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Decision 90 06 070 JUN 20 1990

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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| 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 Standards, issued by the Department of Transportation, Research and Special Programs Administration. | Application 89-10-021 (Filed October 10, 1989) |

## O P I N I O N

By Decision (D.) 90372 dated June 5, 1979, 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, standards, and specifications. The following sections of GO 112-D are affected by the proposal: 141.6 (new section), 192.3, 192.5, 192.57, 192.59, 192.61, 192.63, 192.113, 192.117, 192.119, 192.125, 192.145, 192.147, 192.161, 192.177,

192.191, 192.275, 192.277, 192.279, 192.281, 192.355, 192.503, 192.507, 192.509, 192.557, 192.605, and 192.611. Changes in Part II, Appendix A and Part II, Appendix B of GO 112-D are also proposed. The specific changes proposed by applicants are listed in Appendix A.

Applicants state that the changes are proposed to conform GO 112-D with changes to the "Minimum Federal Safety Standards" for natural 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 similar to and consistent with the MFSS, and uses 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.88-11-023 in Application (A.) 87-12-023 and by Resolution SU-3 dated April 11, 1990. Applicants state that since A.87-12-023 was filed the RSPA has published eight "Final Rules" which affect the MFSS.[1] The revisions adopted by the RSPA and the related revisions proposed for GO 112-D are discussed below.

Applicants request that the application be processed on an ex parte basis, alleging that it is in the public interest to have the proposed amendments adopted at the earliest possible date.

Staff Review

The Utilities Safety Branch of the Safety Division (Branch) reviewed the application and the related federal

1 Applicants indicate these eight rules were published in the Federal Register on 10 occasions as follows: 52 Fed.Reg. 32924-32925 (September 1, 1987), 53 Fed.Reg. 1633-1635 (January 21, 1988), 53 Fed.Reg. 24942-24951 (July 1, 1988), 54 Fed.Reg. 5484 (February 3, 1989), 53 Fed.Reg. 36028-36029 (September 16, 1988), 53 Fed.Reg. 36793 (September 22, 1988), 54 Fed.Reg. 5625-5628 (February 6, 1989), 54 Fed.Reg. 24173-24174 (June 6, 1989), 54 Fed.Reg. 25716 (June 19, 1989), and 54 Fed.Reg. 27881-27882 (July 3, 1989).

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 March 30, 1990. On May 4, 1990 Branch circulated a revision to the report to clarify certain references to materials incorporated in the GO. The corrected report is received as Exhibit 1. Branch recommends that the Commission amend GO 112-D on an ex parte basis as proposed by applicants.

## RSPA-Adopted Revisions to the MFSS

### A. Class Locations

Applicants state that the RSPA issued a Final Rule at 52 Fed.Reg. 32924-32925 (September 1, 1987) which amends the criteria used to classify pipelines located near certain buildings and outside areas that are occupied infrequently. Subsection 192.5(d)(2) is revised to to remove the ambiguous phrase "during normal use" with the specific words "on at least 5 days a week for 10 weeks in any 12-month period. (The days and weeks need not be consecutive.)"

Applicants note that under the current rule, the existence of one infrequently used building or outside area could change a class location from Class 1 to Class 3, requiring replacement of a pipeline section or reduction of maximum allowable operating pressure (MAOP). Branch concurs, pointing out that the RSPA found that a jump to a higher class location can be very expensive, in some cases imposing an undue burden on the operator. Branch concludes that the revision quantifies the criteria without a reduction of safety standards.

B. Miscellaneous Amendments

Applicants state that the RSPA issued a Final Rule at 53 Fed.Reg. 1633-1635 (January 21, 1988) which amends nine sections by making editorial and other minor changes. The definition of "maximum allowable operating pressure" in Section 192.3 is clarified by including the acronym "MAOP" which is used in the gas industry. References in Subsections 192.59(a)(1) and 192.59(b)(1) applicable to plastic pipe manufactured before March 21, 1975 are deleted as no longer serving a useful purpose. Addition of "detrimental" between "prevent" and "lateral" in Subsection 192.161(f) is proposed to make the wording consistent with the intent of the section. The phrase "storage site" in Subsection 192.177(a)(1) is changed to "site" to enable location of a bottle-type holder at any site that meets the standards. Subsection 192.191(b) is revised by elimination of a misleading and superfluous table of design pressure strengths for thermoplastic fittings; the table is replaced by a requirement that such fittings be consistent with the pipe strength, using specification ASTM D 2513. Subsection 192.355(b) is clarified to ensure that all service regulator vents and relief vents, not just those terminating outside, comply with the section's requirements. Subsection 192.503(a)(1) is revised to explicitly direct operators to the test pressure requirements, eliminating potential confusion in the application of the rules. Sections 192.507 and 192.509 are revised to eliminate confusion about test pressure requirements.

Branch concurs with each of the above proposed changes, noting that they will eliminate confusion and make the various rules consistent with their intent.

C. Reporting Unsafe Conditions

Applicants state that the RSPA issued a Final Rule at 53 Fed.Reg. 24942-24951 (July 1, 1988) which amends the operating and maintenance (O&M) plans required by Section 192.605 to enhance discovery of safety-related conditions. New Subsection 192.605(f)

is added to require operators to instruct O&M personnel to recognize and report safety related conditions to the US Department of Transportation (DOT). The reports are intended to prevent safety related conditions from going uncorrected. New Subsection 141.6 of GO 112-D will ensure that reports submitted to the DOT are concurrently submitted to the Commission. Branch agrees with these additions.

D. Pressure Testing Non-Welded Tie-in Joints

Applicants state that the RSPA issued a Final Rule at 54 Fed.Reg. 5484 (February 3, 1989) and 53 Fed.Reg. 36028-36029 (September 16, 1988) which amends pressure testing requirements to except non-welded tie-in joints. Applicants propose a revision to Subsection 192.503(d) to allow an exception to pressure testing requirements for non-welded tie-in joints. Welded joints are currently excepted due to the impracticality of conducting the test, and applicants allege that it is similarly impractical to test non-welded joints. They note that the integrity of such joints is assured by the requirements of Subpart F and the requirement for a leak test at not less than operating pressure. Branch believes the revision will not have an adverse impact on safety.

E. ASTM Specification D 2513

Applicants state that the RSPA issued a Final Rule at 53 Fed.Reg. 36793 (September 22, 1988) which incorporates by reference the 1987 edition of the American Society of Testing and Material (ASTM) Specification D 2513 "Standard Specification for Thermoplastic Gas Pressure Piping Systems". Applicants allege the new specification reflects the latest improvements in plastic pipe technology relating to material properties and quality control and that it is in the interest of safety and efficient operation to adopt it.

