Research and Special Programs Administration

[Docket No. P-93-2W; Notice 2]

Grant of Waiver: Repair of Gas Transmission Lines

Summary. The Research and Special Programs Administration (RSPA) waives certain maintenance regulations to permit various gas pipeline operators to repair steel transmission lines with Clock Spring[®] wrap. The waiver, which is subject to conditions and future performance evaluations, advances the use of new technology.

Background. Twenty-eight companies and their subsidiaries, ¹ all gas pipeline operators, requested that RSPA waive the safety standards in 49 CFR 192.713(a) and 192.485 for gas transmission lines operating at 40 percent or more of specified minimum yield strength (SMYS). The operators requested the waiver to get permission to repair the lines with Clock Spring[®] wrap.² The request came in a November 22, 1993, petition submitted by the Interstate Natural Gas Association of America (INGAA), a gas pipeline trade association.³

² Clock Spring[®] wrap, manufactured by the Clock Spring Company of North America, is a composite material of polyester resin reinforced by glass filament. On installation, it is tightly wound and adhesively bonded to damaged pipe.

³ By letter dated March 22, 1994, INGAA added Granite State Gas Transmission Company to the original list of companies seeking a waiver. Under § 192.713(a), each imperfection or damage that impairs the serviceability of a segment of transmission line operating at 40 percent or more of SMYS must be repaired. If it is feasible to remove the line from service, pipe containing the imperfection or damage must be replaced. Otherwise, a full encirclement welded split sleeve must be installed over the imperfection or damage. The waiver request asks permission to use Clock Spring[®] wrap for repairs instead of the methods prescribed by § 192.713(a).

Section 192.485(a) requires replacement of transmission line pipe that is generally corroded to the extent that wall thickness is unsafe, unless operating pressure is reduced appropriately or, if the area of general corrosion is small, the corroded pipe is repaired. A similar requirement applies under § 192.485(b) to transmission lines with unsafe localized corrosion pitting, except that repair is not limited to small areas. The waiver request asks permission to use Clock Spring® wrap to repair large areas of general corrosion as an alternative to pipe replacement or pressure reduction under § 192.485(a).4

In an earlier waiver of § 192.713(a), **RSPA** allowed Panhandle Eastern Corporation (Panhandle) to use Clock Spring[®] wrap to repair six locations on its Line # 2 in Fayette County, Ohio (58 FR 13823; March 15, 1993). The waiver was subject to the conditions that Panhandle: (1) Install the wrap using the procedures described in documents supporting its petition; (2) perform the inspections described in its petition;5 (3) promptly report to RSPA the results of the inspections and any unfavorable performance of the wrap, and (4) determine and report to RSPA the cause of any unfavorable performance. In addition, Panhandle advised that it would determine the need to repair generally corroded areas by using ASME B31G, "Manual for Determining the Remaining Strength of Corroded Pipelines." Also, Panhandle said it would determine whether Clock Spring[®] wrap would provide a reliable

repair in particular instances by using a computer program developed by the Gas Research Institute (GRI) based on laboratory and field tests of pipe repaired with the wrap.

In the present waiver request, the operators offered to conform to the Panhandle waiver, except that they would: (1) Use an enhanced program, GRI WRAP, to determine whether Clock Spring[®] wrap would provide a reliable repair in particular instances; (2) use either the ASME B31G procedure or RSTRENG⁶ to determine if corroded areas require repair under § 192.485; (3) coordinate Clock Spring® wrap installations with GRI (to establish a representative data base to support a possible rule change), and within 2 years, with GRI's assistance, excavate and evaluate a statistical sampling of sites,⁷ record the results, and give the results to RSPA upon request; (4) report Clock Spring® wrap repairs to RSPA or its state agent within 30 days of repair; (5) use personnel to install Clock Spring[®] wrap who have been trained and certified by Clock Spring Company; and (6) record installations of Clock Spring[®] wrap under §192.709.⁸

