Mailed

NOV 10 1988

ALJ/MSW/jc

ORIGINAL

Decision 88 11 023 NOV 9 1988

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of CP NATIONAL CORPORATION (U 11 G), PACIFIC GAS AND ELECTRIC COMPANY (U 39 G), SAN DIEGO GAS & ELECTRIC COMPANY (U 902 G), SOUTHERN CALIFORNIA GAS COMPANY (U 906 G), and SOUTHWEST GAS CORPORATION (U 905 G), public utility gas corporations, for an Order Modifying General Order No. 112-D adopted June 5, 1979, in Decision No. 90372 in order to conform with the changes to the Minimum Federal Safety Standard, issued by the Department of Transportation, Research and Special Programs Administration, as more particularly set forth in the Application herein.	Application 87-12-023 (Filed December 11, 1987)

O P I N I O N

By Decision (D.) 90372 we adopted General Order (GO) 112-D to establish rules governing the design, construction, testing, maintenance, and operation of utility gas gathering, transmission, and distribution piping systems. The stated purposes of the GO are "to safeguard life or limb, health, property and public welfare and to provide that adequate service will be maintained by gas utilities operating under the jurisdiction of the commission." (GO 112-D, Section 102.1.)

Applicants are engaged in the purchase, distribution and sale of natural gas within the State of California. In accordance with Section 142.1 of the GO ("Procedure for Keeping General Order Up-to-Date"), they seek an order of the Commission modifying various rules. The following provisions of GO 112-D are affected by the proposal:

Affected Provisions

Subsection 192.55(e)
Section 192.113
Section 192.223
Section 192.225
Section 192.227
Section 192.237
Section 192.239
Subsection 192.611(e)(2)
Subsection 192.719(a)
Subsection 192.743(b)
Part II, Appendix A, subdivision II.A.(4)
Part II, Appendix A, subdivision II.A.(5)
Part II, Appendix A, subdivision II.A.(6)
Part II, Appendix B, subdivision I
Part II, Appendix B, subdivision II.D

The specific changes requested are listed in Appendix A.[1] They are proposed to conform with changes to the "Minimum Federal Safety Standards" for gas pipelines (MFSS) which have been issued by the US Department of Transportation, Research and Special Programs Administration (RSPA) in Title 49, Part 192 of the Code of Federal Regulations (CFR). GO 112-D is generally consistent with the MFSS, including the use of a section numbering system which is equivalent to that published in Title 49 CFR at Part 192.

GO 112-D was last revised by D.86-06-047 in Application (A.) 86-03-046. Since that application was filed on March 25, 1986, the RSPA has published five "Final Rules" which affect the MFSS (51 Fed. Reg. 15333-15335 (April 23, 1986), 20294-20297 (June 4, 1986), 34987-34988 (October 1, 1986), 41633-41634 (November 18, 1986), and 41634-41635 (November 18, 1986)). Applicants state that these revisions to the MFSS (1) incorporate

1 Applicants' proposed revision to Section 192.227 includes a reference to "Section JX of the ASME Broiler and Pressure Vessel Code." The correct reference, which is shown in Appendix A, is "Section IX of the ASME Boiler and Pressure Vessel Code."

by reference the 1985 edition of the American Petroleum Institute (API) Specification 5L for steel pipe, which consolidates three former specifications; (2) modify welding procedure rules and welder qualification rules to conform with Title 49 CFR, Part 195; (3) clarify the requirements for confirming or revising a pipeline's maximum allowable operating pressure; (4) modify the requirement for testing welds made in the replacement of a damaged transmission line segment; and (5) permit more flexibility in the review and calculation of the capacity of pressure-relief devices.

Staff Review

The Service and Safety Branch of the Commission Advisory and Compliance Division (Branch) reviewed the application and the related federal rulemaking proceedings. It concurs with each of the proposed revisions, concluding that none will have an adverse impact on public safety.

Branch mailed a report of its analysis, conclusions, and recommendations to all parties on July 8, 1988. The report will be received as Exhibit 1. Branch recommends that the Commission amend GO 112-D as proposed by applicants.

