

PI-83-0109

August 26, 1983

INFORMATION: Final Rule on Repair or Removal of Girth Weld Defects

Original Sign By  
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Attached are 10 copies each of a final rule to amend 49 CFR Parts 192 and 195, the associated SF-83, and the letter of transmittal to OMB. They are submitted for OST and OMB review in accordance with Executive Order 12291 and DOT procedures.

DEPARTMENT OF TRANSPORTATION  
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION  
MATERIALS TRANSPORTATION BUREAU

49 CFR Parts 192 and 195  
[Amdts. 192-46 and 195-29; Docket No. PS-74]

Transportation of Natural and Other Gas and Hazardous Liquids by Pipeline;  
Repair or Removal of Girth Weld Defects

AGENCY: Materials Transportation Bureau (MTB), DOT.

ACTION: Final rule.

SUMMARY: These amendments change the pipeline construction requirements of Parts 192 and 195 by modifying the present regulations on the repair or removal of defective girth welds utilizing performance standards for weld repair. The revised requirements permit the more cost effective repair of a weld crack as well as the repair of any weld defect in a previously repaired area provided that qualified weld repair procedures are followed. The procedures must assure that the soundness and mechanical properties of a repaired weld will be equal to an acceptable original weld.

EFFECTIVE DATE: (Insert date 30 days after publication in the Federal Register)

FOR FURTHER INFORMATION CONTACT: William A. Gloe, 202-426-2082, regarding the content of these amendments, or the Dockets Branch, 202-426-3148, regarding copies of the amendments or other information in the docket.

SUPPLEMENTARY INFORMATION:

Background:

The requirements of 49 CFR Parts 192 and 195 governing the repair or removal of girth weld defects were derived from editions of industry codes that were in effect at the time of issuance of the original Federal pipeline safety regulations. As derived from American National Standards Institute (ANSI) B31.8 for gas pipelines, and from ANSI B31.4 for liquid pipelines, Part 192 and Part 195 treat weld repair and removal differently. Part 192 requires that "a weld must be removed if it has a crack that is more than 2-inches long or that penetrates either the root or second bead." By this language, and by a previous statement that unacceptable welds must be removed or repaired, Part 192 permits the repair of certain cracks that are up to 2-inches long. The 1968 edition of ANSI B31.8 specified that:

Minor cracks in the surface and filler beads may be repaired when so authorized by the company, but any crack penetrating the root bead or the second bead shall be cause for complete rejection of the weld. The entire weld shall then be cut from the pipeline and replaced. Minor cracks shall be defined as cracks visible in the surface bead and not over 2 inches in length.

Part 195 requires that "a weld that is found unacceptable under §195.228 may not be repaired unless . . . [T] here are no cracks in the weld." Further, it defines removal by stating: "a cylinder of the pipe containing the weld must be removed and the ends rebeveled whenever . . . [T]he weld contains one or more cracks." The 1966 edition of ANSI B31.4, from which Part 195 was derived, stated that "Authorization for repair of welds, removal and repair of weld defects, and testing of weld repairs shall be in accordance with API Standard 1104." ANSI B31.4 at the time referenced the 9th edition of API Standard 1104 (1965), which edition did not permit the repair of weld cracks.

Parts 192 and 195 are in agreement on the need for weld removal if "the repair is not acceptable" (§192.245(b)) or "the weld was repaired and the repair did not meet the requirements of §195.228."

Amendments 192-27 and 195-11 were issued in 1976 to make the regulations more compatible with

offshore pipeline construction. Effective with those amendments, the repair of weld cracks, regardless of length, and the multiple repair of all weld defects have been permitted for gas and hazardous liquid pipelines being laid from a pipelay vessel. The DOT has received no reports to indicate that the revised weld repair requirements for offshore pipeline construction has posed a safety problem in any way.

