

Pressure Piping, and higher than the pressure to which the pipeline was tested, (2) the lack of any written procedures for making the tie-in, and, (3) the failure of Federal or State regulations to limit the maximum operating pressure.

Contributing to the extent of the damage was the delay in shutting down the pipeline after the rupture occurred.

VII. RECOMMENDATIONS

The National Transportation Safety Board recommends that:

1. The Office of Pipeline Safety of the Department of Transportation take the following actions:

1 (a) Review the methods used by pipeline operators to protect existing transmission lines against accidental overpressuring upon the failure of pressure control equipment. This review should be made in conjunction with the States. If problem areas are detected, adequate regulatory action, including rule-making, should be undertaken to assure protection against overpressuring.

2 (b) Clarify the Federal regulations pertaining to the determination of maximum allowable operating pressure for existing pipelines so that the joint factor in use when the pipe was manufactured is utilized for current computations.

2. The Mobil Oil Corporation take the following actions:

9 (a) Recalculate the present maximum allowable operating pressure on this pipeline, utilizing a joint factor of 0.85 for the ERW sections of the line, and reduce the pressure at which the line is operated, where necessary, to comply with these new calculations.

10 (b) Prepare written procedures for each planned shutdown of sections of its pipeline system. In addition to general requirements for all planned shutdowns, these specific procedures should include methods of handling specific problems which might be encountered during each shutdown.

3. American Society of Mechanical Engineers Gas Piping Standards Committee take the following action:

11 (a) Develop guidelines for procedures to be prepared by operators of gas systems for each planned shutdown of a section of pipeline system. In addition to general requirements for all shutdowns, these procedures should include methods of handling specific problems which might be encountered during each shutdown. These guidelines should be included in the ASME "Guide for Gas Transmission and Distribution Piping Systems" and recommended for use in complying with the operating and maintenance plan requirements of paragraph 192.605 of the Federal regulations.

The Safety Board wishes to point out the following recommendation made in its special study of Effects of Delay in Shutting Down Failed Pipeline Systems and Methods of Providing Rapid Shutdown:"

"The Office of Pipeline Safety of the Department of Transportation conduct a study to develop standards for the rapid shutdown of failed natural gas pipelines and work in conjunction with the Federal Railroad Administration to develop similar standards for liquid pipelines." This recommendation was made February 12, 1971, partially in response to the events of this accident which is cited."