To reflect the new specification and eliminate outdated references, Subsections 192.63(b) and 192.281(b)(3) are deleted and

Appendixes A and B of Part II are modified to include the new reference. References to ASTM specification ASTM F 678 in Subsection 192.59(d)(2) and in Appendixes A and B are deleted as redundant and unnecessary since the specification has been incorporated into ASTM D 2513. Branch agrees with the proposed changes.

F. References to Certain Voluntary Standards

Applicants state that the RSPA issued a Final Rule at 54 Fed.Reg. 5625-5628 (February 6, 1989) which deletes references to certain voluntary design and construction standards concerning cast iron, wrought steel, and wrought iron pipe; copper pipe and tubing; well casing tubing and drill pipe; bronze flanges; and other materials. Applicants allege that the references are no longer necessary because the materials have minimal or no usage in new gas pipelines. Deleting the references will significantly reduce the number of voluntary standards presently incorporated by reference in Part II of GO 112-D and will reduce the burden of keeping the references current. Branch agrees with all of the changes proposed by applicants.

Applicants propose to remove Sections 192.57, 192.61, 192.117, and 192.119 in their entirety as these sections refer to materials no longer used in new pipeline construction. Subsection 192.63(a) is revised by deleting reference to material marking standard "MSS Standard Practice SP 25", and replacing it with specific marking requirements. Section 192.113 is revised by deleting four longitudinal joint factor specifications which are no longer used in new steel pipelines. Subsection 192.125(b) is revised to specify copper pipe wall thicknesses in lieu of reference to an industry standard which requires periodic updating. Section 192.145 is revised to eliminate references to four industry standards for valves and replace them with more specific

requirements.[2] Section 192.147 is revised to update references to standards for pipe flanges by changing to a standard commonly used in distribution pipelines. Subsection 192.177(b)(1) is revised to remove the option of using a grade of alloy steel for a bottle-type holder. Subsection 192.275(e) is removed due to the changes made to Section 192.147. Subsection 192.277(a) is removed to eliminate reference to two industry standards for ductile iron pipe, which is no longer used in new pipelines. Section 192.279 is revised to update the reference standard for threaded copper pipe used in fittings. Subsection 192.557(d) is revised to eliminate reference to deleted sections and by replacing references to outdated or unnecessary industry standards with specifically stated requirements. Appendixes A and B of Part II are revised to remove references to standards which are no longer necessary.

G. Confirmation of MAOP

Applicants state that the RSPA issued a Final Rule at 54 Fed.Reg. 24173-24174 (June 6, 1989) and 54 Fed.Reg. 25716 (June 19, 1989) which amends the methods specified in Section 192.611 to confirm or revise the MAOP of a pipeline based upon a specified percentage of its past test pressure. With the change, operators are permitted to confirm the MAOP of a pipeline segment within the hoop strength constraints of Subsection 192.611(a) and MAOP limits of Subsection 192.611(c) based on any prior test pressure held for at least 8 hours. The change will reduce the need to retest pipelines for which past test pressures will provide an adequate safety basis for current operating pressures.

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2 Applicants' specific proposal refers to Section 192.143, and indicates that Subsections (b), (c), and (d) thereof should be redesignated as Subsections (c), (d), and (e) of Section 192.145. It is clear that the reference to Section 192.143 is incorrect. The adopted changes listed in Appendix A reflect the correct reference to Section 192.145.

Subsection 192.611(e)(1), applicable only to class location changes occurring prior to July 1, 1973, is deleted as obsolete.

Branch concurs with the revisions, noting that they constitute a clarification which will not undermine public safety.

H. API Standard 1104, 17th Edition

Applicants state that the RSPA issued a Final Rule at 54 Fed.Reg. 27881-27882 (July 3, 1989) which incorporates by reference the 17th Edition, (1988) of the American Petroleum Institute (API) Standard 1104 "Standard for Welding Pipelines and Related Facilities". According to applicants, the new edition does not significantly affect the technological aspects of welding procedure and welder qualification, but either clarifies or eliminates possible confusion from possible interpretations of earlier editions. Appendix A is revised to incorporate the new edition by reference. Branch agrees with the change.

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 and should be adopted. The changes will clarify existing regulations and will eliminate outdated and misleading rules, making the GO easier to use. New reporting requirements will help to prevent safety related conditions from going uncorrected. Adoption of the changes will allow gas utilities more flexibility in constructing, repairing, maintaining, and testing gas piping systems by eliminating outdated and unnecessary requirements. At the same time, state regulations established by the Commission will be brought into substantial conformance with federal regulations. None of the proposed changes will have an adverse impact on public safety or service reliability.

Copies of the application were served on various municipalities and other organizations which might be interested in the application. No response has been received, and, as noted,

Branch recommends that the application be granted ex parte. We will grant the application as requested. Since early adoption of the rules should promote better understanding of the rules and reduce the potential for confusion, the order will be made effective on the date it is signed.

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 similar to and consistent with the MFSS for gas pipelines published in Title 49 CFR, Part 192, and is periodically modified to conform with changes in the MFSS.

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 prepared and filed, the RSPA issued eight final rules which revised the MFSS in 1987, 1988, and 1989.

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

6. Revision of Subsection 192.5(d)(2) to remove the ambiguous phrase "during normal use" with more specific wording quantifies the criteria without a reduction of safety standards.

7. Editorial and other minor changes in Sections 192.3, 192.59, 192.161, 192.177, 192.191, 192.355, 192.503, 192.507, and 192.509 will eliminate confusion and make the various rules consistent with their intent without any adverse affect on safety.

8. New Subsections 192.605(f) and 141.6 will require operators to instruct O&M personnel to recognize and report safety related conditions to DOT and the Commission, helping to prevent safety related conditions from going uncorrected.

9. Revising Subsection 192.503(d) to allow an exception to certain pressure testing requirements for non-welded tie-in joints will not have an adverse impact on safety since the integrity of such joints is assured by the requirements of Subpart F and the requirement for a leak test at not less than operating pressure.

10. Adoption of the 1987 ASTM Specification D 2513 will reflect the latest improvements in plastic pipe technology relating to material properties and quality control, and is in the interest of safety and efficient operation.

11. Deletion of Subsections 192.63(b) and 192.281(b)(3) and modification of Subsection 192.59(d)(2) and Appendixes A and B are necessary to reflect adoption of the 1987 ASTM Specification D 2513 and eliminate redundant and unnecessary reference to ASTM F 678.

