2/ during repair work on a 6-inch-diameter waterline. Unable to remove a cement anchor that supported the waterline with the pavement breaker, an Aqueduct and Sewer Authority employee at the site requested help from Highway Authority of Puerto Rico personnel who were working nearby. The Highway Authority contractor moved a bulldozer-ripper 3/ to the site. About 9:50 a.m., the ripper struck and punctured the pipeline which was located approximately 3 inches below the waterline.

For many years, the owners of underground facilities throughout the United States have been troubled with damage to their facilities as a result of third-party activity and other outside forces. The underground utility industry, recognizing the seriousness of the excavation damage problem, has developed, implemented, and publicized many programs and procedures to reduce the number of these underground contacts and the subsequent public safety hazard. However, The Pipelines of Puerto Rico, Inc., does not have a written damage prevention program and the Public Service Commission (PSC) of Puerto Rico has not encouraged the development of such a program. There is no "one-call" system operating in the accident area or in any other area on the island of Puerto Rico, and there are no local or Commonwealth laws requiring excavators to notify utilities of planned excavations.

1/ For more detailed information, read "Pipeline Accident Report--The Pipelines of Puerto Rico, Inc., Petroleum Products Pipeline Rupture and Fire, Bayamon, Puerto Rico, January 30, 1980" (NTSB-PAR-80-6).

2/ A pavement breaker is a hydraulic or air-operated piece of equipment used to break or fracture pavement.

3/ A ripper is the name given to a bulldozer which has as a part of its excavation equipment a heavy, metal, extendable tooth resembling a plow.

The Safety Board believes that good communication between excavators and operators of underground facilities is essential for any successful pipeline damage prevention program and that one of the most effective methods of preventing excavation-caused damage to underground facilities is to insure that excavators notify the owners or operators of utility companies in advance of the proposed excavation work so that operators can mark the location of their facilities before excavation begins. The most convenient method for such notification is a "one-call" system. If an excavator gives reasonable advance notice of his plans, owners of underground facilities can locate and mark their facilities promptly and accurately, or can advise the excavators that there are no facilities in the proposed area of excavation. In all, "one-call" systems operate in 43 States.

The "one-call" system international committee of the American Public Works Association Utility Location and Coordination Council, located at 1313 East 60th Street, Chicago, Illinois, (telephone 312-947-2520), has appointed nine regional representatives who are available to consult with community officials around the continental United States and its territories to set up "one-call" systems. While the Safety Board fully understands that the "one-call" system is not a panacea for all underground utilities accidents, it believes that an established "one-call" system, with a requirement for contractors to use it, is an extremely valuable tool for the prevention of damage to pipelines. In this case, if such a system had been in operation and if the highway contractor, by his contractual requirements, had been continuously "in contact with the 'one-call' notification system or the individual facilities operators to determine the precise depth and location of any underground facility," this accident might not have occurred.

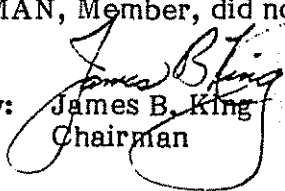
It appears that the pipeline company's parent companies furnish satisfactory pipeline safety training, especially for pipeline corrosion control, and have acceptable training programs for their professional staff in Puerto Rico. However, the PSC lacks an effective training program for its employees. On October 16, 1973, and again on January 14, 1980, the Office of Pipeline Safety Operations of the U.S. Department of Transportation suggested that the PSC send its pipeline personnel to training courses on the safety evaluation of pipeline facilities at the DOT's Transportation Safety Institute in Oklahoma City, Oklahoma. Half of the total costs for such training courses are paid by the Federal government. As yet, no personnel from the PSC have been assigned to these pipeline safety courses. Participation in these courses or other courses could provide PSC personnel with valuable training in pipeline safety and would assist them in properly evaluating the pipeline facilities of Puerto Rico.

Therefore, the National Transportation Safety Board recommends that the Governor of the Commonwealth of Puerto Rico:

Direct the Public Service Commission of Puerto Rico to send professional personnel to conferences, seminars, training courses, and other activities regarding petroleum products pipeline safety. (Class II, Priority Action) (P-80-86)

Direct the appropriate utilities and agencies of Puerto Rico to establish an island-wide "one-call" excavation notification system. (Class II, Priority Action) (P-80-87)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and BURSLEY, Members, concurred in these recommendations. GOLDMAN, Member, did not participate.

By: 
James B. King
Chairman