In 1973, API Standard 1104, the industry standard for field welding, was revised to include procedures for the repair of girth weld cracks that are less than 8 percent of the weld length, and for the multiple repairs of all weld defects. The prohibitions in the Federal regulations against repair of cracks and multiple repairs in onshore pipelines have become a much greater economic problem with the increase in diameter of pipelines constructed in recent years. Using today's welding technology, the 2-inch crack length weld repair limitation on gas pipelines and "no cracks" rule for weld repair on liquid pipelines are unreasonably restrictive, particularly for these larger diameter pipelines. These past limitations and multiple repair prohibitions have no proven safety benefit. Requirements that cause removal of a cylindrical section of large pipe, including the girth weld, can be vexatious when only a small part of a weld may be defective, especially if the weld is made to a fitting. Moreover, available information indicates that a girth weld replaced by a new section of pipe and two new girth welds may be no more safe than a weld repaired in accordance with qualified written repair procedures because of the problems associated with removal of a weld and rewelding under field conditions.

Since 1975, waivers from the weld repair and removal requirements of §§192.245, 195.230, and 195.232 have been granted by the MTB, based on substantial evidence that the repair procedures employed did assure the same weld soundness and mechanical properties after the repairs were completed as would have been obtained in an acceptable new weld. The petitions, facts about these waivers, and the supporting test data developed are in the docket file for those waiver proceedings. (Docket Nos. 76-4W, 77-6, 80-10W, and 82-3W)

#### Review:

In recognition of the questionable safety value and economic burden of the restrictive weld repair and removal regulations, MTB initiated a regulatory review to examine various approaches toward changing the requirements. During the MTB review, consideration was given to alternative ways of reaching the objective, including simply deleting mandatory removal requirements, leaving weld repair to operator discretion. Deletion might be justified on the basis that other sections of the regulations on welding would still require qualified welding procedures and qualified welders, and that the provisions would be applicable to repair welding. Historical accident data were reviewed to determine the need for specific weld repair rules if removal were no longer required. MTB found that although no definite hazard could be attributed to faulty repairs of girth welds, a number of girth weld failures have occurred, and the remaining regulations would not address questions of possible failure cause, such as inadequate verification of crack removal, the lack of requirements for nondestructive testing of repairs, and degradation of weld heat-affected zones as a result of permissible multiple repairs. Because the reasons for the weld failures are, in general, unknown, it was concluded that there is a need to address the above areas in the form of weld repair procedures or performance standards.

The review did not take into account the experience of the offshore industry since 1976 under the relaxed weld removal requirements for offshore pipelines because offshore pipeline welds are required to be nondestructively tested 100 percent if practicable, but not less than 90 percent, and the fact that bending of the pipeline off the lay vessel until it is in place on the ocean bottom stresses the welds to an extreme degree such that construction operations themselves provide proof of weld integrity. MTB does not believe that offshore operators would risk the hazards of pipeline installation without requiring that all weld repairs are made in accordance with tested and proven procedures, such that the welds are of the highest quality even without a specific weld repair regulation.

During the review, the MTB received a June 2, 1981, petition from the American Petroleum Institute (API) for the replacement of relevant sections of the regulations with the requirements of Section 7.0, "Repair or Removal of Defects," of API Standard 1104. The MTB found that the API petition would overcome

objections to the existing weld removal requirements but still would retain a requirement for crack length limitation. Section 7.0 specifies that a weld crack may be repaired only if "it is less than 8 percent of the weld length."

The MTB concluded that a new rule combining a performance requirement for weld soundness, ductility, and mechanical properties and incorporating by reference Section 7.0 of API Standard 1104 would accomplish the objective. This approach was recommended in the Regulatory Review Report in support of a draft Notice of Proposed Rulemaking, a copy of which was appended to the Report. However, MTB questioned the appropriateness of the 8 percent limitation on crack repair and sought public comments.

#### Notice of Proposed Rulemaking (NPRM):

An NPRM was published on January 24, 1983 (48 FR 2984), proposing to amend the regulations on the repair or removal of defective girth welds based upon information contained in petitions MTB has received and other information discussed in the Notice. The objective of the NPRM was to reduce excessive costs of pipeline construction resulting from the unnecessarily restrictive weld repair or removal requirements of §§192.245, 195.230, and 195.232 while at the same time assuring sound, ductile welds essential for pipeline safety. The NPRM proposed incorporating by reference the procedural requirements of Section 7.0 of API Standard 1104, the pipeline industry "Standard for Welding Pipelines and Related Facilities," the 15th (1980) edition, with requirements added related to multiple repair.