12. References to design and construction standards for cast iron, wrought steel, and wrought iron pipe; copper pipe and tubing; well casing tubing and drill pipe; bronze flanges; and other materials are no longer necessary because the materials have minimal or no usage in new gas pipelines, and deleting the references will significantly reduce both the number of standards incorporated by reference in GO 112-D and the burden of keeping the references current.

13. Removal of Sections 192.57, 192.61, 192.117, and 192.119 in their entirety and revisions of Sections 192.63, 192.113, 192.125, 192.145, 192.147, 192.177, 192.275, 192.277, 192.279, 192.557, and Appendixes A and B of Part II as proposed by applicants will eliminate unnecessary references to industry standards and will not adversely affect safety.

14. Revisions proposed for Section 192.611 will reduce the need to retest pipelines for which past test pressures provide an adequate safety basis for determining current operating pressures, will delete an obsolete provision relating to class location changes occurring prior to July 1, 1973, and constitute a clarification which will not undermine public safety.

15. Reference in Appendix A to the 17th Edition, (1988) of the API Standard 1104 will not significantly affect the technological aspects of welding procedure and welder qualification, but will clarify or eliminate possible confusion from possible interpretations of earlier editions.

Conclusions of Law

1. The application should be granted as set forth in the following order.

2. There are no protests, and 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 is effective today.

Dated JUN 20 1990, at San Francisco, California.

FREDERICK R. DUDA
STANLEY W. HULETT
JOHN B. OHANIAN
PATRICIA M. ECKERT
Commissioners

President G. Mitchell Wilk, being necessarily absent, did not participate.

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

NEAL J. SHULMAN, Executive Director

REVISIONS TO G.O. 112-D

A. The following section should be amended to read as follows:

§192.5 Class locations.

* * * * *

(d) * * *

(2) An area where the pipeline lies within 100 yards of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater or other place of public assembly) that is occupied by 20 or more persons on a least 5 days a week for 10 weeks in any 12-month period. (The days and weeks need not be consecutive.)

B. The following sections should be amended to read as follows:

§192.3 Definitions.

* * * * *

"Maximum allowable operating pressure (MAOP)" means the maximum pressure at which a pipeline or segment of a pipeline may be operated under this part.

§192.59 Plastic pipe.

(a) * * *

(1) It is manufactured in accordance with a listed specification; and

* * * * *

(b) * * *

(1) It was manufactured in accordance with a listed specification;

§192.161 Supports and anchors.

* * * * *

(f) Each underground pipeline that is being connected to new branches must have a firm foundation for both the header and the branch to prevent detrimental lateral and vertical movement.

§192.177 Additional provisions for bottle-type holders.

(a) * * *

(1) Located on a site entirely surrounded by fencing that prevents access by unauthorized persons and with minimum clearance from the fence as follows:

* * * * *

§192.191 Design pressure of plastic fittings.

* * * * *

(b) Thermoplastic fusion fittings for plastic pipe must conform to ASTM D 2513.

§192.355 Customer meters and regulators: Protection from damage.

* * * * *

(b) Service regulator vents and relief vents. Service regulator vents and relief vents must terminate outdoors, and the outdoor terminal must---

* * * * *

§192.503 General requirements.

(a) * * *

(1) It has been tested in accordance with this subpart and §192.619 to substantiate the maximum allowable operating pressure; and

* * * * *

§192.507 Test requirements for pipelines to operate a hoop stress less than 30 percent of SMYS and at or above 100 psig.

Except for service lines and plastic pipelines, each segment of a pipeline that it to be operated at a hoop stress less than 30 percent of SMYS and at or above 100 psig must be tested in accordance with the following:

* * * * *

§192.509 Test requirements for pipelines to operate below 100 psig.

Except for service lines and plastic pipelines, each segment of a pipeline that is to be operated below 100 psig must be leak tested in accordance with the following:

* * * * *

C. The following section should be amended to reads as follows:

§192.605 Essentials of operating and maintenance plan.

Each operator shall include the following in its operating and maintenance plan.

* * * * *

(f) Instructions enabling personnel who perform operation and maintenance activities to recognize conditions that potentially may be safety-related conditions that are subject to the reporting requirement of 141.6.

Add a new subsection to 141 to read as follows:

§141.6 Reporting safety related conditions

The requirements of paragraphs 191.1, 191.7, 191.23 and 191.25 in 49 CFR Part 191, to report specified safety related conditions, are incorporated by references as part of these rules. Copies of all reports submitted to the Secretary of Transportation pursuant to the foregoing requirements shall be submitted to the Commission concurrently.

D. The following section should be amended to read as follows:

§192.503 General requirements

* * * * *

(d) Each joint used to tie in a test segment of pipeline is excepted from the specific test requirements of this subpart, but each non-welded joint must be leak tested at not less than its operating pressure.

E. The following section should be amended to read as follows:

§192.63 (b) - Remove in its entirety.

§192.63 (c), (d), and (e) redesignated as §192.63 (b), (c), and (d), respectively.

§192.63 (a) Except as provided in paragraph (d) of this section, each valve, fitting, length of pipe and other component must be marked as prescribed:

§192.281 (b) (3) - Remove in its entirety.

§192.281(b) (4) - Redesignated as 192.281 (b) (3)

PART II

Appendix A - Materials Incorporated by Reference

* * * * *

II * * *

B. The American Society for Testing and Materials

* * * *

(23) ASTM Specification D 2513 "Standard Specification For Thermoplastic Gas Pressure Pipe, Tubing, and Fittings" (D 2513-68, D 2513-70, D 2513-71, D 2513-73, D 2513-74a, D 2513-81, D 2513-87).

Part II

Appendix B Qualification of Pipe.

I. Listed Pipe Specifications

* * * * *

ASTM D 2513 - Thermoplastic Pipe and Tubing

(1966T, 1968, 1970, 1971, 1973, 1974a, 1981, 1987).

§192.59

(d) * * *

(2) Non Black polyethylene pipe must be certified by the manufacturer to comply with ASTM D 2513. No later than eighteen months from the month of manufacture, non-black polyethylene pipe must be tested in accordance with Section 192.59 (e). Pipe which fails the test must be discarded.

* * * * *

Part II

Appendix A - Materials Incorporated by Reference

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II. * * *

B. The American Society for Testing and Materials

(25) ASTM Specification F 678 "Standard Specification for Polyethylene Gas Pressure Pipe, Tubing and Fittings" - Remove in its entirety.