Comments on Proposed Waiver/In Notice 1 of this proceeding (59 FR 49739; September 29, 1994), RSPA proposed to grant the present waiver request for the safety and economic reasons stated in the notice. However, we proposed to restrict the waiver to repairs no more than 10 feet long. We felt this restriction was needed because the pipeline industry has had no experience in repairing large areas of generally corroded pipe other than by pipe replacement. At the same time, we specifically requested comments on the aspect of the waiver request that would allow unlimited areas of general corrosion to be repaired with Clock Spring[®] wrap. In addition, regarding the offer to report Clock Spring[®] wrap repairs, we proposed that reports be sent both to RSPA and to the state agent. We also proposed that the reports be sent

¹ ANR Pipeline Co.; Arkla Energy Resources Co. (including Mississippi River Transmission Co.); CNG Transmission Corp.; Colorado Interstate Gas Co. (including Wyoming Interstate Co., Ltd. and Young Gas Storage Co., LTD.); Columbia Gas Transmission Corp.; Columbia Gulf Transmission Co.; El Paso Natural Gas Co.; Enron Corp. (including Florida Gas Transmission Co., Houston Pipe Line Co., Intratex Gas Company, Northern Border Pipeline Co., Northern Natural Gas Company, Oasis Pipeline Co., and Transwestern Pipeline Co.): Granite State Gas Transmission Company; Great Lakes Gas Transmission Co.: Kern River Gas Transmission Co.; KN Energy, Inc.; Koch Industries, Inc. and all subsidiaries; Michigan Consolidated Gas Co.: Mid Louisiana Gas Co.: Natural Gas Pipeline Company of America and all subsidiaries; Michigan Consolidated Gas Co.: Mid Louisiana Gas Co.; Natural Gas Pipeline Company of America and all subsidiaries; Northwest Pipeline Corp.; Pacific Gas & Electric Co.; Pacific Gas Transmission Co.; Panhandle Eastern Corp. (including Panhandle Eastern Pipeline Co., Texas Eastern Transmission Co., Trunkline Gas Co., and Algonquin Gas Transmission Co.); Questar Pipeline Co.; Southern California Gas Co.; Southern Natural Gas (including Southern Natural Gas Co., South Georgia Natural Gas Co., Sea Robin Pipeline Co., Sonat Intrastate-Alabama Inc., and Bear Creek Storage Co.); Tenneco Gas Transportation Co. (including Tennessee Gas Pipeline Co, East Tennessee Natural Gas Co., Midwestern Gas Transmission Co., and Channel Gas Transmission Co.); Texas Gas Transmission Corp.; Transcontinental Gas Pipe Line Corp.; Williams Natural Gas Co.; and Williston Basin Interstate Pipeline Co.

⁴Section 192.485(a) does not preclude the use of Clock Spring[®] wrap to repair small areas of general corrosion, nor does § 192.485(b) preclude the use of Clock Spring[®] wrap to repair localized corrosion pitting. However, if these defects are on transmission lines operating at 40 percent or more of SMYS, § 192.713(a) precludes their repair with Clock Spring[®] wrap.

⁵The inspections include examination and measurement of Clock Spring[®] wrap repairs and samples of wrap buried next to the repairs. Two repairs are to be evaluated at intervals of 2, 4, and 8 years. Measurements include strain gage readings of two repairs at 6-month intervals to verify the absence of wrap and adhesive creep.

⁶RSTRENG is a computer program developed to carry out the procedure called "A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe." This procedure was developed by Battelle for the American GAs Association as an alternative to the ASME B31G procedures. Both B31G and RSTRENG may be used to comply with § 192.485.

⁷ The INGAA petition defined a site to include multiple repairs on a single pipeline in the same area or multiple pipelines in the same right-of-way in the same area.

⁸ Section 192.709 requires pipeline operators to keep a record of each repair to a transmission line for as long as the line is in service. This requirement applies to all transmission line repairs, and would apply to Clock Spring[®] wrap repairs regardless of the offer to comply with the regulation.