#### Discussion of Comments:

Comments were received from 35 sources, including pipeline system operators, utility companies, the American Society of Mechanical Engineers (ASME), the American Gas Association (AGA), the New England Gas Association, the Interstate Natural Gas Association of America (INGAA), the New York Department of Public Service, the American Petroleum Institute (API), and the National Transportation Safety Board (NTSB). With the exception of the NTSB, all commenters agreed with the objective and with the need for change.

Two commenters suggested that performance language alone would meet the regulatory objective without the need to refer to Section 7.0 of API Standard 1104. One suggested wording for §192.245 and the other for §195.230 (deleting §195.232). MTB agrees that performance language alone would meet the regulatory objective. Therefore, though editorially different from the commenters' suggestions, the Final rule is written in performance language, retaining elements of the present rules other than the prohibitions against the repair of weld cracks and the repair of previously repaired areas.

Three commenters suggested a clarification to assure that testing for mechanical properties is interpreted to be required as a part of the welding procedures development and not as a part of field welding. The change recommended is that the phrase ". . . mechanical properties specified in the welding procedure for the original weld" as stated in the NPRM should be ". . . mechanical properties specified for the welding procedure used to make the original weld." MTB agrees that this change is a helpful clarification of the intended meaning, and this wording is incorporated into the Final rule.

The API fully supported the DOT proposal but pointed out that the two failure examples given in the NPRM (NTSB Reports NTSB-PAR-73-4 and NTSB-PAR-76-4) were not failures attributable to pipeline girth weld repairs and are therefore not relevant to this rulemaking. The MTB recognizes that the failures were not attributable to girth weld repairs but believes them to be relevant since they involve failures of welds, has included them in the information base, and concluded from them and from other information available that a justification does not exist for discontinuation of all weld repair regulation. From the many supportive comments received in response to the NPRM, including those from industry, this remains a valid conclusion.

NTSB made two major points: (1) repair should be limited to specific cases, since welds cannot be repaired consistently to the quality level of a proper original weld, and (2) instead of lowering the present welding standards, MTB should look for ways to improve the quality of production welds. The NTSB observation that "welds cannot be repaired consistently to the quality level of a proper original weld" was

unsubstantiated and, moreover, does not recognize the problems associated with field cutouts and rewelding. One operator's comments describe several practical problems and make an opposing statement with regard to quality level:

. . . cutting out a cracked weld and replacing it in the field is not desirable from a workmanship standard. A production bevel that is inspected in the factory under controlled conditions and according to Engineering Specifications, is readily welded in the field. On the other hand, Company and contractor welders state that a full replacement weld of a cut-out resulting from the removal of cracks or multiple defects rarely, if ever, meets the quality of the original weld, less the defective areas. This results primarily from the fact that a field bevel is substantially inferior in dimensional tolerances and finish to a machined, production factory bevel. Therefore, by rewelding only those defective areas deemed repairable by the standards set forth in Section 7.0 of API Standard 1104, while maintaining the maximum length of the original weld on the production bevel, can result in a high quality, mechanically sound girth weld.

Without presenting supporting data, the NTSB suggested that the present weld removal or repair regulations be left alone and that MTB focus on "better control of present qualified welding procedures" and "poor quality control". The NTSB suggestion sidesteps the primary question raised by the NPRM of whether or not it is necessary to remove a weld which contains a defect or, whether it is an equally safe practice to repair the defect. The enforcement of quality control for production welds is outside the scope of this rulemaking.

In closing, the NTSB stated that "the Safety Board would strongly object to a final rule which would result in weakening of the present standards." In the view of the stated positions of 34 other commenters, the views of the two Technical Advisory Committees and the MTB experience, including regulatory review, the welding standards of the DOT regulations are actually strengthened by this Final rule and brought in line with present welding technology. There will be no adverse effect on either the present standards or pipeline safety in general.