Appendix B - Qualification or Pipe

I. Listed Pipe Specifications

* * * *

ASTM F 678 - Thermoplastic Pipe and Tubing (1982), - Remove in its entirety.

F. The following Sections should be amended to read as follows:

§192.57 - Remove in its entirety.

§192.61 - Remove in its entirety.

§192.63 Marking of Materials

(a) Except as provided in paragraph (d) of this Section, each valve, fitting, length of pipe, and other component must be marked -

(1) As prescribed in the specification or standard to which it was manufactured; or

(2) To indicate size, material, manufacturer, pressure rating, and temperature rating, and as appropriate, type grade, and model.

* * * * *

§192.113 Longitudinal Joint Factor (E) for Steel Pipe

* * * * *

| Specification | Pipe Class | Longitudinal Joint Factor (E) |
|---|---|---|
| ASTM A 53 | Seamless | 1.00 |
| | Electric Resistance Welded | 1.00 |
| | Furnace Butt Welded | .60 |
| ASTM A 106 | Seamless | 1.00 |
| 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 |

* * * * *

§192.117 - Remove in its entirety.

§192.119 - Remove in its entirety.

§192.125 - Design or Copper Pipe

* * * * *

(b) Copper pipe used in service lines must have wall thickness not less than that indicated in the following table:

| Standard size (inch) | Nominal O. D. (inch) | Wall thickness (inch) | |
|---|---|---|---|
| | | Nominal | Tolerance |
| 1/2 | .625 | .040 | .0035 |
| 5/8 | .750 | .042 | .0035 |
| 3/4 | .875 | .045 | .004 |
| 1 | 1.125 | .050 | .004 |
| 1 1/4 | 1.375 | .055 | .0045 |
| 1 1/2 | 1.625 | .060 | .0045 |

* * * * *

§192.145 (a) - Remove in its entirety.

§192.145 (b), (c) and (d) Redesignated as §192.145 (c), (d) and (e), Respectively.

§192.145 Valves

(a) Except for cast iron and plastic valves, each valve must meet the minimum requirements, or equivalent, of API 6D. A valve may not be used under operating conditions that exceed the applicable pressure-temperature ratings contained in those requirements.

(b) Each cast iron and plastic valve must comply with the following:

(1) The valve must have a maximum service pressure rating for temperatures that equal or exceed the maximum service temperature.

(2) The valve must be tested as part of the manufacturing, as follows:

(i) With the valve in fully open position, the shell must be tested with no leakage to a pressure at least 1.5 times the maximum service rating.

(ii) After the shell test, the seat must be tested to a pressure not less than 1.5 times the maximum service pressure rating. Except for swing check valves, test pressure during the seat test must be applied successively on each side of the closed valve with the opposite side open. No visible leakage is permitted.

(iii) After the last pressure test is completed, the valved must be operated through its full travel to demonstrate freedom from interference.

§192.147 Flanges and Flange Accessories

(a) Each flange or flange accessory (other than cast iron) must meet the minimum requirements of ANSI B16.5, MSS SP-44, or the equivalent.

* * * * *

(c) Each flange on a flanged joint in cast iron pipe must conform in dimensions, drilling, face and gasket design to ANSI B 16.1 and be cast integrally with the pipe, valve or fitting.

§192.177 Additional Provisions for Bottle-Type Holders

(b) * * * * *

(1) A bottle-type holder made from alloy steel must meet the chemical and tensile requirements for the various grades of steel in ASTM A 372.

* * * * *

§192.275 (e) - Remove in its entirety.

§192.277 (a) - Remove in its entirety.

§192.277 (b) and (c) Redesignated as

§192.277 (a) and (b), Respectively.

§192.279 Copper Pipe

Copper pipe may not be threaded except that copper pipe used for joining screw fittings or valves may be threaded if the wall thickness is equivalent to the comparable size of schedule 40 or heavier wall pipe listed in Table C1 of ANSI B 16.5.

§192.557 Up rating: Steel pipelines to a pressure that will produce a hoop stress less than 30 percent of SMYS: plastic, cast iron and ductile iron pipelines.

* * * * *

(d) If records for cast iron or ductile iron pipeline facilities are not complete enough to determine stresses produced by internal pressure, trench loading, rolling loads, beam stresses, and other bending loads, in evaluating the level of safety of the pipeline when operating at the proposed increased pressure, the following procedures must be followed:

(1) In estimating the stresses, if the original laying conditions cannot be ascertained, the operator shall assume that cast iron pipe was supported on blocks with tamped backfill and that ductile iron pipe was laid without blocks with tamped backfill.

* * * * *

(3) * * *

Note - remove in its entirety

* * * * *

PART II

Appendix A - Materials Incorporated by Reference

* * * * *

II. Documents Incorporated by Reference Numbers

A. American Petroleum Institute:

(1) and (2) - Remove in its entirety.

(3), (4), (5), (6), (7) and (8), Redesignated as (1), (2), (3), (4), (5) and (6), Respectively.

B. The American Society for Testing and Materials:

* * * * *

(4), (5), (6), (8), (11), (13), (17), (18), (19), (20) and (21) - Remove in its entirety.

(7), (9), (10), (12), (14), (15), (16), (22), (23) and (24) - Redesignated as (4), (5), (6), (7), (8), (9), (10), (11), (12) and (13), Respectively.

C. The American National Standards Institute Inc.:

(1), (2), (3), (6), (7) and (9) - Remove in its entirety.

(4) (5), and (8) - Redesignated as

(1), (2),and (3) - Respectively.

* * * * *

E. Manufacturer's Standardization Society of the Valve and Fittings Industry

(1), (4), (5) and (6) - Remove in its entirety.

(2) and (3) - Redesignated

(1) and (2) - Respectively.

* * * * *

Appendix B - Qualification of Pipe

I. * * * * *

* * * * *

ASTM A 134 - Steel Pipe - Remove in its entirety.

ASTM A 135 - Steel Pipe - Remove in its entirety.

ASTM A 139 - Steel Pipe - Remove in its entirety.

ASTM A 211 - Steel and Iron Pipe - Remove in its entirety.

* * * * *

ASTM A 377 - Cast Iron Pipe - Remove in its entirety.

* * * * *

ASTM A 539 - Steel Tubing - Remove in its entirety.

ASTM B 42 - Copper Pipe - Remove in its entirety.

ASTM B 68 - Copper Tubing - Remove in its entirety.

ASTM B 75 - Copper Tubing - Remove in its entirety.

