

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: October 29, 1979

Forwarded to:

Honorable Howard Dugoff
Administrator
Research and Special Programs
Administration
Department of Transportation
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

P-79-33

At 8:45 a.m., c.d.t., on May 29, 1978, an explosion destroyed a one-story brick house in Arlington, Texas, and damaged adjacent houses; there were no fatalities or injuries. The National Transportation Safety Board's investigation revealed that natural gas had leaked from two corrosion holes in the 1-inch, bare steel gas customer yard line ^{1/} located about 12 feet from the wall of the house and had accumulated under the foundation of the house. The service line was operating at 11 psig pressure and was covered by 17 inches of soil which had been saturated by heavy rains the day before the accident. The Safety Board determined that the probable source of ignition was the pilot light on a gas hot water heater.

The yard line was part of a cathodically unprotected gas pipe system leading from the outlet side of the curb valve to the inlet side of the customer's meter. Lone Star Gas Company's service line consisted of 37 feet of 1-inch, coated and wrapped steel pipe which was connected to the gas main with an insulated coupling and extended from the main under the pavement to the inlet side of the valve at the curb. There was no electric insulating fitting between the fuel line ^{2/} and the gas meter to insulate the uncoated yard line from the house piping. As a result, the bare yard line was anodic to the house piping and a galvanic corrosion condition resulted which caused two corrosion holes in the yard line. The yard line and the meter had been installed by a plumbing contractor in 1958, and was considered by Lone Star to be a customer's yard line and not a company-owned facility.

Lone Star's yard line policy was contrary to that recommended by the industry code, ANSI B31.8, which existed when this service line was installed and which covered the design, fabrication, installation, and inspection of gas service lines up to the outlet of the customer's meter set assembly. Although not a mandatory standard in Texas until February 16, 1967, ANSI B31.8 was in general use and was followed in part by Lone Star. The industry code recommends that "consideration shall be given to insulating, near or within the building, those services which are connected through the house piping to water services, electrical ground, etc., so as to eliminate possible galvanic corrosion. . ."

^{1/} A yard line is the piping from the outlet side of a curb valve to the inlet side of the customer's meter.

^{2/} A fuel line is the piping from the outlet side of the Lone Star meter to the appliances throughout the house or building.

Lone Star's policy has continued unchanged in that yard lines are still installed by plumbing contractors in accordance with the local plumbing code while Lone Star installs the remainder of the service line from the customer's property line back to the gas main. This policy is not in compliance with Federal Regulations (49 CFR 192) for the transportation of natural gas and other gas by pipeline, which were adopted by the Texas Railroad Commission on December 31, 1970.


These regulations establish standards for the design, installation, construction, and initial inspection of gas distribution and transmission lines. Title 49 CFR 192.3 defines a "service line" as "a distribution line that transports gas from a common source of supply to (a) a customer's meter or the connection to a customer piping, whichever is farther downstream, or (b) the connection to a customer's piping if there is no customer meter." ^{3/} Notwithstanding its policy that the yard line is the customer's responsibility, Lone Star does pressure test the entire service line from the gas main to the customer's meter before beginning gas service to a customer and checks the yard lines during its periodic gas leak surveys.

While the Safety Board is aware that Lone Star's policy is that the yard line belongs to the customer for maintenance, the company's policy is not consistent with the Federal regulations wherein the line would be defined as service line up to the customer's meter, regardless of ownership.

Therefore, the National Transportation Safety Board recommends that the Materials Transportation Bureau:

Instruct its regional offices and State agencies to immediately direct operators who distinguish yard lines from service lines to incorporate the same inspection, operation, and maintenance of these lines in their operation and maintenance plan as for the company-owned service lines. (Class II, Priority Action) (P-79-33)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in this recommendation.


By: James B. King
Chairman

^{3/} A customer meter is the meter that measures the transfer of gas from an operator to a consumer.