

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: December 9, 1977

Forwarded to:

Mr. Byron W. Cain
President
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1201 Elm Street
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SAFETY RECOMMENDATION(S)

P-77-43

About 1:00 p.m., m.d.t., on August 9, 1977, natural gas under high pressure was briefly allowed to enter a low-pressure natural gas distribution line and overpressured more than 750 customer service lines in a seven-block area in El Paso, Texas. Flames from gas pilots and the burners of appliances burned out of control and caused fires in nearby flammable materials. There were a few minor injuries and some minor property damage, but no fatalities.

Within a few minutes the fire department arrived and, with the help of the police department, started to shut off gas meters at houses and businesses. Some commercial establishments were evacuated for about 2 hours until their area was cleared of gas odor.

At the time of the accident, a Southern Union Gas Company street crew was replacing a section of 10-inch cast-iron, low-pressure gas main operating at 6 ounces per square inch (oz.) downstream of a pressure-reducing (regulator) station. The station had an inlet pressure of 20 psig.

The section to be replaced was first isolated by closing two valves on the main, approximately 70 feet apart. Next, a stopple fitting was installed to isolate this section from the regulator station. A 2-inch bypass was installed around the stopple fitting and one of the isolating valves in order to supply the system while the replacement work was being performed.

Although the gas company was aware that the section of main being replaced contained the pressure-sensing lines for both the regulator station and its monitor, the company apparently did not realize the potential hazard of isolating the pressure-sensing lines which would make the two regulators inoperative.

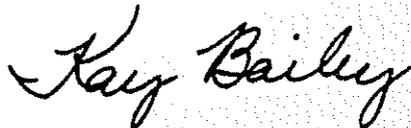
It was estimated that the pressure was allowed to build up in the low-pressure system for 4 to 7 minutes before the street crew realized, by the sound of an increased flow of gas through the bypass, that something unusual had happened and opened the stopple fitting. There were no pressure gauges on the low-pressure system to indicate the maximum pressure put into the system; however, the pen of the pressure-recording gauge located approximately seven blocks away at another regulator station went off the chart at 12 oz.

This accident did not cause a fatality or extensive property damage; however, it did have the potential to be catastrophic because the circumstances were similar to those involved in an accident investigated by the Safety Board on June 3, 1969, in Gary, Indiana, in which 7 houses were destroyed and 45 others were damaged. 1/

Therefore, the National Transportation Safety Board recommends that the Southern Union Gas Company:

Evaluate the effects upon the gas system prior to placing any portion out of service and take actions necessary to assure continued safe operation.
Appendix G - 12 of the ASME Guide for Gas Transmission and Distribution Piping Systems - 1976, provides guidance to aid in accomplishing these actions. (Class II, Priority Action) (P-77-43)

BAILEY, Acting Chairman, McADAMS, HOGUE, and KING, Members, concurred in the above recommendation.



By: Kay Bailey
Acting Chairman

1/ "Pipeline Accident Report--Low-Pressure Natural Gas Distribution System, Gary, Indiana, June 3, 1969," adopted December 4, 1969.