ASTM B 88 - Copper Tubing - Remove in its entirety.

ASTM B 251 - Copper Pipe and Tubing - Remove in its entirety.

* * * * *

ANSI A 21.52 Ductile Iron Pipe - Remove in its entirety.

G. The following Section should be amended to read as follows: §192.611 change In Class Location: Confirmation or Revision of Maximum Allowable Operating Pressure.

(a) If the hoop stress corresponding to the established maximum allowable operating pressure of a segment of pipeline is not commensurate with the present class location, and the segment is in satisfactory physical condition, the maximum allowable operating pressure of that segment of pipeline must be confirmed or revised according to one of the following requirements:

(1) If the segment involved has been previously tested in place for a period of not less than 8 hours, the maximum allowable operating pressure is 0.8 times the test pressure in Class 2 locations, 0.667 times the test pressure in Class 3 locations, or 0.555 times the test pressure in Class 4 locations. The corresponding hoop stress may not exceed 72 percent of the SMYS of the pipe in Class 2 locations, 60 percent of SMYS in Class 3 locations, or 50 percent of SMYS in Class 4 locations.

(2) The maximum allowable operating pressure of the segment involved must be reduced so that the corresponding hoop stress is not more than that allowed by this part for new segments of pipelines in the existing class location.

(3) The segment involved must be tested in accordance with the applicable requirements of Subpart J of this part, and its maximum allowable operating pressure must then be established according to the following criteria:

(i) The maximum allowable operating pressure after the requalification test is 0.8 times the test pressure for Class 2 locations, 0.667 times the test pressure for Class 3 locations, and 0.555 times the test pressure for Class 4 locations.

(ii) The maximum allowable operating pressure confirmed or revised in accordance with this section, may not exceed the maximum allowable operating pressure established before the confirmation or revision.

(iii) The corresponding hoop stress may not exceed 72 percent of the SMYS of the pipe in Class 2 locations, 60 percent of SMYS in Class 3 locations, or 50 percent of SMYS in Class 4 locations.

(b) Confirmation or revision of the maximum allowable operating pressure of a segment of pipeline in accordance with this section does not preclude the application of §§192.553 and 192.555.

(c) Confirmation or revision of the maximum allowable operating pressure that is required as a result of a study under §192.609 must be completed within 18 months of the change in class location. Pressure reduction under paragraph (a) (1) or (2) of this section within the 18-month period does not preclude establishing a maximum allowable operating pressure under paragraph (a) (3) of this section at a later date.

The following Appendix should be amended to read as follows:

Part II

Appendix A - Material Incorporated by Reference

* * * * *

II * * *

A. American Petroleum Institute

* * * *

(6) API Standard 1104 " Standard for Welding Pipelines and Related Facilities" (1968; 1973; 1980; 17th Edition, 1988).

(END OF APPENDIX A)

ALJ/JBW/vdl

~~14~~ H-9

Decision 90 06 072 JUN 20 1990

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

| | |
|---|---|
| Application of PACIFIC GAS AND ELECTRIC COMPANY and the CITY OF REDDING for an order authorizing the former to sell and convey to the latter certain electric distribution facilities, in accordance with the terms of an agreement dated November 7, 1989. (Electric) (U 39 E) | ORIGINAL<br>Application 90-02-002<br>(Filed February 1, 1990) |

# O P I N I O N

## Statement of Facts

Pacific Gas and Electric Company (PG&E) since October 10, 1905 has been an operating public utility corporation organized under the laws of the State of California. PG&E is engaged principally in the business of furnishing electric and gas service in northern and central California. PG&E also produces and sells steam in certain parts of San Francisco.

The City of Redding (City), located in Shasta County, is a municipal corporation existing under the laws of the State of California. For some time City has owned and operated an electric distribution system located within its limits. From this system, City furnishes electric service to its residents.

In accordance with its public utility obligations, PG&E has been supplying 75 KVA 3 phase 208 volt undergrounded electric service to a 4.69-acre unincorporated area bordering, on the northwest, the junction of Lake Boulevard East and Old Highway 99. The area served is occupied by P.E. O'Hair & Company, a large commercial waterworks, plumbing, and heating contractor supply complex with both wholesale and retail outlets within the complex.

Known as "Lake Boulevard East (P.E. O'Hair) Annexation No. 81-11," the area was annexed to City, with the annexation being certified on May 10, 1982 by the Executive Officer of the Shasta County Local Agency Formation Commission. City now desires to acquire the PG&E facilities serving this commercial complex and intends to incorporate the commercial customer and the 4.69-acre area into City's municipal electric distribution system. PG&E agrees to sell to City.

Accordingly, on November 7, 1989, PG&E and City executed a Purchase and Sale Agreement whereby PG&E's facilities in the annexed area would be sold to City. By the present application the parties seek an ex parte order of the Commission authorizing the sale and transfer. The facilities are described in Tab A of the application. Upon the transfer, PG&E also seeks to be relieved of the duties and responsibilities (including all public utility obligations) of an electrical corporation within the annexed area. Finally, PG&E requests, pursuant to Decision (D.) 89-07-016, that the gain on the instant sale be allocated to PG&E and its shareholders.

The purchase price agreed upon by the parties is $17,825 plus severance costs of $222, for a total $18,047. The historical book cost was $10,000 with a depreciation reserve of $2,800, for net book value of $7,200. Actual cost of additions to and betterments plus 15% and actual severance costs accruing between September 6, 1989 and date of conveyance will be determined at time of conveyance.

Current ad valorem taxes for the tax year of the conveyance will be prorated as of date of conveyance. City has also been advised that certain of the facilities involved may contain polychlorinated biphenyls (PCBs), a hazardous material, and City will assume liability, and responsibility for compliance with all laws, standards, rules and regulations pertaining to same. Facilities are sold "as is." The facilities sold are presently

subject to the lien of PG&E's First and Refunding Mortgage Indenture, and PG&E will obtain removal of this encumbrance from the trustee of the indenture.

The furnishing of electric service to P.E. O'Hair & Company by City at its currently effective rates and charges for such service will not result in an increase over PG&E's presently effective rates and charges for electric service. PG&E holds no line extension or other credit deposits for the customer involved in this transaction. PG&E will lose a gross annual revenue of approximately $17,000.

On February 16, 1990, the Division of Ratepayer Advocates (DRA) filed a protest with respect to the requested allocation of the gain on sale. Asserting its view that D.89-07-016 applies only to sales involving a loss of a significant part of a utility's total operating system, DRA's view is that since the present application involves the transfer of one customer, it hardly involves loss of a significant part of PG&E's system.