#### Crack Length Limitation:

The MTB sought comment in the NPRM as to the need for a specific limit on the length of a crack that may be repaired. As stated before, Part 195 now disallows crack repair regardless of length, while Part 192 permits the repair of weld cracks that are less than 2-inches long and do not penetrate the root or second bead. Section 7.0 of API Standard 1104 limits authorization for the repair of cracks to those that are "less than 8 percent of the weld length."

By acquiescing to the incorporation of Section 7.0 without comment, it may be said that most commenters did not object to the 8 percent limit. Four commenters, the ASME, Northern Natural Gas Company, Northern Plains Natural Gas, and Panhandle Eastern Pipe Line Company stated that the limitation of 8 percent has no technical basis and is unnecessary for safety. The API commented:

This limit was selected by the API-AGA Joint Committee on Oil and Gas Pipeline Field Welding Practices in order to be consistent with the workmanship provisions of Paragraph 6.8, 'Accumulation of Discontinuities,' of API Standard 1104. The eight percent criterion is considered very conservative with respect to a maximum repair length for cracks in a girth weld, which after a repair has been made has properties equivalent to the original weld. In actuality, the length of the crack does not affect the quality of the repair, so long as the crack has been completely removed.

The Michigan Wisconsin Pipe Line Company commented that, "The consensus of the group was to maintain the 8 percent crack limitation based on Michigan Wisconsin's substantial pipeline construction experience that concludes the occurrence of a crack exceeding 8 percent is also very rare." In a similarly cautious vein, the New York Department of Public Service commented:

The 8 percent limit should not be relaxed unless by experience, research study, or other suitable means this limit can be shown to be unnecessary. The lack of any definitive evidence that repairs to

cracks greater than 8% of the pipe circumference would not adversely affect safety should not be a basis for relaxation of this limit. It would be more prudent to retain this limit as proposed until it can be shown, by experience or study, to be overly restrictive or not restrictive enough. The retention of this limit would at worst err on the safe side at this point in time.

The Conoco Maintenance Department stated:

. . . 8 percent of the weld length as stated in API 1104 seems to be an arbitrary number and arguments could be made for extending it. However, it does appear reasonable and if crack lengths in excess of this are found, there may be other problems (material, welding procedure, welder skill, etc.).

MTB does acknowledge that a crack length limitation for onshore pipelines would call attention to the fact that other problems may exist if cracks longer than 8 percent of the weld length occur, and that other corrective action may be necessary. Also, in comparison with the present 2-inch limit of Part 192 (which is approximately equivalent with the 8 percent limit for an 8-inch pipe diameter), the 8 percent limit permits longer crack repairs on larger diameter pipe, which is consistent with both the objective of this rulemaking, and with the probability that nondestructive testing would be conducted more frequently on larger diameter pipelines because of the higher costs of construction and the need for intensive quality control.

Other than statements that the limitation appears to be useful and reasonable, no commenter provided a supportable technical or safety basis for adopting the 8 percent limit in the Federal regulations. Further, there has been no restriction on the length of a crack that may be repaired for offshore pipelines being installed from a pipelay vessel since Amendments 192-27 and 195-11 were issued in 1976, and there has been no reported pipeline safety problem resulting from this change offshore.

There are no pipeline safety data available to MTB to make a convincing argument at this time for reducing or extending the 8 percent crack length limitation. This limit has been established by the industry as consistent with other provisions of Section 6.0 of API Standard 1104 and imposes no additional burden on the industry. For the reasons given above, MTB believes that the 8 percent crack length limitation is a prudent requirement and accordingly incorporates it in the Final rule. The exception for repairs on an offshore pipeline installed from a pipelay vessel is unaffected.

#### Repair of a Defect in a Previously Repaired Area (Multiple Repair):

The present rules for both gas and liquid pipelines onshore require that if a weld is repaired and if the repair does not meet the standards of acceptability, the entire weld must be removed. Because of the severe hardship this can impose in the construction of large diameter pipelines, the NPRM proposed that multiple repairs be permitted for all pipelines as is now done on offshore lines installed from a pipelay vessel. Multiple repair would be permitted for onshore pipelines provided the final repaired weld has the same mechanical properties as specified for the original weld, with testing performed in the qualification of weld repair procedures. The NPRM also requested commenters to provide any data that may be available on the possible adverse effects of the repair of previously repaired areas, especially on high strength grades of steel. Experience in the repair of welds on modern line pipe steels indicates that with qualified repair procedures little or no degradation of the weld area will occur, and that the need for multiple repairs will be so infrequent that there is no practical basis for the present prohibition against multiple repairs. Experience with the offshore weld repair rule supports this conclusion.