API Specification 5L

A Final Rule published by RSPA in the Federal Register of April 23, 1986 indicates that three API specifications for steel pipe, 5L, 5LS, and 5LX, have been the most predominantly used specifications in the industry. These three specifications had been maintained separately to identify different grades and types of pipe as they were originally developed. In 1983 they were consolidated into one specification by the API, using the identification API 5L and the title "API Specification for Line Pipe." All grades and types of steel line pipe are now combined in the one specification. The 1985 edition of the API standards reflects this change.

Applicants note that the merging of the standards results in essentially the same specifications, and that the consolidated

standard is more clearly, concisely, and uniformly written and is considerably easier to use. Branch concurs, and believes that such consolidation will not have an adverse impact on public safety.

Revisions to subsection 192.55(e) and Section 192.113 are proposed to reflect the change in the reference standard. Proposed revisions to Appendixes A and B of Part II also reflect this consolidation, as well as adoption of the 1985 edition of API standards.

Welding Procedure and Welder Qualification Rules

RSPA revised various sections of Subpart E of the MFSS, Welding of Steel in Pipelines, by Final Rule published on June 4, 1986. Applicants propose similar revisions in the GO.

Under the proposal, the provisions of subsection 192.223(a) will be incorporated into Section 192.225, and the remaining requirements of Section 192.223, which concern qualification of welders, will be eliminated. According to the applicants, this will eliminate unnecessary duplication. The same requirements are already included in Section 192.227 by references to API Standard 1104 and Section IX of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code). Branch agrees that this change will avoid unnecessary duplication.

The MFSS no longer specifically require welding procedures to be qualified under API Standard 1104 or the ASME Code. According to applicants, a comparable change to Section 192.225 of the GO will allow more flexibility in developing welding procedures. Branch concurs, noting that operators have asserted that they can develop sound welding procedures without complying with the existing rule. Branch points out that under the new rule, any such welding procedures must be proven through destructive testing. Branch believes that with this safeguard, the increased flexibility will not sacrifice public safety.

Applicants propose that Section 192.227 be amended to conform to the requirements of Title 49 CFR, Part 195

(Transportation of Hazardous Liquids by Pipeline). Subsection 192.227(a) is amended by reversing the order of reference to API Standard 1104 and the ASME Code. Branch concurs, noting that this reflects industry practice. Applicants and Branch agree that deletion of subsection 192.227(b) simply removes a provision governing qualification of welders under the ASME code which has no current use or practical application and which has never been invoked.

Applicants propose that Sections 192.237 (Preheating) and 192.239 (Stress Relieving) be deleted. They state that these are broad provisions which could create the impression that preheating and stress relieving may not be required when prudence would indicate otherwise. Preheating and stress relieving requirements are already included in both API Standard 1104 and the ASME Code whenever necessary to assure acceptable welds. Branch points out that RSPA removed comparable Federal rules after operators complained that these rules actually specify overly-liberal requirements. Branch concurs that the sections may be misleading and therefore concurs in their deletion.

Maximum Allowable Operating Pressure

Subsection 192.611(e)(2) of the MFSS was amended by RSPA by Final Rule published on October 1, 1986. This rule governs the confirmation of or revision of the maximum allowable operating pressure (MAOP) of a pipeline segment when the population density at or near the segment increases. Applicants state that the revision makes clear that when such a "class location" changes, confirmation of the MAOP by pressure testing may occur at any time after a required 18-month period provided that the initial compliance action is to reduce the MAOP under subsection 192.611(b). According to applicants, a comparable change in the GO will enable them to reduce costs by providing a more economical alternative to pressure testing within the 18-month period.

Branch explains that RSPA amended this rule following misinterpretation of the existing rule by some operators. Under the existing rule, the MAOP of a pipe segment must be confirmed or reduced within 18 months after a population increase results in a more restrictive class location. Many operators believed the rule did not allow confirmation of the pre-existing MAOP beyond the 18-month period if the initial action was to reduce the MAOP. Branch believes that this revision will not undermine public safety.