Discussion

While most California communities obtain their electric services from privately owned public utility corporations such as PG&E, some cities prefer and are able to invest in the acquisition of their own electric distribution facilities, and thereby are able to take advantage of the low wholesale power rates available for cities from the federal government's sources. With lower financing costs than those available to privately owned public utility corporations, cheaper federally subsidized power sources, and not having to pay income or other taxes, cities are often able to resell to their inhabitants this federally derived electricity at rates lower than those a privately owned public utility must charge. But to be eligible for federal preferential power allocations, a municipality must own its own electric distribution system. Redding does. Usually lacking their own transmission lines, cities customarily pay the local privately owned public

utility to wheel the federal power. Then to meet its utility obligation, the city will contract with the local public utility for wholesale power purchases as needed to augment normal requirements, in many instances placing upon the local public utility the need to have available and carry peaking period capability.

In California, a municipal corporation is empowered to acquire, construct, own, operate, or lease any public utility. (Public Utilities (PU) Code § 10002.) Thus, a city has the power of eminent domain to acquire by court proceedings all or any part of the distribution facilities of any privately owned public utility serving within its boundaries. Faced with this overhanging potential eminent domain threat, in order to avoid expensive condemnation suits, a public utility corporation involved in an annexation similar to the present situation is often willing to sell its involved facilities to the city by direct negotiation and contract for a sale.

Such is the situation and procedure being followed here. In the mutual interest of saving both time and legal expense, City and PG&E have bargained for an appreciated price for the facilities involved. As PU Code § 851 provides that no public utility other than a common carrier by railroad may sell the whole or any part of its system necessary or useful in the performance of its public duties without first obtaining authorization to do so from this Commission, the parties have filed this application.

In the usual private investor transfer proceeding, the function of the Commission is to protect and safeguard the interests of the public. The concern is to prevent impairment of the public service by the transfer of utility property and functions into the hands of parties incapable of performing an adequate service at reasonable rates or upon terms which would bring about the same undesirable result (So. Cal Mountain Water Co. (1912) 1 CRC 520). We want to be assured that the purchaser is

financially capable of the acquisition and of satisfactory operation thereafter.

But in this proceeding we do not have the usual private party transfer. A city is the purchaser, and where a municipality, its corporation, or another governmental entity is the purchaser, our considerations are somewhat different. Since the rates to be charged by a municipally owned utility must be fair, reasonable, just, and nondiscriminatory (American Microsystems, Inc. v. City of Santa Clara (1982) 137 CA 3d 1037, 1041), and the city is assured of an electric supply, the sale and transfer involves no risk to the ratepayers going with the system being transferred. Were the Commission to refuse approval of the sale and transfer, City could proceed in eminent domain to acquire the system and its customers without our consent (see People ex rel. PUC vs. City of Fresno (1967) 254 CA 2d 76; petition for hearing denied by Supreme Court November 22, 1967). Accordingly, the Commission approves the sale and transfer.

Under these circumstances, we still retain jurisdiction to formally relieve PG&E of its public utility obligations with respect to service for the area being transferred to City, and upon consummation of the sale and transfer, PG&E will be relieved of these responsibilities for the Lake Boulevard East area. PG&E has annual gross intrastate revenues exceeding $750,000. Accordingly, no payment of collected Public Utilities Commission Reimbursement fees will be due and payable upon this sale; rather fees collected from the Lake Boulevard East area customer will be incorporated for payment with the utility's regular quarterly payment in the quarter following consummation date of this sale and transfer (PU Code § 433.b).

Remaining is disposition of the capital gain to be realized from the sale and transfer herein being authorized.

Order Instituting Investigation 88-11-041 was opened specifically "to reconsider the rule of D.85-11-018 (City of Redding), regarding the ratemaking treatment of gains realized in certain sales of utility property to a municipality or other public entity." In D.89-07-016 in that rulemaking proceeding, the Commission concluded that the result of such sales means that "the utility's business diminishes in terms of assets and customers. This loss of part of its customer base and ongoing business value is tantamount to a dissolution, although only a partial one." Whether or not Redding takes PG&E's local distribution system in a single total acquisition, or by salami slices, large or small, the end result is the same; the utility loses the assets, business, and customers taken.

As we stated in D.89-07-016, "our concern is to recognize the rights of the shareholders without disregarding adverse impacts on ratepayers and the continuing obligation of the selling utility to provide reliable service at reasonable rates." By D.89-07-016 the Commission changed the D.85-11-041 (City of Redding) rule and determined that any capital gain or loss, net of costs of sales, realized from sale of a distribution system consisting of part or all of a utility's operating system located within a geographically defined area, shall accrue to the utility and its shareholders where (1) the remaining ratepayers are not adversely affected, and (2) the ratepayers have not contributed capital to the system being sold.

In the present Redding proceeding, there will be a capital gain of $10,625 realized from the sale of the 75 KVA 3 phase 208 volt underground system serving this large commercial customer in the 4.69 acre geographically defined Lake Boulevard East area. Unlike the situations in App. of Dyke Water Co. (1964) 63 CPUC 641, or App. of Plunkett Water Co. (1966) 69 CPUC 313, or App. of Kentwood in the Pines (1963) 61 CPUC 629, each discussed and distinguished in D.89-07-016, and where major portions of the

facilities of each utility were to be sold which would have resulted in significant rate increases, or inadequate service to the remaining ratepayers, and/or precarious financial conditions which would jeopardize the utility's future operations (i.e., significant adverse economic impacts for remaining ratepayers), it is obvious that in the present situation, minuscule portions of PG&E's facilities are being sold, the customers and revenues being lost constitute only a minuscule portion of PG&E's customer base and revenues.[1] Accordingly, there can be no significant or adverse economic impact for remaining ratepayers.

As to the second test, the ratepayers have contributed no capital to the distribution system being sold, and no operating revenues pursuant to past arrangements such as the Energy Exploration and Development Adjustments, or funds receivable under a PU Code § 454.3 program, or comparable program, have been the source of investments in these facilities being sold.

On balance therefore, the welfare of ratepayers who will remain with PG&E is unchanged by the sale, they will be in the same position before and after the sale and transfer. Accordingly, the present sale and transfer meets the requirements of D.89-07-016 for the capital gain to be realized to accrue to PG&E and its shareholders.

