

P-1441

# NATIONAL TRANSPORTATION SAFETY BOARD WASHINGTON, D.C.

ISSUED: October 12, 1979

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Forwarded to:

Mr. G.H. Lawrence  
President  
American Gas Association  
1515 Wilson Boulevard  
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SAFETY RECOMMENDATION(S)

P-79-31

At 3:35 a.m., on October 6, 1979, an explosion of liquefied natural gas (LNG) vapors destroyed a transformer building at the Columbia LNG Corporation Facility in Cove Point, Maryland. One person was killed in the explosion, one person was critically injured, and other buildings at the facility were damaged.

The National Transportation Safety Board's continuing investigation of the accident has found that a high-pressure LNG pump in the high-pressure pump building was discovered leaking about 3:00 a.m., during a routine equipment check by an employee. He notified an employee in the monitor house about 400 feet away by radio of the pump leakage. Because of radio interference the monitor house was able to understand only that a pump was leaking, and the employee would phone the monitor house from the transformer building. When the employee reached the transformer building, about 3:30 a.m., he called the monitor house employee by telephone, advised him of the situation, and said that he was going to pull the circuit breaker on the leaking pump. At 3:35 a.m., an explosion occurred in the transformer building; one employee was killed and another was critically injured.

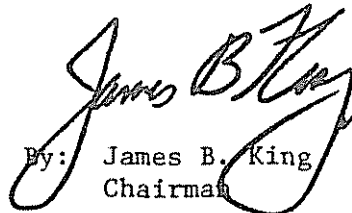
The Safety Board's investigation indicates that LNG leaked through an electrical termination seal on the high-pressure pump, and then vaporized and flowed under pressure through the motor inlet conduit seal located 12 inches below the bottom of the connection box. LNG and gas vapors then flowed through the electric conduit about 225 feet from the high-pressure pump building to the transformer building. There gas vapors leaked through the last electric conduit seal just below the circuit breaker. As the employee opened the circuit breaker a spark ignited the gas vapor.

The Safety Board was informed that because of long lead times and the extent of work necessary to replace the transformers and switch gear, the Cove Point LNG Facility may not be back in full operation for 6 months to 1 year. This LNG facility may be made partially operational in 2 to 4 weeks by making temporary repairs permitting operation of a portion of the gasification equipment.

The Safety Board is concerned that other LNG facilities with similar design could experience the same problem. Therefore, the National Transportation Safety Board recommends that the American Gas Association:

Notify its member companies operating similar LNG facilities of the known particulars of the Cove Point accident and request that they conduct an inspection of electric conduit seals at their facilities immediately to determine if leaks through the seals could result in similar explosion hazards at their LNG facilities, and that they take appropriate actions to correct any potential hazards found.  
(Class I, Urgent Action)(P-79-31)

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

  
By: James B. King  
Chairman