Non-Destructive Testing of Repairs to Damaged Segments

Applicants state that on November 18, 1986 RSPA revised subsection 192.719(a) by adding certain clarifying language which excepts certain non-strength girth welds made in the replacement of damaged transmission line segments from the requirement of nondestructive testing. They indicate that with the clarification, such welds qualify for the same exceptions that have applied to girth welds that are strength-tested or made in the replacement of transmission line pipe for reasons other than repair. These exceptions, which are provided in subsection 192.241(b), provide that welds which are visually inspected and approved by a qualified welding inspector do not require nondestructive testing if the nominal pipe diameter is less than six inches, or if the pipeline operates at a pressure that produces a hoop stress of less than 40% of SMYS (specified minimum yield strength) and the welds are so limited in number that nondestructive testing is impractical.

Applicants state, and Branch concurs, that making these changes in the GO will reduce the cost of repairing transmission piping and shorten the time that pipelines are out of service without diminishing public safety. Branch noted that in comments to the RSPA, some operators had argued that subsection 192.719(a) is more restrictive as to damaged segments than subsection 192.241(b) is for new construction.

Pressure-Relief Devices

Subsection 192.743(a) requires testing of pressure-relief devices, whenever feasible, on an annual basis. When such testing is not feasible, subsection 192.743(b) provides that an annual review of and calculation of the required capacity of the relieving device must be made. The required capacity so determined must then be compared with the rated or experimentally determined capacity of the device.

Applicants have proposed a revision which clarifies that annual capacity recalculation is not required if the person performing the review records the fact that the parameters have not changed in a manner which would cause the capacity to be less than required. Branch concurs, and believes that the revision will not have any adverse impact on public safety.

Discussion

Based on our review of the application, the Branch report, and the Minimum Federal Safety Standards, we conclude that the proposed amendments are reasonable. We agree with the analysis and conclusions of applicants and Branch that these changes will consolidate and clarify existing regulations, and that they will eliminate duplicative, outdated and misleading rules, making the GO easier to use. Adoption of the changes will also allow gas utilities more flexibility in constructing, repairing, maintaining, and testing gas piping systems. None of the proposed changes will have an adverse impact on public safety or service reliability.

Findings of Fact

1. GO 112-D contains rules governing utility gas piping systems which are intended to promote public safety and service reliability.

2. GO 112-D is generally consistent with the MFSS for gas pipelines published in Title 49 CFR, Part 192.

3. This application was filed in accordance with Section 142.1 of GO 112-D for the purpose of keeping its provisions up-to-date.

4. After the last application to amend GO 112-D was filed on March 25, 1986, the RSPA issued five final rules in 1986 which revise the MFSS.

5. The revisions listed in Appendix A will bring GO 112-D into conformance with the MFSS as modified by the five RSPA revisions referred to in the previous finding.

6. The consolidation of three specifications for steel pipe into one, API 5L, will clarify and simplify GO 112-D, making it easier to use, without any adverse impact on public safety.

7. Deletion of the welder qualification rule in Section 192.223 will eliminate an unnecessary duplication.

8. Elimination of the specific requirement that welding procedures be qualified under API Standard 1104 or the ASME Code, while retaining existing requirements for destructive testing of welding procedures, will provide increased flexibility without sacrificing public safety.

9. Deletion of the welder qualification rule in subsection 192.227(b) will eliminate a provision that has no current use or practical application and which has never been invoked.

10. Sections 192.237 (Preheating) and 192.239 (Stress Relieving) could create the impression that under certain circumstances preheating and stress relieving are not required when prudence would indicate otherwise.

11. Revision of subsection 192.611(e)(2) by clearly allowing the confirmation of MAOP through pressure testing at any time will assure pipeline operators of the availability of an economical alternative to pressure testing which will not undermine public safety.

12. Revision of subsection 192.719(a) by providing an exception from the requirement of nondestructive testing of repairs

to damaged transmission lines, subject to the same conditions applicable to the equivalent exception provided in subsection 192.241(b), will reduce the cost of repairing transmission piping and shorten the time that damaged pipelines are out of service without diminishing public safety.

13. Revision of subsection 192.743(b) to allow an exception to the requirement for recalculation of pressure-relief device capacity, where the parameters have not changed in a manner which would cause the capacity to be less than required, will not have any adverse impact on public safety.

Conclusions of Law

1. The application should be granted as set forth in the following order.
2. Since there are no protests, a hearing is not necessary.

O R D E R

IT IS ORDERED that:

1. General Order 112-D is modified as provided in Appendix A.
2. The application is granted as set forth above.

This order becomes effective 30 days from today.