Given the obviously minuscule impact on ratepayers of this proposed transaction, there is no need for a hearing. The Commission cannot afford to further dilute its limited resources to

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1 The Lake Boulevard East electric distribution system serves one large commercial customer, has a net book value of $7,200, and the sale and transfer will result in an annual revenue loss of $17,000. This contrasts with PG&E's 4,096,185 customer base as of October 31, 1989, net book value of $3,886,121,261 and annual revenues of $6,083,940,850 as of September 30, 1989.

inquire into a matter as to which the holding in D.89-07-016 so obviously applies.

The sooner the sale and transfer are authorized, the sooner the ratepayer who is to be transferred to City service can obtain the benefits of that service it has been led to expect to receive. Accordingly, the order which follows will be made effective immediately.

Findings of Fact

1. PG&E provides public utility electric service in many areas of California, including areas in and about City.

2. City, a municipal corporation of the State of California, for some time has owned and operated an electric distribution system in areas within city limits.

3. In 1982 City completed annexation procedures to add the Lake Boulevard East area to City.

4. In the interim since annexation, PG&E has continued to provide public utility electric service to the annexed area.

5. City plans and desires to take over and acquire PG&E's electric distribution system in the Lake Boulevard East area, and has contracted with PG&E to purchase this system and incorporate it into City's system.

6. The negotiated purchase price for the distribution system includes a gain over original cost less depreciation, and is reasonable.

7. There is no known opposition to the proposed sale and transfer.

8. It can be seen with reasonable certainty that the sale and transfer to City presents no significant impact on the environment.

9. As a public utility continuing to operate after this sale and transfer, PG&E remains responsible to the Commission for remittance at the appropriate time of Public Utilities Commission

Reimbursement Fees collected in the transferred service area up to date the sale and transfer is consummated.

10. Whether or not a city takes a public utility's distribution system in one single total acquisition, or by large or small salami slices, the end result is the same, the public utility loses the assets, business, and customers taken.

11. In the present sale and transfer, a minuscule portion of PG&E's facilities is being sold, and the customer and revenues to be lost constitute only a minuscule portion of PG&E's customer base and revenues.

12. PG&E ratepayers have contributed no capital to the distribution system being sold to City.

13. Because the public interest would best be served by having the transfer take place expeditiously, the ensuing order should be made effective on the date of issuance.

Conclusions of Law

1. A public hearing is not necessary.

2. The sale and transfer should be authorized.

3. The sale and transfer meets the requirements of D.89-07-016 for the capital gain to accrue to PG&E and its shareholders.

4. Upon completion of the sale and transfer, PG&E should be relieved of its public utility electric service obligations in the Lake Boulevard East area of Redding.

## O R D E R

IT IS ORDERED that:

1. Within 6 months after the effective date of this order, Pacific Gas and Electric Company (PG&E) may sell and transfer to the City of Redding (City) the electric distribution system set forth in Tab A of Application 90-02-002 in accordance with the terms of the application.

2. Within 10 days of the actual transfer, PG&E shall notify the Commission in writing of the date on which the transfer was consummated. A true copy of the instrument effecting the sale and transfer shall be attached to the written notification.

3. Within 90 days after the date of actual transfer, PG&E shall advise the Commission Advisory and Compliance Division, in writing, of the adjustments for additions and betterments, if any, made in accordance with the transaction.

4. PG&E shall make remittance to the Commission of the Public Utilities Commission Reimbursement Fees collected to the date of sale and transfer of this Lake Boulevard East system, along with its other fee remittances, at the next quarter remittance date following the date of the sale and transfer.

5. Upon completion of the sale and transfer authorized by this Commission order, PG&E shall stand relieved of its public utility electric service obligations in the Lake Boulevard East area of Redding.

6. The gain on sale realized from this sale and transfer shall accrue to PG&E and its shareholders.

7. In accordance with General Order 96-A, PG&E shall file a revised service area map delineating its service territory in the vicinity of Redding within 90 days of the transfer date.

This order is effective today.

Dated JUN 20 1990, at San Francisco, California.

FREDERICK R. DUDA
STANLEY W. HULETT
JOHN B. OHANIAN
PATRICIA M. ECKERT
Commissioners

President G. Mitchell Wilk, being necessarily absent, did not participate.