Again, though the issue was addressed in a general way by several commenters, no substantive data relating to the effects of multiple repairs was provided. The New York Department of Public Service generally described the problem that may be encountered, and expressed concern by stating:

This [multiple repairs] should be allowed in the DOT regulations only if the welding repair procedures have been developed and demonstrated by destructive testing that for the same number of weld repairs being made, there is no degradation of the final weld metal or HAZ [heat affected zone] physical and mechanical properties.

An industry commenter argued that the number of repairs should be limited, stating as follows:

It is unreasonable to allow an unlimited number of repair attempts because there may be more time involved than in making a new weld. Also, the worst effect of multiple repairs is the resulting residual stress.

MTB agrees with this commenter that there could be situations where a cutout may save time and that certain types of repair are not desirable, but does not share the view that the revised regulations should specify either the type or a limiting number of repairs. The ultimate test of acceptability of a repaired weld, including the absence of residual stress, as far as the Federal regulations are concerned is in meeting the mechanical properties requirements that can be tested as a part of qualification testing for the weld repair procedures and weld inspection and testing requirements.

By the language in subparagraph (c) of the Final rule, "Repair procedures must provide that the minimum mechanical properties specified for the welding procedure used to make the original weld are met upon completion of the final weld repair," MTB specifies the basis for each weld crack repair or multiple repair in performance terms. The operator must have test data recorded to show that the repair if properly repeated on the pipeline will be successful. The Final rule will require such weld repair procedure qualification testing for onshore multiple repairs as is now done generally in offshore written welding procedure qualifications. Repair of previously repaired areas will be qualified as a part of the repair welding procedure by testing of welds repaired in an identical manner and for the same number of times that weld repair is to be repeated.

#### Advisory Committee Review:

Section 4(b) of the Natural Gas Pipeline Safety Act of 1968, as amended (49 USC 1673(b)), requires that each proposed amendment to a safety standard established under that statute be submitted to a 15-member advisory committee for its consideration. The committee, composed of persons knowledgeable about transportation of gas by pipeline, considered the proposed amendment to §192.245 at a meeting in Washington, D.C., on November 16-17, 1982.

In its report dated January 14, 1983 (a copy of which is in the docket), the Technical Pipeline Safety Standards Committee (TPSSC) found the proposed amendment, as set forth in a draft NPRM, to be technically feasible, reasonable, and practical provided that the words "additionally contain provisions to" are inserted between the words "procedures" and "assure" in subparagraph (b). Although the Final rule has been restated as a performance standard rather than incorporating Section 7.0 of API Standard 1104 by reference, the substance of this recommendation is in subparagraph (c) which supplanted subparagraph (b) in the NPRM.

Similarly, Section 204(b) of the Hazardous Liquid Pipeline Safety Act of 1979 (49 USC 2003(b)) requires that the proposed amendment to §§195.230 and 195.232 be submitted for consideration by a 15-member advisory committee composed of persons knowledgeable about the transportation of hazardous liquids by pipeline. The committee considered the proposed amendment, as set forth in a draft NPRM at a meeting in Washington, D.C., on December 17-18, 1981. In its report, dated April 10, 1982 (a copy of which is in the docket), the committee states:

"The Committee agrees that the deletion of Paragraph 195.232 - 'Welds: Removal of Defects' is reasonable, feasible and practical. The proposed revision of Paragraph 195.230 - 'Welds: Repair of Defects' to provide that repair of weld defects and the testing of weld repairs be in accordance with Section 7.0 of API Standard 1104 was viewed as acceptable, but with the reservation that there is concern as to the degree of assurance as to the quality of the repair procedures which would be developed and the number of repair attempts which would be reasonable. The proposed omission of Section 7.0 limitation - 'Such weld cracks may be repaired provided: (a) The crack is less than 8 percent of the weld length' was found to be unacceptable."