Dated NOV 9 1988, at San Francisco, California.

STANLEY W. HULETT
President
DONALD VIAL
FREDERICK R. DUDA
G. MITCHELL WILK
JOHN B. OHANIAN
Commissioners

I CERTIFY THAT THIS DECISION WAS APPROVED BY THE ABOVE COMMISSIONERS TODAY.

Victor Weisser, Executive Director

Changes in General Order 112-D

I.

Changes Proposed to Conform With 51 Federal Register 15333-15335 (April 23, 1986) in Exhibit "A" of A.87-12-023

1. Revise subsection 192.55(e) to read as follows:

   (e) New steel pipe that has been cold expanded must comply with the mandatory provisions of API Specification 5L.

2. Replace the table in Section 192.113 with the following table:

Specification	Pipe Class	Longitudinal Joint Factor
ASTM A 53	Seamless	1.00
	Electric Resistance Welded	1.00
	Furnace Butt Welded	.60
ASTM A 106	Seamless	1.00
ASTM A 134	Electric Fusion Arc Welded	.80
ASTM A 135	Electric Resistance Welded	1.00
ASTM A 139	Electric Fusion Arc Welded	.80
ASTM A 211	Spiral Welded Steel Pipe	.80
ASTM A 333	Seamless	1.00
	Electric Resistance Welded	1.00
ASTM A 381	Double Submerged Arc Welded	1.00
ASTM A 671	Electric Fusion Welded	1.00
ASTM A 672	Electric Fusion Welded	1.00
ASTM A 691	Electric Fusion Welded	1.00
API 5 L	Seamless	1.00
	Electric Resistance Welded	1.00
	Electric Flash Welded	1.00
	Submerged Arc Welded	1.00
	Furnace Butt Welded	.60
	Furnace Lap Welded	.80
Other	Pipe Over 4"	.80
Other	Pipe 4" or Less	.60

3. Revise Part II, Appendix A, subdivision II.A.(4) to read as follows:

   (4) API Standard 5L "API Specification for Line Pipe" (1967, 1970, 1971 plus Supp. 1, 1973 plus Supp. 1, 1975, 1980, 1985).

4. Revise Part II, Appendix A, subdivision II.A.(5) to read as follows:

(5) API Standard 5LS "API Specification for Spiral-Weld Line Pipe" (1967, 1970, 1971, plus API Supp. 1, 1973 plus Supp. 1, 1975 plus Supp. 1, 1977, and 1980). (Consolidated into API Standard 5L.)

5. Revise Part II, Appendix A, subdivision II.A.(6) to read as follows:

(6) API Standard 5LX "API Specification for High-Test Line Pipe" (1967, 1970, 1971 plus Supp. 1, 1973 plus Supp. 1, 1975 plus Supp. 1, 1977, and 1980). (Consolidated into API Standard 5L.)

6. Revise the listed pipe specifications for "API 5L" in Part II, Appendix B, subdivision I to read as follows:

API 5L - Steel and Iron Pipe (1967, 1970, 1971, plus Supp. 1, 1973, plus Supp. 1, 1977, 1980, and 1985).

7. Revise the text preceding the table in Part II, Appendix B, subdivision II.D to read as follows:

D. Tensile Properties. If the tensile properties of the pipe are not known, the minimum yield strength may be taken as 24,000 p.s.i.g. or less, or the tensile properties may be established by performing tensile tests as set forth in API Specification 5L. All test specimens shall be selected at random and the following number of tests must be performed.

II.

Changes Proposed to Conform With 51 Federal Register 20294-20297 (June 4, 1986) in Exhibit "B" of A.87-12-023

8. Remove Section 192.223 in its entirety.

9. Revise Section 192.225 to read as follows:

§ 192.225 Welding - General

(a) Welding must be performed by a qualified welder in accordance with welding procedures qualified to produce welds meeting the requirements of this subpart. The quality of the test welds used to qualify the procedure shall be determined by destructive testing.

(b) Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used.

10. Revise Section 192.227 to read as follows:

§ 192.227 Qualification of Welders

(a) Except as provided in paragraph (b) of this Section, each welder must be qualified in accordance with Section 3 of API Standard 1104 or Section IX of the ASME Boiler and Pressure Vessel Code. However, a welder qualified under an earlier edition than listed in Appendix A may weld but may not requalify under that earlier edition.