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

NEAL J. SHULMAN, Executive Director

NB

| Agency | Crossing Name | RR | Br. | Mile Post | Typ Sfx | Typ Prj | Vehvol | Trvol | C | Veh MPH | Veh VS | Trn MPH | Trn RS | CG | BD | AR | AH | PT | OF | SCF | VxT*(AX+BD) / CxF | Priority Index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaheim | State College Blvd. | 2 | | 170.3 | | A | 32000 | 21 | 16385 | 40 | 2 | 79 | 6 | 3 | 1.5 | 2 | 2 | 3 | 7 | 23 | 13 | 36 |
| Bakersfield | Coffee Road | 2 | | 891.6 | | A | 16000 | 23 | 3680 | 55 | 5 | 79 | 6 | 3 | 1.5 | 5 | 1 | 3 | 11 | 33 | 23 | 56 |
| Bakersfield | P - Q - S Sts. | 2 | | 886.7 | | B | 6750 | 34 | 5060 | 35 | 1 | 20 | 0 | 3 | 4.5 | 1 | 8 | 0 | 13 | 18 | 52 | 70 |
| Belmont | Ralston Avenue | 1 | E | 22.0 | | B | 31277 | 56 | 15878 | 25 | 0 | 70 | 5 | 3 | 1.5 | 1 | 2 | 8 | 10 | 27 | 35 | 62 |
| Buena Park | Dale Street | 2 | | 161.3 | | A | 11500 | 43 | 7485 | 35 | 1 | 79 | 6 | 6 | 1.0 | 4 | 5 | 4 | 10 | 31 | 36 | 67 |
| Caltrans | John St. (SR 68) | 1 | E | 119.29 | | B | 18300 | 7 | 5490 | 36 | 2 | 25 | 0 | 2 | 4.0 | 1 | 0 | 1 | 5 | 11 | 8 | 19 |
| Caltrans | State Route 132 | 2 | | 1089.3 | | A | 17100 | 26 | 15780 | 35 | 1 | 60 | 4 | 2 | 3.0 | 0 | 2 | 3 | 10 | 20 | 13 | 33 |
| Caltrans | State Route 166 | 1 | E | 276.8 | | A | 6300 | 10 | 4111 | 55 | 5 | 50 | 3 | 3 | 4.5 | 4 | 0 | 1 | 8 | 24 | 6 | 30 |
| Caltrans | State Route 58 | 2 | | 780.3 | | A | 10600 | 22 | 3959 | 55 | 5 | 70 | 5 | 5 | 1.5 | 5 | 3 | 0 | 12 | 32 | 24 | 56 |
| Caltrans | State Route 58 | 2 | | 753.2 | | A | 7400 | 22 | 2857 | 55 | 5 | 70 | 5 | 5 | 1.5 | 5 | 1 | 0 | 10 | 30 | 13 | 43 |
| Camarillo | Adolfo Road | 1 | E | 417.9 | | B | 16000 | 8 | 5501 | 40 | 2 | 70 | 5 | 2 | 1.5 | 5 | 0 | 2 | 7 | 23 | 3 | 26 |
| Camarillo | Upland Road | 1 | E | 418.9 | | A | 9500 | 8 | 6328 | 45 | 3 | 60 | 4 | 3 | 2.0 | 5 | 0 | 2 | 7 | 24 | 2 | 26 |
| Compton | Alondra Blvd. | 1 | BG | 494.3 | | B | 22220 | 10 | 14004 | 35 | 1 | 10 | 0 | 4 | 10.0 | 0 | 3 | 0 | 13 | 18 | 19 | 37 |
| Compton | Compton Blvd. | 1 | BG | 493.8 | | B | 27786 | 10 | 14004 | 30 | 0 | 10 | 0 | 5 | 10.0 | 0 | 0 | 0 | 13 | 18 | 18 | 36 |
| Dixon | West A Street cnsl. | 1 | A | 67.4 | | Depr | 17300 | 19 | 18968 | 25 | 0 | 70 | 5 | 3 | 3.0 | 5 | 2 | 2 | 16 | 31 | 8 | 39 |
| Downey | Brookshire Ave. | 1 | BK | 495.4 | | B | 14700 | 20 | 7368 | 35 | 1 | 25 | 0 | 3 | 10.0 | 1 | 0 | 0 | 16 | 21 | 36 | 57 |
| El Monte | Arden Drive | 1 | B | 494.0 | | B | 12000 | 26 | 14700 | 35 | 1 | 65 | 4 | 3 | 2.0 | 2 | 3 | 1 | 8 | 19 | 10 | 29 |
| El Monte | Baldwin Avenue | 1 | B | 493.6 | | B | 31000 | 26 | 14600 | 40 | 2 | 65 | 4 | 6 | 2.0 | 2 | 0 | 1 | 9 | 24 | 10 | 34 |
| El Monte | Ramona Blvd. | 1 | B | 495.1 | | B | 26000 | 26 | 15110 | 35 | 1 | 65 | 4 | 3 | 2.0 | 1 | 0 | 0 | 8 | 17 | 8 | 25 |
| Emeryville | Yerba Buena Ave. | 1 | A | 6.5 | Pro | A | 17000 | 28 | 12331 | 35 | 1 | 45 | 2 | 0 | 3.5 | 4 | 0 | 3 | 2 | 12 | 12 | 24 |
| Fremont | Blacow Road | 1 | DA | 33.4 | Pro | B | 15000 | 14 | 5093 | 30 | 0 | 60 | 4 | 2 | 0.0 | 2 | 0 | 0 | 2 | 10 | 0 | 10 |
| Fremont | Paseo Padre Parkway | 1 | DA | 32.1 | | A | 24000 | 14 | 8230 | 35 | 1 | 60 | 4 | 3 | 2.5 | 3 | 0 | 0 | 4 | 15 | 9 | 24 |
| Fremont | Washington Blvd. | 1 | DA | 32.8 | | A | 31000 | 14 | 6157 | 25 | 0 | 60 | 4 | 4 | 2.5 | 3 | 0 | 0 | 6 | 17 | 16 | 33 |
| Fresno | Consolidation | Various, | | ATSF & SP | | Othr | 253968 | 24 | 26275 | 45 | 3 | 70 | 5 | 7 | 10.0 | 5 | 67 | 3 | 16 | 39 | 1624 | 1663 |
| Fresno | Herndon Avenue | 1 | B | 195.8 | | A | 14400 | 20 | 5352 | 55 | 5 | 60 | 4 | 3 | 2.0 | 5 | 3 | 0 | 12 | 29 | 24 | 53 |
| Fresno | Shaw Avenue | 2 | | 1004.2 | | B | 41650 | 25 | 6941 | 45 | 3 | 75 | 5 | 6 | 2.0 | 5 | 2 | 3 | 14 | 36 | 55 | 91 |
| Fresno | Shaw Avenue | 1 | B | 198.5 | | A | 24900 | 20 | 4655 | 35 | 1 | 70 | 5 | 3 | 3.5 | 5 | 0 | 0 | 13 | 27 | 34 | 61 |
| Fresno County | Chestnut Avenue | 1 | B | 210.3 | | A | 8434 | 22 | 4815 | 40 | 2 | 65 | 4 | 3 | 1.5 | 1 | 9 | 0 | 9 | 19 | 37 | 56 |
| Fresno County | Clovis | 1 | B | 213.3 | | A | 14200 | 22 | 4448 | 50 | 4 | 70 | 5 | 4 | 1.0 | 2 | 5 | 0 | 8 | 23 | 38 | 61 |
| Fresno County | Mountain View Ave. | 1 | B | 222.5 | | A | 7076 | 22 | 5626 | 55 | 5 | 65 | 4 | 3 | 2.0 | 3 | 3 | 0 | 7 | 22 | 13 | 35 |
| Hayward | A Street | 4 | | 20.2 | | B | 36000 | 9 | 9311 | 30 | 0 | 60 | 4 | 6 | 2.0 | 1 | 3 | 0 | 8 | 19 | 16 | 35 |
| Hayward | Harder Road | 1 | D | 21.6 | | B | 27000 | 6 | 3695 | 35 | 1 | 40 | 2 | 6 | 4.5 | 3 | 1 | 0 | 7 | 19 | 22 | 41 |
| Hayward | Tennyson Road | 1 | D | 23.0 | | B | 29000 | 6 | 3391 | 35 | 1 | 40 | 2 | 4 | 5.5 | 4 | 1 | 0 | 8 | 19 | 30 | 49 |
| Irvine | Sand Canyon Ave. | 2 | | 182.9 | | B | 11000 | 20 | 6680 | 55 | 5 | 90 | 7 | 3 | 0.5 | 5 | 1 | 4 | 10 | 34 | 4 | 38 |

PF = Probability of Failure and other factors

0-30 points based on:

(a) Probability of Failure
(b) Accident Potential
(c) Delay Effects

(END OF APPENDIX A)