

Office of Pipeline Safety
Department of Transportation
400 Sixth Street, S.W.
Washington, D.C. 20590

Gentlemen:

Subject: Docket OPS-3A, Notice 70-1, Subpart E, Par. 192.239(g) - Stress Relieving Temperatures for Ferritic Alloy Steels

The subject paragraph specifies a minimum stress relief temperature of 1200°F for ferritic alloy steels. That temperature is perhaps repeated from Article 827.6 of ANSI B31.8, the Gas Transmission Piping Code (1968 edition). I believe that the single-value minimum temperature should be replaced with a little stress relief requirements to reflect the different effect of various employing elements upon the transformation temperature of steel.

Both the ASME Boiler and Pressure Vessel Code and the ANSI Refinery Piping Code have such tabulations which specify different stress relief temperatures for each P-N0. alloy group. However, prior to the 1959 edition, the Refinery Piping Code specified the same single minimum temperature, 1200°F, for stress relieving ferritic alloy steels that is current in the Gas Transmission Code and proposed for adoption in the Minimum Federal Safety Standards for Gas Pipelines.

A related matter pertaining to the proper stress relief temperature for a specific alloy, 3-1/2% Ni steel, was recently presented to the ASME Code Committee for consideration of a change. The attached excerpt from the change request indicates a reason why 1200°F is not acceptable as the minimum stress relief temperature for all ferritic alloy steels. The Code Committee has taken the subject under advisement but has not yet completed cation.

The nickel steels currently present a very pertinent reason for checking stress relief requirements in the Gas Transmission Piping Code and the related minimum Federal Safety Standards. With the increase of interest in pipelining in northern climes and the need to use brittle-fracture resistant materials, the nickel steels may well find their way into gas transmission lines. Pipe and piping components of steels meeting the requirements of ASTM A-333, Grades 3, 4, 7 and 9 would be suitable for such services, but would be better stress relieved at maximum temperature somewhat below 1200°F.

Because of the probable relationship of the Federal Minimum Safety Standards to the Gas Transmission Piping Code, a copy of this letter is being sent to Mr. L.L. Elder, Chairman, B31.8 Committee. Since that group meets early in April, it may be possible to institute consideration of

possible changes at that time. Such consideration would provide additional information for Office of Pipeline Safety personnel to include in their investigation of the matter.

Very truly yours,

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