(b) A welder may qualify to perform welding on pipe to be operated at a pressure that produces a hoop stress of less than 20 percent of SMYS by performing an acceptable test weld, for the process to be used, under the test set forth in Section 1 of Appendix C to this part. A welder who makes welded service line connections to mains must also perform an acceptable test weld under Section II of Appendix C to this part as a part of his qualifying test. After initial qualification, a welder may not perform welding unless-

(1) Within the preceding 12 calendar months, he has requalified; or

(2) Within the preceding six calendar months, he has had-

(i) A production weld cut out, tested and found acceptable in accordance with the qualifying test; or

(ii) For welders who work only on service lines two inches or smaller in diameter, two sample welds tested and found acceptable in accordance with the test in Section III of Appendix C to this part.

11. Remove Section 192.237 in its entirety.

12. Remove Section 192.239 in its entirety.

III.

Changes Proposed to Conform With 51 Federal Register 34987-34988 (October 1, 1986) in Exhibit "C" of A.87-12-023

13. Revise subsection 192.611(e)(2) to read as follows:

(2) Confirmation or revision due to change in class location that occur on or after July 1, 1973, must be completed within 18 months of the change in class location. Pressure reduction under paragraph (b) of this section within the 18-month period does not preclude establishing a maximum allowable operating pressure under paragraph (c) of this section, at a later date.

IV.

Changes Proposed to Conform With 51 Federal Register 41634-41635 (November 18, 1986) in Exhibit "D" of A.87-12-023

14. Revise subsection 192.719(a) to read as follows:

(a) Testing of replacement pipe.

If a segment of transmission line is repaired by cutting out the damaged portion of the pipe as a cylinder, the replacement pipe must be tested to the pressure required for a new line installed in the same location. This test may be made on the pipe before it is installed.

V.

Changes Proposed to Conform With 51 Federal Register 41633-41634 (November 18, 1986) in Exhibit "E" of A.87-12-023

15. Revise subsection 192.743(b) to read as follows:

(b) If a test is not feasible, review and calculation of the required capacity of the relieving device at each station must be made within the period from the month preceding to the month following the annual anniversary, and these required capacities compared with the rated or experimentally determined relieving capacity of the device for the operating conditions under which it works. After the initial calculations, subsequent calculations are not required if the review documents that parameters have not changed in a manner which would cause the capacity to be less than required.

(END OF APPENDIX A)

Affected Provisions

Subsection 192.55(e)
Section 192.113
Section 192.223
Section 192.225
Section 192.227
Section 192.237
Section 192.239
Subsection 192.611(e)(2)
Subsection 192.719(a)
Subsection 192.743(b)
Part II, Appendix A, subdivision II.A.(4)
Part II, Appendix A, subdivision II.A.(5)
Part II, Appendix A, subdivision II.A.(6)
Part II, Appendix B, subdivision I
Part II, Appendix B, subdivision II.D

The specific changes requested are listed in Appendix A.[1] They are proposed to conform with changes to the "Minimum Federal Safety Standards" for gas pipelines (MFSS) which have been issued by the US Department of Transportation, Research and Special Programs Administration (RSPA) in Title 49, Part 192 of the Code of Federal Regulations (CFR). GO 112-D is generally consistent with the MFSS, including the use of a section numbering system which is equivalent to that published in Title 49 CFR at Part 192.

GO 112-D was last revised by D.86-06-047 in Application (A.) 86-03-046. Since that application was filed on March 25, 1986, the RSPA has published five "Final Rules" which affect the MFSS (51 Fed. Reg. 15333-15335 (April 23, 1986), 20294-20297 (June 4, 1986), 34987-34988 (October 1, 1986), 41633-41634 (November 18, 1986), and 41634-41635 (November 18, 1986)). Applicants state that these revisions to the MFSS (1) incorporate

1 Applicants' proposed revision to Section 192.227 includes a reference to "Section JX of the ASME Broiler and Pressure Vessel Code." The correct reference, which is shown in Appendix A, is "Section IX of the ASME Broiler and Pressure Vessel Code."