

Lrg P-252

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: June 18, 1984

Forwarded to:

Mr. Matthew B. Coffee
Executive Director
National Association of Counties
440 First Street, N.W.
Washington, D.C. 20001

SAFETY RECOMMENDATION(S)

P-84-27

About 7:25 p.m., c.s.t., on March 15, 1983, an 8-inch-diameter liquefied petroleum gas (LPG) pipeline operated by the Mid-America Pipeline System (MAPCO) was damaged by a rotating power auger being used to drill holes in rocky terrain to plant trees on Lot 8, Section 5, Block 43 of the Chaparral Estates housing development near West Odessa, Texas. The damaged pipeline ruptured and within 3 minutes, LPG, which was being transported at 1,075 psig, escaped, vaporized, and was ignited by an undetermined source. In the resultant fire, five persons were killed and five persons were seriously injured—one person died 5 days later. Two mobile homes, a small frame house, an auger truck, two cars, and a pickup truck were destroyed; 9,375 barrels of LPG were burned.

When the pipeline was installed in 1960, the area west of Odessa was undeveloped and uncultivated land. The Grant of Easement entered into in 1960 between MAPCO and the former owner of the land now known as Chaparral Estates provided permanent rights for MAPCO to clear and keep clear an area along the route of the pipeline which extended 25 feet on each side of the center of the pipeline. The easement was recorded in Vol. 369, page 1 of the deed records of Ector County. Additionally, the easement precluded the grantor of the easement from building or allowing others to build upon the easement in any way "that will interfere with the normal operation and maintenance" of the pipeline. With the growth of Odessa after 1960, surrounding acreage has been developed into unincorporated residential communities, many of which have been built over existing oil gathering, natural gas transmission, and liquefied petroleum pipelines.

In the late 1970's and early 1980's, the area known as Chaparral Estates was subdivided into residential lots. Many conventional and mobile homes have been placed on the lots. Block 43 of Section 5, the portion of Chaparral Estates in which the rupture occurred, was subdivided in 1981, and 11 of the residential lots overlay MAPCO's LPG

1/ For more detailed information read Pipeline Accident Report—"Mid-America Pipeline System Liquefied Petroleum Gas Pipeline Rupture, West Odessa, Texas, March 15, 1983" (NTSB/PAR-84/01).

pipeline easement. The two mobile homes destroyed in the fire were located on 2 of these 11 lots, and the mobile home on Lot 8 encroached 15 feet into MAPCO's easement and was within 10 feet of the pipeline. Since the development of Block 43 of Chaparral Estates, roads have been graded over the pipeline, and numerous excavations have been made adjacent to the pipeline for installing buried telephone cables, septic tanks, and poles for electric power lines.

Chaparral Estates, like many other land subdivisions, was planned without consideration of the hazards that might be posed to future residents by damage to pipelines transporting hazardous materials. Moreover, Ector County officials approved the plans for Chaparral Estates without consideration of the effect of the development upon the safety of MAPCO's pipeline and also without consideration of the possible hazard to future residents posed by the pipeline. Because neither the developer nor land planning officials recognized the location of the pipeline within the planned subdivision as a potential threat to the safety of future residents, 11 lots in Block 43 were allowed to be developed over the land occupied by MAPCO's pipeline easement. Dwellings could not be erected or placed on some of these lots without siting the dwelling over the pipeline. MAPCO's first knowledge of the development was provided by its aerial surveys when construction activity was noted.

The Safety Board recognizes that high-pressure pipelines underlie many residential lots throughout the nation and that houses have been built over them. These potentially adverse conditions will be difficult to abate easily or economically; however, there is no justification for local land use and planning agencies or land developers to continue to add to the problem. Local governments should establish land development standards which will preclude subdividers from creating lots over pipelines or lots in which construction cannot be undertaken without encroaching on pipeline easements. Such standards might even be tailored to force land developers to subdivide lands so that the high-pressure pipelines lie within an area to be used as streets or clear areas within the community. If these alternatives are not possible, the developer should be required to arrange with the owner of a pipeline for its relocation away from the residential development or to provide a necessary margin of safety by other means.

When the proposed subdivision of the land crossed by MAPCO's pipeline was presented to the Ector County officials for approval, specific information pertinent to the potential hazards presented by the proximity of the pipeline to prospective residents of the subdivision were not made known by the developer—nor was he required to provide it. As examples, the county officials were not provided with information about the depth of the pipeline, the design of the pipeline or its current physical condition, inspection and maintenance practices of the pipeline owner for maintaining the safety of the pipeline, anticipated excavation or other construction activities which might endanger the pipeline, the means to be used for notifying prospective purchasers about the pipeline, products carried by the pipeline, life expectancy of the pipeline, or the effect of the easement upon the use of the land by prospective purchasers. Had such information been made available to Ector County officials, the need for specific action by the developer for the protection of future residents of the subdivision might have been identified.

Therefore, the National Transportation Safety Board recommends that the National Association of County Administrators and the National Council of County Association Executives:

Advise its members of the circumstances of the accident near West Odessa, Texas, on March 15, 1983, and urge them to develop measures to preclude the development of residential lots over pipelines transporting hazardous liquids or gases or of lots on which construction will necessarily encroach on easements for the pipelines. (Class II, Priority Action) (P-84-27)

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility ". . .to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (P.L. 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations and would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter.

BURNETT, Chairman, and BURSLEY and GROSE, Members, concurred in this recommendation. GOLDMAN, Vice Chairman, did not participate.

By: 
Jim Burnett
Chairman