The MTB again presented the draft proposed amendment before the Technical Hazardous Liquids Pipeline

Safety Standards Committee (THLPSSC) at a meeting in Washington, D.C., on December 7-8, 1982, with both the MTB staff and the Secretary of the API 1104 Committee providing additional technical data on the proposed amendment. The language of the proposed amendment presented to the committee was the same as that published in the Federal Register on January 24, 1983 (48 FR 2984). The report of the committee dated March 9, 1983, states that: "In a unanimous vote in favor, the 12 committee members present (2 absent) found the Notice of Proposed Rulemaking as drafted by the MTB staff to be technically feasible, reasonable, and acceptable".

Both committees expressed concerns about the effects of multiple repairs and objected to any omission of the 8 percent crack limitation of Section 7.0 of API Standard 1104. The Final rule is written to acknowledge the advice of the committees and to incorporate the 8 percent crack length limitation for onshore pipelines. The exception for offshore pipelines being installed from a pipelay vessel was inadvertently omitted from the NPRM and was not considered by the committees on the assumption that the rules as proposed would apply to both onshore and offshore pipelines. The MTB has reconsidered, however, finds that there is no justification to apply the limitation to offshore pipelines being installed from a pipelay vessel, and continues the existing exception for offshore pipelines. Because this decision makes no change in the treatment of offshore pipelines from that in the present regulations, further committee review is unnecessary.

#### THE FINAL RULE:

In view of information developed in the DOT priority review together with other information and data contained in the API petition, the NPRM, responses to the NPRM, and the advice of the THLPSSC and the TPSSC, the MTB has determined that the present requirements for the repair or removal of defective girth welds are unnecessarily restrictive and impose a cost burden disproportionate to any safety benefit, and thus should be amended. This Final rule removes both the restrictiveness and the burdensome cost effect of the regulations while assuring pipeline safety.

The Final rule accomplishes this by retaining several elements of the present rules and incorporating in performance language the essential elements of Section 7.0 of API Standard 1104. The incorporation by reference of Section 7.0 of API Standard 1104 proposed for §§195.245 and 195.230 has not been adopted because the MTB has determined that incorporating that Standard by reference is unnecessary to accomplish the goals of this rulemaking, would add unnecessary and unintended requirements to the existing regulations, and would be contrary to the established policy of the MTB to use performance standards where feasible. The goal of this rulemaking is to relieve, consistent with safety, the undue cost burdens imposed by the current prohibitions on the repair of weld cracks and on multiple weld repairs. Section 7.0 was developed by the industry to provide guidelines rather than restrictions on weld repair. If adopted as a rule, however, Section 7.0 would impose certain requirements that are not intended by the MTB and may create future regulatory difficulties. For example, the incorporation of Section 7.0 would add requirements relative to all "injurious defects" where the term "injurious defects" is not defined by the regulations and is not otherwise used in discussion of weld acceptability.

In the amendment to the liquid pipeline safety standards, §195.230 will incorporate requirements for removal of defects, now contained in §195.232, as well as for the repair of defects. Section 195.232 has been eliminated. Based on the advice of the committees, and as proposed in the NPRM, the standards for repair and removal of defective welds have been made consistent with those for gas pipelines. The burden of the present prohibitions against repair of cracks and multiple repair is eliminated with the adoption of performance standards conditionally permitting such repair. With present weld repair technology, requiring the removal of a cylinder of pipe containing a defective weld (present §195.232) is not justified on the basis of safety.

Based largely on advice of the committees, the limitation for the repair of weld cracks has been incorporated from API Standard 1104 in the Final rule. Weld cracks that are not longer than 8 percent of the

weld length may be repaired in onshore pipelines, if qualified weld repair procedures are followed. No change is made in the requirements for offshore pipelines installed from a pipelay vessel as these lines have been excepted from crack length limitation on repairs since 1976. The written qualified procedures now required for all multiple repairs on offshore pipelines have been retained. New provisions allowing multiple repair of welds onshore eliminate the outright prohibition and are consistent with existing offshore requirements.

