

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

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(202) 426-8787

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Forwarded to:

Honorable Carla A. Hills  
Secretary  
Department of Housing and Urban  
Development  
Washington, D. C. 20410  
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SAFETY RECOMMENDATION(S)

P-76-12

At 6:57 a.m. on April 22, 1974, a massive, low-order explosion demolished the west wall of a 25-story commercial building at 305 East 45th Street in New York, New York. The structure of the adjacent building was damaged and glass was broken in other buildings in the area. Glass fragments and slivers were blown into 46th Street, where they lay 1 inch deep in places. No persons were killed, but more than 70 persons were injured.

The National Transportation Safety Board's investigation showed that a 6-inch gas service line located in the basement of the building had been struck from below and severed by a ruptured hydropneumatic pressure tank installed directly underneath. Gas at 7 inches of water column flowed at 54,000 cubic feet per hour from the open end of the separated service line. Gas leakage continued for about 1/2 hour. Gas odors were noticed by a building occupant, but no gas detection equipment had been installed and therefore no alarm was sounded. The occupant who smelled gas alerted the night watchman of the incident and initiated a telephone call to report the matter. The building exploded before the escaping gas could be shut off and before the sources of ignition could be eliminated.

Gas vapor detection equipment is available and in use for the detection of gas. The more reliable, higher quality equipment is expensive, but work is being done to produce a dependable, moderately priced instrument. One system employs a centrally located detection unit with numerous detection heads which can be located in various parts of a building where gas might accumulate.

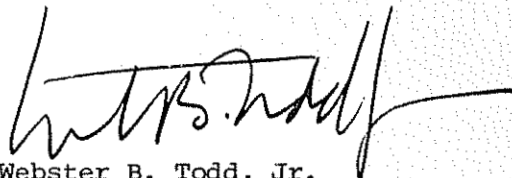
PAR-262

Many commercial buildings are required to have smoke or heat detection instruments located at strategic positions in their interior. These instruments are designed to activate sprinkler systems if the instruments are triggered by the smoke or heat of a fire. It seems logical that similar regulations could be adopted for the installation of gas detection instruments in buildings.

Therefore, the National Transportation Safety Board recommends that the Department of Housing and Urban Development:

Investigate the practicability and the availability of gas vapor detection instruments for installation at strategic locations in buildings. Based on the results of this investigation, recommend guidelines to appropriate State and local government agencies for regulations for the installation of gas detection instruments in buildings. (Recommendation P-76-12) (Class II, Priority Followup)

TODD, Chairman, McADAMS, THAYER, BURGESS, and HALEY, Members, concurred in the above recommendations.



By: Webster B. Todd, Jr.  
Chairman

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