Conditions imposed on the repair of cracks, including the requirement of written weld repair procedures that are qualified under §192.225 or §195.214 and designed to ensure that the mechanical properties of the original weld are met, adequately compensate for any relaxation of the restrictions on weld repairs. These conditions are substantially the same as proposed in the NPRM, but are now stated in performance language. The existing requirements for removal of defects down to "clean" metal are clarified. Technical clarification is provided by use of the wording "sound" metal and by a requirement for preheating if conditions exist which would adversely affect the quality of the weld repair. This retains a preheat provision of §192.245 but acknowledges that preheating may not be required for all weld repairs, consistent with Section 7.0 of API Standard 1104 and preheating requirements in §192.237. Similarly, mandating use of the magnetic particle or dye penetrant test included in Section 7.0 to ascertain removal of defects is not needed where the rule requires removal down to sound metal. As that term is understood in the industry, either one of those tests or their equivalent would be required.

MTB encourages the incorporation of the requirements of Section 7.0 of API Standard 1104 into the written weld repair procedures that must be qualified under §192.225 or §195.214 to meet this Final rule.

#### CLASSIFICATION:

This Final rule is not a "major rule" under Executive Order 12291. The order defines a major rule as one which would have an annual effect on the economy of \$100 million or more, a major increase in costs, or a significant adverse affect on the economy. As shown by the Regulatory Review Report and the Regulatory Evaluation for this proceeding, this Final rule does not have such an impact. This Final rule is also not a "significant" rule as defined by the Department of Transportation Policies and Procedures (DOT Order 2100.5).

The Regulatory Flexibility Act (5 USC 601 et seq.) requires a review of certain rules proposed after January 1, 1981, for their effects on small businesses, organizations, and governmental bodies. I certify that this Final rule will not have a significant economic impact on a substantial number of small entities because there will be no direct or indirect costs of compliance or other adverse effects.

LIST OF SUBJECTS: 49 CFR Part 192 - Pipeline safety, girth welds.

49 CFR Part 195- Ammonia, petroleum, pipeline safety, girth welds.

Based on the foregoing, MTB amends Title 49, Code of Federal Regulations, Parts 192 and 195 as follows:

1. By revising §192.245 to read:

§192.245 Repair or removal of defects.

(a) Each weld that is unacceptable under §192.241(c) must be removed or repaired. Except for welds on an offshore pipeline being installed from a pipelay vessel, a weld must be removed if it has a crack that is more than 8 percent of the weld length.

(b) Each weld that is repaired must have the defect removed down to sound metal and the segment to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld repair. After repair, the segment of the weld that was repaired must be inspected to ensure its acceptability.

(c) Repair of a crack, or of any defect in a previously repaired area must be in accordance with

written weld repair procedures that have been qualified under §192.225. Repair procedures must provide that the minimum mechanical properties specified for the welding procedure used to make the original weld are met upon completion of the final weld repair.

2. By deleting §195.232 and by revising §195.230 to read:

§195.230 Welds: Repair or removal of defects.

(a) Each weld that is unacceptable under §195.228 must be removed or repaired. Except for welds on an offshore pipeline being installed from a pipelay vessel, a weld must be removed if it has a crack that is more than 8 percent of the weld length.

(b) Each weld that is repaired must have the defect removed down to sound metal and the segment to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld repair. After repair, the segment of the weld that was repaired must be inspected to ensure its acceptability.

(c) Repair of a crack, or of any defect in a previously repaired area must be in accordance with written weld repair procedures that have been qualified under §195.214. Repair procedures must provide that the minimum mechanical properties specified for the welding procedure used to make the original weld are met upon completion of the final weld repair.

3. By revising the Part 195 index to read:

§195.230 Welds: Repair or removal of defects.

4. By deleting from the Part 195 index:

§195.232 Welds: Removal of defects.

(Authority citation for Part 192 is: 49 USC 1672 and 1804; 49 CFR 1.53; and Appendix A of Part 1)

(Authority citation for Part 195 is: 49 USC 2002; 49 CFR 1.53; and Appendix A of Part 1)

Issued in Washington, D.C., on \_\_\_\_\_.

L. D. Santman  
Director  
Materials Transportation Bureau